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(eds.)

Recent Developments in Education

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Foreword

In every European country *Education and training 2020* (ET 2020) is the framework for cooperation in education and training. Each EU country is responsible for support of national and local action, helping confront common challenges, such as lifelong learning, ageing societies, active citizenship, skill deficits in the labor market, vocational qualification, technological developments and global competition. Education and knowledge are great part of the European Dream¹.

ET 2020 is a great forum for exchanges of best practices, mutual learning, gathering and dissemination of information and evidence of what works, as well as advice and support for policy reforms. But it is not the only relevant opportunity in the global village. From Singapore to Morocco, from Latvia to California, all the countries are engaged in a world race for a better education. In this book, there is a relevant documentation on these worldwide efforts and hopes. Funding for educational support and innovative educational projects is available through many international bodies.

Relevance of education can be underlined from many points of view. A reference subject are the remarks made by Joseph S. Nye commenting on American presidential elections of 2012: "In the 21st century, leaders will have to educate their followers that, once again, fear itself is one of the most worrisome dangers we face. If we can keep a balanced appraisal of the distribution of power, and figure out ways to deal with these common challenges that we face, we can indeed have win-win situations. No matter who wins the election, a successful president will need to get away from our old ways of thinking about power and educate his followers about a broader understanding of power to be able to accommodate the changes that are going to occur in this 21st century".

Nye's conclusion stresses educational relevance, in a way that is different from the habitual educationalist tones: "The problem of America's role in the 21st century is not one of a poorly specified decline but rather of developing the contextual intelligence to understand that even the largest country cannot achieve the outcomes it wants without the help of others. Educating the public to both understand and operate successfully in the context of this 21st century global information age will be the real task for presidential leadership -- no matter who wins the election"².

This target is reachable through institutional intervention which should be aware of the specific human legacy. The best values of Europe are not conflicting with the best values of other areas of the world and converge in the same common heritage of humankind, like different rivers that flow into the same immense basin³. In that prospective there are, too, many negative judgments, viewpoints, options, values (and practices!), in European history. In the same fashion, it is not worthwhile speaking about "The West" with greed and arrogance. In the West, there are, too, many negative judgments, viewpoints, options, values

¹ M. Gammone, *The European Dream. The Frontier in European History*, in "Politeja", 2015, pp. 55-75.

² J S. Nye, *Fear Factor: The Illusion of American Decline*, in "World Politics Review", October 9, 2012.

³ F. Sidoti, M. Gammone, *Che cosa vuol dire essere europeo? Una ricerca al cuore e ai confini dell'Europa*, FrancoAngeli, Milano 2013.

(and practices!). There is no *Western Canon*, there is a *Human Canon*. In our globalized age, a cosmopolitan identity is as necessary as a national identity, or a local identity, or a cultural identity. In Europe, Ulrich Beck said, we must entrust a cosmopolitan vision: “the conservative, hide-bound project of a Europe locked into nation states in which each country defends its sovereignty tooth and claw, or a Christian Europe that excludes other religions should be contrasted with a project for a cosmopolitan Europe. A key element is the civil religion of human rights that are not tied to the nation state, national identity, and which are opposed to national and ethnic reflexes”⁴. The core of Joseph S. Nye discussion is that Americans will also face an increasing number of issues which will require “power with” others as much as “power over” others.

Innovation methodology and good practices are necessary. ET 2020 is a worthwhile initiative to promote active citizenship on the one hand for the improvement of responsible patriotism and, secondly, to develop in young people the "ability to translate design ideas into action, thanks to the creativity and innovation". Young people must develop over time and in a lifelong learning, their capacity to become active citizens.

In the classical sociological school, modernization was firstly defined by industrialization, alphabetization, urbanization, secularization, democratization, with the parallel and gradual recognition of civil, political, social, human rights, enhanced continuously. According to the famous narrative of T.H. Marshall, in England, the model country of modernization, these processes were long and complicated, lasted for centuries, often typified by tragic conflicts and internal wars. The 21st century is a period of hyper-modernity: a phase of extreme and diversified modernity, full of both opportunities and risks, from pollution to climate changes, from nuclear confrontation to cyberwarfare.

Both in Europe and in the Middle East, Turkey has a great role in the new world that young people are building. In the past, the big Western picture was insisting on the total otherness of non-Western experiences. Hyper-modernization is not ready to follow original Western standards and is in progress, in an overwhelming way; it must be understood in order to be governed. Turkey is at the center of the process of hyper-modernization⁵. Education to hyper-modernization is *the missing piece* in global citizenship.

⁴ U. Beck, E. Grande, *Das kosmopolitische Europa: Gesellschaft und Politik in der Zweiten Moderne*, Frankfurt am Main, Suhrkamp 2005.

⁵ F. Sidoti, *Westernization and de-Westernization in Turkey*, in K. Bieniek (ed.), *Republika Turcji. Polityka Zagraniczna i Wewnętrzna*, Uniwersytet Pedagogiczny, Krakow 2016, pp. 261-292.

Developing Digital Competences: work learn trajectories in Italian School System

Veronica Lo Presti

1. Introduction

The paper focuses on skills for a "smart growth" in contemporary society. Developing an economy based on knowledge and innovation is one of the objectives of the Europe 2020 which is reflected in the specifications and guidelines of the different orders and school levels. The last National Plan of Digital School identifies new challenges in the relationship between digital creativity and craftsmanship, between digital entrepreneurship, manufacturing and job attracting new literacies and soft skills for which "Digital offers a key driver" (National Plan of Digital School, 2015). Students are creators, producers, designers, in a path that wants to bring into the school the innovation that takes place outside the classroom: businesses, practices, actors and innovation community. Recognizing subjects and innovation practices that are consolidating the school draws out the need to recognize, in the classrooms, the new literacy. "Skills for the Innovation" for smart growth in the country that attract new comparisons between schools and businesses, contamination with the world of research, to claim, already mentioned also in the National Guidelines for the high school courses, a unity of knowledge, without no separation between "concept" and his translation in various skills.).

1.1 A new framework for the Italian School System: the digital era

The "new networked information economy" is based on technological and cultural changes that allow for greater interconnection between equals and that enhance the production of information and culture.

One of the main innovations related to the development of the Internet is the spread of an economic model that is configured on the basis of the principles of open access, open source, free software, peer-to-peer (Benkler, 2006).

The interconnection between individuals produces economic development, but the access and the browse the web does not automatically know how to get in connection with others and to share ideas and innovative practices. To produce innovation, it is necessary to educate young people to a critical and a conscious use of the media, promoting the acquisition of digital competence.

Digital competence is therefore a key factor in the development of innovative ideas and projects, necessary for the growth of our country.

In the "Recombinant Growth" - an interesting model of Martin Weitzman (1998) - the "combination of new ideas" is driving force for growth and innovation. The participation through technological innovations makes possible generating productivity and competitiveness. It becomes important to be competitive "know how to produce," know how to "create", able to "invent"... ,but the digital competence is also important to analyze critically and to improve evaluation capacity.

Digital competence is one of the eight key competencies for lifelong learning, recognized by the European Parliament and the European Council in 2006. The innovative perspective of these recommendations is the extension of the definition of digital competences in two main orientations: basic skills (connected with knowledge), and soft skills (connected with attitudes and skills). In regard to this, digital competence favors and assists with the process of social integration.

The European Commission considers the development of digital competence a strategic action to spread the more active digital participation of citizens. Hence, "the enhancing digital

literacy, skills and inclusion” is one of the seven pillars of the Digital Agenda for Europe (DAE) in the Europe Strategy 2020.

The objective is to increase the level of digital competence in the European citizens up to 2015, and to reduce the number of those who don't use new technologies and don't surf the net. For this reason, every year the Eurostat Community conducts surveys about the usages of the ICT skills connected to the computers and the web, in order to analyze the trends of the digital skills by age, gender, and variables of education in 27 European countries.

However, this research has focused so far on the operational skills linked to the technological and cognitive access to the digital sphere. By the way, they just represent the most basic skills.

According to UNESCO (2013), the new digital divide goes beyond the physical, material and technical accessibility. It recognizes a new increasing gap between people who are able to find, to manage, to create, and to spread information and knowledge through technological tools in an innovative and effective manner, and people who can't (EKOS, 2004). It is important that citizens understand how to access to information and media content, where the content originated from, how they are created, funded, protected, evaluated, and shared. All citizens need to know the functions, roles, rights, and obligations of information and media institutions.

The expression “active citizenship” has been used in the European Union in order to highlight one of the fundamental components for democracy: the citizen participation. At the base of an active citizenship there are creativity skills, the ability to support one's own point of view, the ability to quest (including the collection and the selection of information), to engage in critical reflection, and advance communicative, collaborative, problem solving and listening abilities, being able to participate in the decisional processes autonomously with awareness and intercultural competence. These kind of skills are also acknowledged as digital competencies, so recently scholars have started to create shared definitions, to find and to create reference indicators, and to improve digital literacy policies (Livingstone 2008; Buckingham 2013; Hobbs 2011; Celot Tornero; 2010). From these studies it came out that the digital competency is a complex system in which skills, knowledge, and social behaviors go beyond simple literacy. It includes more cross-sectional dimensions of such competence, such as the creative production of content, social involvement, and the development of critical thinking.

2. The Role of the School for the Smarth Growth

Today, the school plays a vital role in the spread of digital skills among young people. The school is the place where kids can learn to develop innovative ideas. Teachers should teach kids to translate these ideas into innovative products and services, in order to stimulate growth and employment.

The Italian school system is focusing on key skills such as:

- entrepreneurship,
- initiative,
- creativity
- aptitude for problem solving,
- evaluation.

Some of the skills identified as necessary to participate actively and consciously to the changes of contemporary society.

The Italian school system acknowledges the importance of developing these skills in the Guidelines of the different orders (and grades) school, also with reference to European Union recommendations.

The objective is to build “the world we want” (Kingwell 2001). This means teaching young people to develop innovation and to transform the products that already exist in something new and better, more functional to the needs and requirements. These are innovations that cross individual social, cultural, economic, entrepreneurial. Some examples are now: green economy, smart technology, smart city, which are the result of a new creativity, technology and innovation: a new entrepreneurship for economic development and for the “quality of life”.

Recently, in Italy the Ministry of Education has launched the competition Schools Innovative, cutting-edge ideas to reward schools, sustainable, student-friendly. Designers have imagined institutions with innovative teaching spaces, high-energy performance, with green areas accessible. good schools, attractive schools that encourage learning and openness to the outside, they become points of reference for the territory. The cultural change that we imagined the Good School passes here too, from the rethinking of educational spaces for a more welcoming school, to live forever, even during non-class time.

This project will test new teaching models in flexible learning environments that encourage key skill necessary for innovation and intelligent crecsita. In this way the school responds to the complexity of contemporary societies, which requires a fusion between theory and practice, innovation readiness, the ability to cultivate “curiosity” “imagination”, “charm of discovery.”

Technical and Professional Institutes are called to belong to the professions and to provide the tools to understand and apply scientific and technological innovations, in a path that feeds together of theory and practice.

The schools must become “innovation school”, capable of forming “the minds of opera.”

2.1. The “Good School” and the National Digital Plan School. Digital skills entrepreneurship and work.

The demand for workers with “appropriate digital skills” is growing by 4% a year in Europe and it could reach 825,000 jobs not covered by 2020.

The skills most in demand are the new literacies and especially the transferable skills necessary to meet the new challenges: the relationship between digital creativity and craftsmanship, between digital entrepreneurship, manufacturing and labor.

This is not only experiencing similar specializations information technology, the world of work requires soft skills such as problem solving, lateral thinking, the ability to learn. So, the Digital offers a key driver. Students need to become *creators, producers, designers*.

The promotion of the methodological and didactic innovation in the schools should result in the testing of innovative teaching methods. It’s promote the improvement of basic skills and “meta” skills by experimenting with training courses that integrate traditional tools of teaching and digital tools (such as apps, programs open source etc.).

The goal is to experiment a non-transmissive and asymmetric teaching model (in which the teacher teaches and the student receives) but a circular and critical model open to the territory in which students develop the ability to enhance the wealth and potentialities of its territory. The investment of methods that facilitate an improvement in learning outcomes of students in terms of basic skills (Italian, mathematics and foreign languages) and on a critical and participatory approach to learning processes, that stimulates the meta-skills development, is functional to the promotion of citizenship of young people of the area and therefore their ability to participate actively and innovative ideas to the development of the territory.

A fundamental tool provided by law 107/2015 on “The Good School” is the school-employment, even for the digital enterprise.

The school-work courses include student involvement in companies operating in related fields to digital and facilitate the participation of new innovation ecosystem actors (incubators, accelerators, co-working ...).

This results in a more active role of students in various fields of digital, for example, in supporting the digitization of certain business functions (communication, marketing, community management), and to exploit the opportunities of the digital economy.

School and companies can develop projects alternating school work extremely interesting not only from the educational point of view, but also with respect to the specific vocation of the territories that will improve the characteristics of the various areas.

Italy is a country characterized by strong regional differences and local realities differ greatly among themselves. It is therefore necessary to bend the school work projects also in terms of enhancing capacity of the different regions and their professional vocations.

In particular, in the school we can make some interventions:

- ✓ *Stakeholder club* for the digital school: to bring in school innovation that takes place outside the classroom: businesses, practices, actors and Innovation Communities;
- ✓ *Creative workshops* and laboratories for key competencies: developing the junction of manual, craft, creativity and technology;
- ✓ *Territorial workshops for employability*: develop teaching practices for work and business;
- ✓ *Workshops school friendly*: mapping, accreditation and promotion of workshops open to schools ... sets of emerging practices and already recognized by the community (eg. *Fab lab*).

Currently, the Italian system is expected to develop a standard for operational arrangements to manage the involvement of businesses and warnings by which schools can choose the company and the pattern of work learn trajectories more congenial to their school and territorial realities .

The goal is to bring to system proposals, innovative and sustainable, on the various forms of alternation school/work in the long run.

An interesting example is the promotion of collaborations with leading digital business actors and startup ecosystem and universities: the Lab Contamination (DM.436 / 2013). In this workshop students develop their project working with a community of innovators within training programs and business acceleration. Build paths that have outlets in the labor market.

Another example is Sapienza - University of Rome, which was the first of the Italian University to start training of alternation school-work projects (l. 107/2015).

With the cooperation of school teachers and college tutors, it was possible to initiate and test 111 experimental projects proposed by different structures of Sapienza.

- Museums,
- Libraries,
- Theatre workshops,
- Radio,
- Department structures (MediaLab, LabCom, CorisLab),
- DIGIZEN – start up.

In line with the guidelines of the National Plan for Digital School, which identifies new challenges in the relationship between digital creativity and craftsmanship, “atelier” and “creative workshop” will constitute the space for didactic and methodological innovation in schools, to promote skills for innovation among young people and to implement circular

learning processes, rather than merely transmissive and asymmetrical, with the aid of digital resources.

The provision of creative workshops and shared spaces can improve the capacity of the students to not only be passive learners, but also *creators, producers, designers*, in a circular course that wants to bring into the school the innovation that takes place outside the classroom (businesses, practices, actors and innovation communities).

It is a worthwhile investment to promote innovation methodology and teaching on the one hand for the improvement of basic learning and, secondly, to develop in young people the "ability to translate design ideas into action, thanks to the creativity and innovation" (Europe Strategy 2020), to develop over time and in a lifelong learning logic entrepreneurship, participation and above all to become people (Nussbaum, 2011), citizens of its territory.

3. Evaluation of Innovation: how to evaluate innovation?

The fundamental objective to systematize, disseminate and bring out innovative models of relationship schools, businesses and universities for smart, can only be achieved if you promote research on the analysis and evaluation of innovation skills.

It must define the proposals, innovative and sustainable, experience in training of alternating training projects through their evaluation.

The development of a permanent system of smart growth of our country based on innovative school will depend on our ability to assess the effectiveness of interventions tested in different areas.

An interesting approach to evaluate the innovative character of these interventions is that proposed by Perrin (2002) *Qof EI - Evaluation of Innovation*. It's a positive thinking approach (Stame, Lo Presti, 2015).

This approach seems useful in the field of local development interventions design. For the programs that have the specific purpose of introducing the innovations and that, therefore, would be declared failures if they were assessed with the traditional methods.

Although this approach is very interesting, because it highlights the innovation characteristics of the interventions. This is not as widespread in the local area where you tend to repeat what has already been done traditionally rather than experiment with innovative solutions and alternative response to the problems. The definition of "innovation" by Perrin as "new ways of doing things better or differently, often by means of significant leaps towards incremental gains" (2002, p. 13) is interesting. Contrary to the normal programs that assume the re-establishment of the status quo, in programs that seek innovative alternatives meaningful goals cannot be identified in advance. Innovations are risky and unpredictable; actors often work differently from what you expect.

Perrin proposed that the Innovation Scoreboard follows the logic of venture capitalism: take a calculated risk, expect a small part to be successful, but also a few successes can make a program worthy of being implemented. In the case of the innovative program, we note with greater emphasis the limited use of a linear logic and pre ordered cause-effect type. As an innovative project tends to interact with many other factors, in order to access exceptions (positive), including unintended consequences, it must be flexible enough to open up to "serendipity", to surprise and to discover (as evidenced already in the '80s by the pioneer of this thinking, Judith Tendler).

The methodology proposed by Perrin to bring out the innovative project is once again a mixed type and therefore, provides the use of a mix of quantitative and qualitative techniques combined in a different way than it usually happens.

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One Village, Many Tribes, Countless Wolves. Dangerousness And Education In Western Thought

Mariateresa Gammone

1. The problem of order

The alarmist line "The world is in danger" is claimed today from many point of view (Slaughter 2007). Someone mention climate change, others nuclear risks, others pollution, others pandemics, and so on (Giddens 1992). But it was a truism in the European classical thought, when dangers and fear were a typical everyday human condition, as typified in the Hobbesian exposition. Written in 1651, Thomas Hobbes's *Leviathan* is recognized as the first Western work which formulated in principles the problem of collective political danger. Hobbes summarized two thousand years of Western experience of killings, conspiracies, disasters, and carnage. In a global perspective, only Sun Tzu can be compared to him. Like Sun Tzu, Hobbes wrote an explicit and profound praise of spies; like Sun Tzu, Hobbes is a master of political realism.

Theoretically based on Thucydides and Machiavelli (even if his quotations were shown on opportunity reasons), the fragility of our social construction is the ground of Hobbesian treatment. Thucydides had seen the Athenian splendour; Machiavelli had seen the Florentine splendour. Through two paramount experiences of Western glory, they knew how fragile splendour is. Even Hobbes knew how fragile splendour is and, in general, all human social constructions. Biographers say that his appraisal of order was motivated by a personal obsession with that. Centuries and centuries of Western thinking flow in that obsession and with this obsession thereafter Western thinking continued. All the best and the brightest added and specified on that. For many, Goethe is a final point of reference. To him, injustice is better than disorder. In the purest Enlightenment mood, mastery of one's passions and their sublimation (*Veredelung*) were the tenets of Goethe's vision (Lukacs 1947). But order was the necessary condition of civilian life.

In Hobbes's perspective, many-splendored human societies can turn suddenly as savage as those of the wolves. In the midst of the gory English Civil War, Hobbes wrote: "Whatsoever therefore is consequent to a time of war, where every man is enemy to every man, the same consequent to the time wherein men live without other security than what their own strength and their own invention shall furnish them withal. In such condition there is no place for industry, because the fruit thereof is uncertain: and consequently no culture of the earth; no navigation, nor use of the commodities that may be imported by sea; no commodious building; no instruments of moving and removing such things as require much force; no knowledge of the face of the earth; no account of time; no arts; no letters; no society; and which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short" (*Leviathan*, I, 13). This situation produces what he called a *state of war*, the war of all against all: "To this war of every man against every man, this also is consequent; that nothing can be unjust. The notions of right and wrong, justice and injustice, have there no place. Where there is no common power, there is no law; where no law, no injustice. Force and fraud are in war the two cardinal virtues. Justice and injustice are none of the faculties neither of the body nor mind".

To Hobbes the only escape is to surrender our individual interests, in order to achieve the advantages of collective security. He stated the problem and gave his solution: an authoritarian state. Other scholars proposed other solutions, from John Locke to Adam Smith,

from Montesquieu to Tocqueville, from Fichte to Mazzini, from the parliamentary system to the invisible hand of the market, from division of powers to democracy, from the uniqueness of the cultural heritage to the uniqueness of the *Sonderweg*. But none rejected the existence of the "Hobbesian problem of order", which remained forever the standard yardstick for all Western political thinkers (Parsons 1937).

Fear of disorder can be worse than disorder in itself. It has been observed that the search for order has drawbacks. Each individual's desire of security can lead to perpetual instability and antagonism. Following a primed literature, eminent authors concluded that his solution can be wrong, but the problem was exactly settled. In fact, until today Hobbes theory remains influential in the studies of international political relations, where a "state of nature" frequently exists, prior to the establishment of an enforced order and frequently lacking of reasons to expecting goodwill from failing states and successful governmental outlaws (Kagan 2007).

2. Wolves

Primordial patron of ecology, in his astonishing *Praises of Creatures*, in the thirteenth century, St. Francis of Assisi lauded wind and water, illness and poverty, "Brother Sun" and "Sister Death". While the Fifth Crusade was being fought against the Moslems, Francis decided to go straight to the Sultan to make peace (charmed by Francis and his preaching, the Sultan told him: "I would convert to your religion which is a beautiful one -- but both of us would be murdered").

According to the legend, in his deep sense of brotherhood under God, St. Francis embraced the others, including a leper and a wolf who had attacked peasants and terrorized the city. In the most popular account of his divine life, *Little Flowers*, the episode is central. So spoke Francis to the wolf: "Brother wolf, thou hast done much evil in this land, destroying and killing the creatures of God ... Thou shalt no longer suffer hunger, as it is hunger which has made thee do so much evil...". Only Mevlana, Gialal ad-Din, *Rumi*, sublime poet and ascetic, is comparable to him. Rumi lived in the same Francis' years. His sanctuary, in Konya, the original lodge of the brotherhood of the whirling dervishes, gives the same intense sensation of spirituality that you can found in the original Francis' sanctuary.

In the same remote time, Christianity, sometimes humble and tolerant, had another superb theologian. An eminent Francis' coeval, St. Thomas, spoke benignly about "primitive state" (*statum primi*) and "state of innocence" (*statum innocentiae*). Christian confidence on primitives and innocents lasted not for ever and maybe was not, even then, the view of the majority. Over time, about primitive state, the scenery changed completely. Wolves and other wild beasts were at the core of Machiavelli and Hobbes, who were for many the first theoretical prophets of modern society (Adorno & Horkheimer, 1947). Machiavelli quoted carefully the lion and the fox. Hobbes quoted the wolf as synonym of the average man. Their dissertation was impressing and lasting; centuries later, in Pareto, at the beginning of the twentieth century, the Machiavellian lion and fox are still protagonists. Legend say that Lenin and Mussolini were listening to Pareto's lectures, in Switzerland, while their exile years, before coming to power.

In a progressive theoretical perspective, Talcott Parsons retrieved all: fox, lions, wolves, including even mythological archetypes, such as Danaids. In fact, he recollects the basic Durkheim' dictum on desires: human desires are insatiable, as the bucket of the Danaides, which nothing can fill. Accordingly to a fabulous narrative (which is present from the beginning of the Western tradition, in Aeschylus), they were condemned to spend eternity carrying water in a sieve or perforated device. The problem of order in Hobbes's sense was the methodological starting point of Durkheim's reflection. And it was the methodological starting point of Parsons's reflection, which is the highest point on the theme (Giddens 1968; Caille 1970). To Parsons, social order cannot be explained either on the basis of the pursuit of self-interest by

the members of society, or as an outcome of another institutional mean, it is moral consensus which binds people together (Parsons 1947).

Moral consensus is given by a long and continuing process. The beginning is socialization, which is very different from education. Socialization is not a synonym of education. Through socialization people acquire the capability to perform roles appropriate to his or her social position; through education people acquire the capability of being more than social: education makes humans really humans. Education is the perception of civilization and goes from political values to good manners, from rule of law to minority rights. The point is the more clear dividing line between sociologists and educationalists, lawyers and criminologists. Among the founders of modern penology and criminal justice, in 1764 Cesare Beccaria advocated the extreme influence of education in lessening crime. His work recommends not penalties, but schooling, instruction, culture: "It is better to prevent crimes than punish them. ... The surest but the most difficult way to prevent crime is education" (*Dei delitti e delle pene*, XLI, XLV).

3. Hyper-modernity

In hyper-modernity, globalization can be seen as the diffusion of common codes and practices, but cultural inputs interact and create hybrid blends. Theorists who focus on economic factors tend to emphasize the homogenizing effect of the expanding market economy. The world is unified in a village, by proximity in communication, economics, transportation, but not in ideas and shared rationality.

In the classical fairy tales, if there is a village, there are wolves and other wild beasts. In the same way, out of the global village there are wolves and other wild beasts. In the global village there are too different tribes. It is impossible to see the world in the identical perspective, believing in the same basic facts, and in terms carrying the same meanings to all the people. Above all, it is impossible to assume that all the tribes can have pretty similar ideas of right and wrong. Each tribe has its history, its rites, its idols, its values and desires. Some scholars say that multiculturalism is the consequence of an American defeat: the passage from a melting pot to a salad bowl was not a free decision, but the consequence of a failure. In every Western nation and in the global village, we are unified in many aspects, but fractioned in tribes and menaced by wolves, spin by the ordinary negative human sentiments, as Spinoza called them—desires, fear, greed, hate, jealousy, lust of power.

In the classical thought, from Machiavelli thereafter, dangerousness is central and accepted in a long tradition, from Hobbes' dedication of *De Cive*: "Man to Man is an errant Wolfe". Hobbes openly translated an old Latin dictum: *Homo homini lupus*, and then acquired and transmitted two thousand years of experience. Anthropological reference to wolves must be associated with sociological reference to tribes. A brilliant sociologist Maffesoli theorized that people in large urban areas increasingly live in the "time of the tribes". In his perspective the incessant proliferation of neo-tribes demonstrates a search for close social contact, interaction, idols, rituals that must be seen as a very strong human need (Maffesoli 1988).

Tribes are characterized by groupthink that is defined as a mode of thinking people engage in when they are deeply involved, overriding their motivation to realistically appraise alternative possibilities. "Groupthink refers to a deterioration of mental efficiency, reality testing, and moral judgment that results from in-group pressures" (Janis 1972). Rationality, liberty, democracy, and open society are the contrary of tribes and groupthink. The standard rationalization is that in an "ideal speech situation" people raise moral and political concerns and discuss them by logic alone (Habermas 2004). This *communicative rationality* involves the

expansion of the scope of mutual understanding and the ability to enhance this understanding through discourse, and making social and political life subject to this enhanced understanding.

The concept of groupthink (that is, in our analytical context, tribal thinking) has born as an explanation of bad decisions made by collective confrontation. A shockingly emblematic depiction of the power of group decision-making is described in Christian gospels, when a mob, roused by fanatics, prefer Barabbas to Jesus (despite Pilate asking three times to be conciliatory and to engage in rational communication). Similar is the case of Socrates, democratically condemned to death.

In digital democracy, the error-correcting mechanisms are not always working and the elements that can transform groups in better decision makers than individuals become inverted, leading to irrational, riotous, violent consequences. This standard hazard of communicative rationality becomes terrible in a time of tribe and wolves, where tribes have closed narrative models and wolves are ready to go to extremes. Even normal tribes can go suddenly wild and even ordinary people can become suddenly wolves.

4. Conclusions

History of criminology offers an exemplary illustration of wolves and rationality. In a complex transformation, modern criminology reversed the original criminological principle: the physical, psychological, and anthropological separation between normality and criminality (Sidoti 1993). In the more monumental arrangement of the first criminological school, the Italian school of criminology, the initial setting underlined by Lombroso - there are *born criminals* - was radically changed (Sidoti 2008). After a complex reflexive itinerary, Italian criminologists subsequent to Lombroso (who died in 1909) reversed the starting point: they emphasized that full normality is abstract, theoretical, non-existent, and legitimacy was given to the concept of *latent* criminals: "Every man has, in the depth of himself, the possibility of being selfish, antisocial, criminal ... In a certain meaning, each man can be considered as a latent criminal" (Florian, Niceforo & Pende, 1943, p. 208). So, there is a criminal, hidden inside everyone; we all are potential criminals. So, those criminologists, even being fascists, were honest in recognizing a principle which was a basic belief of subsequent criminological theory (Sidoti 2012).

There are good motivations in all the Western proposed solutions to the problem of order, from democracy to the invisible hand of the market, but education remain essential for individuals who must participate within democratic societies, as well as for ensuring that the best cultural heritage will be carried on through new generations. Socialization is most strongly enforced by relatives, families, schools, religions, institutions, media, and continues throughout a lifetime. Recent research gives evidence that people are influenced by other many factors, including genes and biological conditions. And even animals can be social, in many ways, within their species or in close relationships with good people. Socialization provides just a partial explanation for our behaviours; only education makes humanity in its greatest meaning. Only education can transform wolves in human beings, tribes in civilized groups, and the crowded village in a liveable place.

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What future for small rural schools? Different views and preferences in Latvia and Norway

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1. Introduction

Low population density, an aging society and emigration to urban areas are familiar problems to many rural areas in Europe. In most cases, rural depopulation is accompanied by decreasing financial resources available to municipalities (Hannum, Irvin, Banks, & Farmer, 2009). Because of decreasing number of school children educational institutions in rural areas tend to become very expensive to maintain. Oftentimes, depopulation also entails increasing difficulties to attract human resources, including qualified teachers (Hammer, Hughes, McClure, Reeves, & Salgado 2005). However, if schools are closed, this may negatively affect the families and school-age children living in the area, especially if they lack viable transport options (Lind & Stjernström 2015). Due to these reasons, education governance in rural areas has recently become a widely-studied topic.

Latvia is one of the countries with a very distinct tendency towards depopulation, and particularly rural depopulation. Since 2000 the number of inhabitants has decreased by 16% (CSB 2015). Moreover, like elsewhere in Europe, the population is increasingly concentrating around cities. Population growth can only be observed near the capital city Riga, attesting to the weaker competitiveness of other regions. A monocentric settlement system speeds up the depopulation of other regions, particularly the rural areas, due to unemployment.

Depopulation trends significantly affect the education system and the network of educational institutions in the country. The number of school-age children has almost halved in Latvia since 2000. While it is projected to slightly increase (by 3%) by 2024, it will again slowly decline thereafter (4% below the current level in 2030). Because of the demographic changes, the network of educational institutions in Latvia consists of schools with a small number of students. In school year 2014/2015 311 or 40% of all general and special education institutions in Latvia had less than 100 pupils. Approximately 84% of these small schools were located in rural areas.

Inefficiency of education expenditures as well as unsatisfactory quality of education in rural schools are the main arguments used to promote optimization of the school network in Latvia. In fact, the financing model "*Money follows the student*" that was introduced in Latvia in 2009 and 2010 often leaves municipalities with no other choice but to close schools, as they become economically impossible to maintain. Acknowledging the depopulation trends, policy planning experts suggest that the regions implement the so-called "*smart shrinking*" approach, i.e., seek solutions to reduce infrastructure maintenance costs and develop innovative approaches to service delivery, including cooperation between local authorities as well as with the private sector. Cooperation between municipalities in the provision of services in urban agglomeration is an alternative for the next steps to the administrative territorial reform (PKC 2014). As a result, the number of schools has been decreasing in the rural areas in Latvia, especially during the economic crisis in 2009 when almost 100 schools were closed.

Theories on regional development

Like in the other new EU countries, one of the sustainable development challenges in Latvia is linked to the uneven regional development and the concentration of economic activity around the capital city. Thus, speaking about the changes in the education system in the countryside, we will look at it through the lens of the regional development theory.

Regional development has primarily been understood as economic development on the regional level. How to enhance and promote such development has been subject to different

ideologies. The main competing theories are about redistribution and equalization between regions on the one hand, and economic growth based on regional resources on the other hand (Baldock et al., 2001; Shucksmith, 2000; van der Ploeg & van Dijk, 1995; Lowe, Murdoch & Ward, 1995; Long & van der Ploeg, 1994). The theory about redistribution and equalization is a top-down theory building on an exogenous philosophy of development where the state controls the main economic means and the criteria for redistribution among regions. In this approach, the region is an object for development. Equal education possibilities regardless of the place of living would be an example. The other approach that has recently been gaining an increased support is a more bottom-up theory which builds on the understanding of an endogenous regional development where the region is the subject. In this approach, it is the combination of human and other resources in the region, which is the main driver for regional development. It implies that regions will develop differently, since regions have different assets, development preferences, and future goals. Many countries are increasingly preferring the endogenous development ideology, yet it is still an empirical question whether all regions in the same country can use the endogenous approach to achieve economic and other progress, that is, whether an endogenous kind of policy can promote a win-win situation between regions, or if such competition results in winners and losers.

Parallel to the shift in the dominant regional theory, there has been a shift in the relationships between the levels of governance (Hudson, 2007). Rather than regions administering central government policies, regions increasingly construct and implement their own policies as well. As there is a general tendency for the regions to take over functions from the central governments, the region increasingly acquires the role of the territorial framework of socio-economic development and governance activities. Since the nineties the so-called "new regionalism" has developed, promoted by economic geographers who believe that the powerful forces of economic change directly shift this role to the regions (Scott, 2000). Within development planning guidelines that characterizes the regional development of Latvia there are theoretical references to transition from a centralized approach to a more flexible, open approach, where a much greater role and capacity to build their future is assigned to regions and municipalities (VARAM 2013). The increased responsibilities of regions mean that empowerment and capacity-building of rural municipalities becomes an important issue.

In the scientific literature one can identify different perceptions of 'the region' as a spatial object. The understanding of the region can stem from concepts (conventional), it can be morphological or functional (Vanags & Krastins, 2004). The conventional understanding the region is associated with ongoing cultural, economic and political processes (Meinig, 1972). The functional view of the region focuses on the area of human lifestyle and behaviour, the needs to receive services, the mobility practices and needs of movement (Harvey, 1969). In the context of the functional region its possible features may be links - home - work, home - services. Glasson and Marshall (2007) in their work "*Regional planning*" refer to three main characteristics that are used to justify different classifications of regions. First, regions can be identified by biophysical or ecological characteristics. The other main feature, according to these authors, is political or administrative boundaries, given that planning is usually a government driven process. Finally, it can be assumed that the basic needs of human life, that is, social and economic needs are the basis for regional planning. Traditionally, social and economic factors have been very much those factors that identified and underlined the need for regional planning (Glasson & Marshall, 2007). Planning takes place within the frame of administrative division, but in reality, regional and municipal bonds and cooperation are much more complex and it is impossible to view them only from the point of view of formal administrative division. One can conclude that social and economic links that emerge as a result of cooperation between certain territories and individuals, companies and organizations residing there have the most important role in the regional development. From this point-of-

view, networks, employers, service providers, relationships between individuals etc. is what *makes* the territory/community.

Currently, the key words characterizing both national and regional development are sustainability, openness, and pluralism, as well as local embeddedness and solutions for local development (Bela, 2014). The needs of a human and nature are placed above those of the market and profit. The latest approach in the development theories as well as in the theories of regional development acknowledges not only the importance of economic factors, but draws attention to the role of the population's well-being and quality of life as an important driver of development. Importantly, the concept of regional development in addition to the economic aspects also includes ecological, social, cultural, political aspects, such as reduction of social inequality, smart governance, etc. (Bite, 2014). The most recent literature emphasizes the sustainability dimension and sees the path of development as based on local contexts of natural resources, local economy, local social and political institutional bodies, as well as on the cultural heritage (Buch-Hanses & Lauridsen, 2012). However, in the reality economic indicators still dominate the analysis of territorial development and the other indicators related to sustainability are insufficiently acknowledged.

The regional development policy in Latvia

The Regional Development Law, adopted by the parliament on the 21 March 2002 and the Regional Policy Guidelines approved by the Cabinet of Ministers on 2 April 2004 provide the following definition of regional policy, namely, *regional policy is the government policies and targeted action to promote regional development by coordinating sectoral developments in accordance with development priorities of individual areas of the country, and providing direct support for development of separate areas of the country.*

In Latvia there are substantial differences in the standard of living between Riga and the remaining territory of the country. The Territorial development index (TDI)ⁱ is typically used for measuring the development of different territorial units in Latvia, and the data reveal that since the 2009-2010 economic crisis the regional disparities have been increasing. The dynamics of the TDI index show large difference between the target value of the TDI set by state in National Development Plan, and the actual value in, for example, Latgale region. This results in families, and particularly young people, emigrating to search for a job and better life opportunities elsewhere. Rural depopulation leads to reduced access to all services, including education; the places of service provision move further away and/or the services become more expensive, further disadvantaging the residents of poorer regions, particularly rural areas.

To tackle this problem, a policy of polycentric development was formulated in the 'Sustainable Development Strategy of Latvia until 2030' strategy aiming to reduce differences between regions and within regions themselves. As noted by Vaidere et al. (2006), the regional policy is meant to maintain favorable conditions for development in those areas which are already the vanguard and to create such conditions in those areas that are lagging. Nowadays the regional policy is a policy where the main issue is the territorial and spatial development, with a particular aim to reduce adverse social and economic disparities between regions and local municipalities. In this context, it is important to emphasize the significance of financial resources for investment and redistribution, and the provision of the necessary basic public services at an adequate level in disadvantaged regions, especially in rural areas.

In different countries and regions, regional policy solutions will vary depending on the level of economic development, development potential, infrastructure quality and other factors. In Latvia, as part of the 'polycentric development' strategy, it has been suggested to foster territorial development by supporting „development centres” - 21 in addition to 9 biggest cities. It has been expected that the availability and access to services (education, health, social,

culture, entertainment etc.) and work places to rural inhabitants will be ensured in these centers, thus creating an attractive environment for living in rural territories. However, recent developments and the population statistics in Latvia show that the economic growth in Latvia is still concentrating within and around Riga city and the tendency of depopulation of rural areas, villages and towns continues. The incongruity between the declared aims of regional development (polycentric development) and the factual development of monocentrism has been revealed in the work of Inese Haite (2013) “*Polycentric development in Latvia and its evaluation*”. The continuing depopulation fosters shrinking of all state and municipality provided services, including, education.

Community social capital

The analysis of the availability of education as a resource places an emphasis on the regional development planning, mainly, on the participation of communities in territorial collectivities or the community social capital. The area itself is an abstract space and it becomes socially relevant only as a social entity that contains people, communities, and organizations; without population, it is impossible to talk about the development of an area. The unique resources and opportunities for development of various localities depend on social and human capital (skills, knowledge management, the involvement of community, etc.), natural capital (climate, atmosphere etc.), and economic capital (wealth, income, housing, etc), but only the capacity of social agents – their ability to use opportunities offered by the place allows to make use of these resources and to ensure growth (Zobena & Mežs 2013: 83-84).

The source of the community social capital is the territorial community. Usually, the definitions of social capital emphasise the characteristics of the social structure brought about by the network of social relationships, values, norms, attitudes and participation. As Christian Grootaert (1998) has famously said, social capital is the ‘glue’ that holds societies together; it facilitates social interaction and leads to better economic, political and social performance of a society (Putnam et al., 1993; Coleman, 1990; Fukuyama, 1996, 2001; Grootaert, 1998). According to Putnam (1993), individuals learn to trust in everyday interactions with each other; in public spaces such as associations and schools they gain confidence and skills to cooperate for a common goal (Putnam, 1993). Civic engagement is the key to generating social capital which then encourages cooperation, strengthens social relations and improves the productive potential of a society. Over the years, study after study have demonstrated how social capital can improve economic performance by increasing the coordination of actions, reducing opportunistic behavior, lowering transaction costs, empowering local networks, providing informal insurance and improving the overall effectiveness of the use of other forms of capital. Schools as centers of community are important sources of community social capital (Autti & Hyry-Beihammer 2014) that may or may not be replaced by other institutions once the school is closed.

A community can emerge due to different circumstances – based on identity, interests, social interaction etc. (Vesperis, 2012). The sense of belonging to other inhabitants of the locality linked to concepts such as social capital, social support, place belonging, community ties, and sense of community are one of the fundamental human needs (Hyde & Chavis 2007).

2. Method and data

The data this paper is based on was gathered as part of project “*Rural Depopulation and the Governance of Education: Comparative Study of Latvia and Norway*” funded by NFI/EEZ grant schemeⁱⁱ and implemented by the University of Latvia and University of Oslo (NIBR) researchers. The survey of municipality representatives included: 103 respondents from local administration in Latvia and 159 in Norway. Target group were education and/or development

managers in local municipalities. The study also included a survey of small (up to 120 pupils) schools in Latvia (n=200). The fieldwork of municipalities' survey took place from March till May 2016, field work of school directors survey was carried out from April till June, 2016. Among the survey respondents there were directors of municipality education departments, education municipality development specialists, members of education committees, and local government deputies municipality.

The research question we ask in this paper is whether, considering the increased emphasis on the endogenous development, we can observe differences in how regions at different levels of development tackle the problem of rural depopulation and the optimization of the school network. We aim to demonstrate that economic disparities are likely to manifest in differences in social capital and in the community mobilization against closing of schools. This should result in more disadvantageous outcomes in terms of education in the least developed regions, thus deepening the inequalities.

Since the maintenance of small schools is very much dependent on the economic capacity of the local municipality, we hypothesize (H1) that access to education could be a bigger problem particularly in poorest municipalities. We also posit (H2) that the communities in the poorest municipalities will be more passive in engaging in school matters and trying to keep the school open, amplifying the inequalities in access to education. Finally, we argue (H3) that closing of schools makes the municipality less attractive as a place to live, hindering the development and fueling the vicious circle of poverty and inequality between municipalities.

3. Results

The results of our study show that unfortunately the regional planning and sustainability development documents have so far been mostly declaratory, for the real ongoing processes point to an ever-increasing inequality between the rural and urban regions (municipalities), as well as between different rural municipalities. The empirical data confirm a direct correlation between the level of regional development and the access to education.

The TDI indexes of year 2015 vary from -1,515 to 2,609. To compare the experiences of municipalities with the optimization of the school network, all municipalities included in the survey were split into four groups according to their TDI value: low TDI ($<-1,0$), medium low ($-0,913 - -0,001$), medium high ($0,001 - 0,999$) and high ($>1,000$). For comparison we use the data obtained in the Norwegian municipality survey.

The results show that municipalities with low or medium low TDI are characterized by lower access to education. In 89% of counties with a high TDI there is at least one primary school (grades 1 to 9) in every parish/ town of the municipality. Among municipalities with a low TDI, only 50% have a primary school in every parish/ town (Table 1). Partly, it is a result of the school network optimization efforts that begun in 2004 and especially affected the less developed, poorest municipalities. But our results show that closing of schools in the last five years, and especially during the height of the economic crisis in 2009, also mostly took place in municipalities with low or medium low TDI. In municipalities with the highest TDI no primary school has been closed or merged, while in approximately half of municipalities with low or medium low TDI at least one or more schools were closed. If we look at the future forecasts, the picture is the same: there is a strong correlation between the economic capacity of municipalities and plans for school closure. One third of the poorest municipalities expect that in the next two years at least one more school will be closed, while none of the wealthiest municipalities expect to any schools to be closed.

Table 1. Access to education and the situation with schools in municipality (%)

In each of the parishes (towns)	Low TDI	Medium low TDI	Medium high TDI	High TDI
<i>... there is at least one school that children can attend from grade 1 to 9</i>	50	47	70	89
<i>.. there is at least a primary school (grade 1 to 6), but in order to get complete lower secondary education (grade 7 to 9) children are required to travel to a neighbouring parish (town)</i>	6	15	13	0
<i>... there is at least one parish (town) where there is not even a primary school</i>	44	38	17	11

A similar pattern concerning wealthier and less developed municipalities can be observed as regards to planning the merging of schools – another measure of school optimization. Compared to Norwegian municipalities, in Latvia there is a high number of education specialists/ municipality representatives that do not have a clear idea of the future of schools in the municipality. Approximately 26% found it difficult to answer this question. The lack of clarify certainly affects negatively the development plans of municipalities as well as their capacity for action (Table 2).

Table 2. Changes in the number of schools (%)

		Norway	Latvia municipalities	Low TDI	Medium low TDI	Medium high TDI	High TDI
In your municipality, has a primary school or schools been closed or merged in the <u>last five years</u>?	<i>School/schools were closed</i>	31	37	53	46	23	0
	<i>No, but there have been discussions about closures</i>	28	11	7	9	23	0
	<i>No such discussions</i>	41	52	40	46	55	100
Does the municipality plan closing primary schools in the next two years?	<i>Yes, one school</i>	8	9	13	9	9	0
	<i>Yes, two schools</i>	1	2	0	4	0	0
	<i>Yes, three or more schools</i>	1	3	20	0	0	0
	<i>No such plans</i>	83	60	40	54	70	100
	<i>Difficult to say</i>	6	26	27	32	22	0
Does the municipality plan merging primary schools in the next two years?	<i>Yes, it is planned to merge two schools</i>	11	17	27	21	9	0
	<i>Yes, it is planned to merge more than two schools</i>	4	2	0	2	4	0
	<i>No, there are no plans of merging schools</i>	79	59	53	52	61	100
	<i>Difficult to say</i>	6	22	20	25	26	0

The school administration representatives in Latvia were asked to assess the financial status of the county's population compared to well-being of residents of other rural areas, as well as to describe the economic situation of the parents' families. The results show that in counties where the financial status of the population is worse, more than half of the students come from low-income families (table available upon request). It means that they are more likely to struggle to find transportation options to another school, further endangering their children's' education path.

The representatives of municipalities were also asked how important were different arguments when discussing a possible school closure. The results show that in all discussions the most powerful argument was the number of pupils in the school. On a 5-point scale where 1 means "not important at all" and 5 means "very important" the number of pupils was the dominating argument (average rating 4.86) (Table 3). Comparing the answers by municipality TDI, we can see that poorer municipalities attach more weight to the economic argument — the need to save municipality's funds — and are more likely to consider the effect of school closure on the life of community, while municipalities with a higher TDI attach more weight to

the arguments in favor of maintaining the school in order to provide pupils with a secure a good learning environment, as well as securing a good work and professional environment for teachers (Table 3). In short, we can characterize the first approach as the ‘survival approach’ and the second – as the ‘quality approach’.

Table 3. Importance of arguments were given weight in discussions about school closure

	Latvia	Low TDI	Medium low TDI	Medium high TDI
Number of pupils in the school	4.86	4.89	4.78	5.0
Secure a good learning environment for the pupils	4.0	3.63	4.09	4.10
Secure a good work and professional environment for teachers	3.56	3.33	3.60	3.70
Effect on the community life (for the community to stay an active and attractive place)	3.71	3.89	3.65	3.70
A need to save money in the municipality	4.29	4.56	4.26	4.10

The experience of other countries suggests that interested and active local communities play a tremendous role when it comes to preserving small schools. Both the quantitative analysis and case studies show that commitment of municipality representatives accompanied by the activity of local community has effect on the process of decision making as well as the opportunities to save the school (Koroļeva, Mieriņa, Kārklīņa, TBD).

Table 4. Community activity to influence the decision on school closure (%)

	Norway	Latvia municipalities	Low TDI	Medium low TDI	Medium high TDI
Very active	58	17	11	18	22
Quite active	31	67	56	68	78
Not active	12	15	33	14	0

Unfortunately, both community activism and the interest and involvement of parents in the life of the school strongly correlates with the welfare measures of municipalities. In municipalities with a lower TDI 43% of respondents agree that parents show low level of interest and participation in school’s life/activities, while in economically most developed municipalities just 13% of respondents characterize the parents as passive (Table 5). Similar conclusions can be drawn about the level of engagement of the local community in trying to prevent the closure of schools (Table 4)ⁱⁱⁱ. Thus, the results allow to confirm the hypothesis that in the less developed municipalities the local community tends to be more passive and is less involved in solving important issues such as school closure.

Table 5. Opinions about parents’ involvement (%)

	Fully agree and tend to agree				Tend to disagree and fully disagree			
	Low TDI	Average low TDI	Average high TDI	High TDI	Low TDI	Medium low TDI	Medium high TDI	High TDI
Parents show low level of interest and participation in school’s life/activities	43	43	27	13	57	57	73	88

In line with the social capital theories, our results confirm that in areas where the economic and social capacity of municipalities is low, the involvement of different stakeholders such as parents and local organizations in trying to prevent the school closure will also be lower than in municipalities with a higher level of TDI (Table 6). Compared to Norwegian municipalities, in Latvia not just the community but also local administration and local politicians tend to be less actively involved in the decision making, reflecting the overall lower levels of social capital in Latvia compared to Norway.

Table 6. Involvement of local actors actively trying to keep the school open (%)

	Latvia	Norway	Low TDI	Medium low TDI	Medium high TDI
Director of the school	37	15	22	50	20
Teachers	53	36	56	58	40
Parents / parents' organisation	49	79	44	42	70
Pupils / pupils' organisation	12	27	11	13	10
Local politicians	12	72	0	17	10
Municipal administration	2	1	0	4	0
NGO's/civil society	0	21	0	0	0
Local community	28	52	11	33	30
Others	5	5	11	0	10
No-one	7	9	11	8	0

23% of municipalities where a school was closed believed that school closures had negatively effected the life of local communities. More importantly, the data confirms our hypothesis that it hinders the opportunities to attract new inhabitants, mainly, young families with children further increasing the risk of poverty and social exclusion in the municipality. In general, all municipalities regardless of the level of development agree that young families will not settle in a municipality that does not have a school (Table 7).

Table 7. Attitudes towards small rural schools (%)

		Norway	Latvia municipalities	Low TDI	Medium low TDI	Medium high TDI	High TDI
Young families will not settle in small villages if there are no schools	<i>Fully disagree</i>	13	5	0	7	5	0
	<i>Tend to disagree</i>	30	9	15	7	11	0
	<i>Tend to agree</i>	38	36	46	24	47	50
	<i>Fully agree</i>	20	51	39	61	37	50
The municipality should do everything possible to maintain small rural schools	<i>Fully disagree</i>	41	1	0	3	0	0
	<i>Tend to disagree</i>	39	17	25	15	13	25
	<i>Tend to agree</i>	13	42	33	38	62	25
	<i>Fully agree</i>	6	39	42	44	25	50
A smaller school gives a better social environment for the pupils	<i>Fully disagree</i>	29	3	8	2	0	0
	<i>Tend to disagree</i>	57	9	8	10	6	13
	<i>Tend to agree</i>	12	66	39	71	72	75
	<i>Fully agree</i>	2	23	46	17	22	13

4. Discussion

The contemporary approach to rural development in Europe promotes endogenous development and envisages a wider involvement of the community in planning and facilitating the processes of development. However, the capacity and viability of rural areas cannot be imagined without vibrant rural communities. Economic and social issues are closely intertwined. The individual decisions of rural inhabitants, as well as decisions of families, especially young families with children, to stay and build their lives in the countryside depend on economic as well as social considerations. It is not possible to attract young people to rural territories just with economic instruments (for example, employment opportunities) as the inhabitants find other aspect important too, such as quality infrastructure and access to health care, culture and education. However, preserving access to education in the conditions of rural depopulation depends both on economic possibilities as well as community social capital.

When analyzing the involvement of communities in the processes of rural development and their ability to influence decisions, in this case, their activism regarding the ongoing processes of school closures, one can notice a vicious circle. The smaller is the economic capacity of the municipality, the lower are the levels of social capital. Weaker and economically

underdeveloped municipalities tend to have lower levels of social trust, social activism, willingness and ability to participate in social processes. Parents are less likely to get involved in the school's life, the community is likely to be less active in trying to keep the school open, and the municipality will be less likely to defend schools as they are not able to support them financially. It means that in areas where there is already a very limited availability of resources, the problems are aggravated by school closures, hindering potential future growth. There is a need to find a way to break the vicious circle that deepens the inequalities between regions and rural municipalities.

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Endnotes

ⁱ Territory development index is complex assessment of a national socio-economic development disparities. The initial data for calculations of development index shall be taken from the Central Statistical Bureau, Treasury, State Land Service, State Employment Agency and Office of Citizenship and Migration Affairs using the statistical eight indicators (unemployment rate, GDP per capita, personal income tax per capita, non-financial investments per capita, the dependency age ratio, population changes, density in the resident population, number of individual merchants and commercial companies per 1000 inhabitants).

ⁱⁱ The research leading to these results has received funding from the EEA / Norwegian Financial Mechanism 2009-2014 under Project Contract n° NFI/R/2014/014.

ⁱⁱⁱ The question was only asked to municipalities where at least one primary school was closed in the last five years. In municipalities with the highest TDI there were no cases when a school was closed so the table only shows the other three groups of municipalities

Meritocracy in Singapore Education System

Joseph W. Miller a, Voon Chin Phuab

1. Introduction

Singapore's education system is based on a dominant ideology of meritocracy that is effectively managed by the government (Ho 2009; Ho 2010; Ministry of Education 2011). Au (2009:26) defines meritocracy as the belief that "individuals freely compete against each other, in part through education, and those that work the hardest make the most personal and economic gains." Thus, in a perfect meritocracy system, an individual's success is entirely dependent on his or her individual merit, and so few if any correlations would exist between indicators of success and social constructs such as race or ethnicity. Moore (2000) further conceptualizes the notion of meritocracy by identifying two distinct forms: procedural equality and fair meritocracy. In the former, the rules are the "same for everyone," and so no individual group receives any type of preferential treatment. This form may be considered the most pure configuration of meritocracy, at least at the theoretical level. A less 'pure' form is that of fair meritocracy, in which policy makers recognize that "unjust inequality is endemic to strict procedural equality, given the inherited advantages of privileged groups" (Moore 2000:339).

This dominant ideology of meritocracy is of critical importance to Singapore. According to Gopinathan (1974:1), "educational policies, if not conditioned by and directed towards the attainment of a national consciousness or identity and a common loyalty, can become an instrument of division and discord rather than unity." Ho (2010:217) argues further that "newly industrialized states such as Singapore . . . have deliberately used education as an instrument for the promotion of social cohesion and the forging of national identity." Indeed, Ho's (2010) research results contained data unanimously suggesting that citizens' perception of modern Singapore is entirely "harmonious," lending credence to the conclusion that the dominant ideology has been uniformly effective. Unfortunately, the education system in Singapore does little to give students the 'sociological imagination' required to see through the dominant ideology and question foundational assumptions. After analyzing the results of her data, Ho (2010:231) concluded that "little or no discussion of sensitive and controversial issues occurred in the social studies classrooms during observations;" this being the case even though it is an explicit goal of Singapore's education system to foster critical inquiry in classrooms. In fact, teachers did discuss the role of discrimination in society, but only at individual levels in other nations such as Ireland (Ho 2010). Discussion of macro or structural forms of discrimination were amiss, in part either because addressing these concerns was beyond the scope of the state-mandated curriculum, or because teachers bought into the dominant ideology to such an extent that they did not determine the inclusion of these topics to be merited. Therefore, "the teachers presented the Singapore system of meritocracy and multi-racialism as an ideal, just, and color-blind system for all" (Ho 2010:232).

In this paper, we explore the role of the dominant ideology of meritocracy in Singapore (Bonilla-Silva 2003; Ho 2010), and how this social tool is effectively diffused to maintain social cohesion and a sense of equal opportunity in Singapore. We will discuss how educational institutions have incorporated the dominant ideology of the state and reinforced it through various pedagogical practices and assessment instruments. Furthermore, we will address certain aspects of the Singaporean education system which threaten to undermine the validity of the ostensible meritocracy, namely tuition (Moore 2010).

2. Meritocracy and Standardized Testing

Standardized tests are seen as the medium through which meritocracy is enacted in Singapore's education system. Au (2009:45) provides a cogent analysis of the justification for using standardized tests:

Due to the assumed fair and objective measurement of individuals, standardized tests have thus been characterized as one of the means to challenge race-, class-, and gender-based hierarchies by promising that every individual who takes a test gets a fair and equal shot at educational, social, and economic success.

Standardized tests are supposed to determine adequate and appropriate educational opportunities for students in a meritocratic fashion. This statement holds true in nearly all countries where these assessment tools are employed. It is important to note that the 'high-stakes' nature of Singaporean standardized testing differs substantially from the implications such tests have in other nations. Consistently poor standardized tests scores may result in the hiring and firing of teachers and administrators, or even the shutting down of entire schools in some other nations, such as in the US.

Singapore has incorporated some positive elements into its standardized testing methods. As far back as 1980, the Ministry of Education allowed for school autonomy in administering standardized tests (Kwang 2008:114). The Ministry of Education provided a bank of questions from which schools were able to pick, varying the questions according to their student population. This built-in flexibility hypothetically created the opportunity for less culturally-biased tests, assuming the good intentions and cultural sensitivity of school administrators. An additional element of flexibility built into the school systems is that late educational bloomers are not forced to stay in the same track if they have been relegated to a lower level (Kwang 2008:114). Students may be shifted into the higher tracks by the results of their standardized tests occurring at either the end of primary school or secondary school. However, even with these positive changes, there are still significant areas of concern in the use of standardized tests to commence streaming in schools. Ho (2010:238) points out that "in the social studies classrooms, there was a focus on teaching to the test, thus precluding any detailed examination of controversial issues due to the lack of time." Singapore's social studies standardized test places a heavy emphasis on remembering content, and not on applying critical skills in examining issues. Instead, students are forced to regurgitate previously discussed examples of individual acts of discrimination in Singapore and other countries, rather abstractly applying these situations only to previous times of social unrest. All too often, however, their latent function is to inadvertently reinforce hegemonic power structures through culturally and linguistically-biased exams. For instance, Kwang (2008:135) recognize that early on in Singapore's history, verbatim translations of English standardized tests to Chinese, Malay and Tamil were "Anglo-centric" and "not always relevant to Singapore." Fortunately, the choice of English as the lingua franca helped resolve this particular issue. Another area of concern is the high stakes nature of some standardized testing. For example, Borja (2004:3) expresses concern that standardized testing, as it is used in Singapore, may unfairly determine whether a student attends a rigorous or lax school during their secondary education. Depending on the rigidity of the streaming mechanisms, then, the concern is that one poor performance on an individual test may determine the trajectory of a student's long-term education.

In addition, these examinations in Singapore are the "gatekeepers to educational opportunities" for students (Gregory and Clarke 2003:70). A student's secondary, tertiary, and quaternary schooling choices hinge almost entirely on their standardized testing performance. Reflecting on the concept of fair meritocracy in Singapore, Moore (2000:339) argues that "inherited wealth, educational advantages, nepotism, and benefits from

discrimination against other groups, create a 'cruel meritocracy' that does not truly reflect the talent and hard work of all individuals." Furthermore, Moore (2000) identifies unequal access to community-based self-help organizations, unequal treatment in the public education system, and the impact of economic, social and cultural capital as impediments to the execution of a true meritocracy in Singapore.

In this paper, we will attempt to supplement and continue the research of Ho (2010) and Moore (2000) by focusing on the intersection of the perception of meritocracy as the dominant ideology administered through standardized testing. Specifically, we will examine how Singaporeans perceive the ideology of meritocracy in their educational system and the role of standardized testing as a means to maintain it.

3. Methods

Seventeen in-depth interviews were conducted with respondents 18 years of age or older in the summer of 2011. The convenience sample consisted of current students, former students, parents of current students, school teachers and school administrators. It is important to note that respondents were being categorized in the context of how they were being introduced, and these categories need not be mutually exclusive. For example, school teachers and administrators can also be parents. The racial composition of the sample included 10 Chinese respondents, 4 Malay respondents, 2 Indian respondents, and 1 Other respondent.

Interviews were taped-recorded and transcribed. When respondents preferred not to be recorded, the researcher took thorough notes during the course of the interview. Detailed notes from ongoing conversations with some participants were appended to the interviews. A qualitative content analysis of the interview transcripts and online texts was conducted using a program called Microsoft OneNote. Key terms and sentiments were coded using an open coding process (Babbie 2011), with a special interest in identifying repetitive phrases and words and potentially counterintuitive data (Ho 2010). To increase reliability of the coding process, axial coding was employed to re-assess prior coding and inform future analysis (Babbie 2011). Codes occurring infrequently because of their specificity were included in more general codes which allowed for easier identification of themes. These too constituted valuable data included in the content analysis.

To elaborate our points, we will use quotes verbatim. We use an ellipsis in places where we truncated the quotes to highlight the relevant excerpt. Efforts were invested to ensure that every respondent's voice is represented. To ensure anonymity, we only identify participants using their race and primary role as a respondent, with an internal identifier (e.g., SL11 Chinese student). Also, we do not report percentages of participants' agreement on any issue. From a statistical standpoint, reporting percentages may be misleading as the sample is non-random. As the same time, the results of this research are not meant to be generalizable. This research is explorative, with the hope that future researches may use the results and conclusions identified from this project in designing more comprehensive and quantitative-driven projects. It is also important to keep in mind that the goal of the interviews is not to assess the accuracy of their understanding (though this is valuable data) but to examine their perceptions, underscoring the significance of their unique experiences with the educational system as administrators, teachers, and or students.

4. Results

Perceptions of Meritocracy

Generally, respondents seemed to support the notion that Singapore's education system is meritocratic. Respondents expressed the notion of a meritocratic sorting system by making such comments as "[from] the government's point of view, everybody is treated equally" {SL11 Chinese student}; "I think they [students] are given equally opportunity" {SA2 Indian Administrator}; "we pride ourselves on meritocracy . . . rich, poor, it doesn't matter. You can make it to the good schools" {SL3 Indian Former Student}. This finding of general consensus is congruous with Moore's (2000:352) assertion that the education system is the "primary engine driving Singapore's meritocratic sorting process." Interestingly, though, the results of this study were not as conclusive as Ho's (2010), who argued that all of the respondents in her research uniformly accepted the dominant ideology of meritocracy and equal opportunity. Some respondents in this study contested the idea of meritocracy as providing equal opportunity by identifying certain groups as performing worse than others on standardized tests, and thus as having lower admittance rates to better secondary and tertiary educational opportunities.

Administrators were unanimously identified as believing in the meritocratic nature of public education. Parents of current students and former public school students were the groups identified as having the least support for the notion of the public education system as meritocratic. No such pattern was identified using the respondents' race as a variable. Perhaps the respondent most emphatically disagreeing with the notion of public education as a meritocracy was a Chinese parent of a current student (SL14). This respondent claims that "it is not equal, but I would say compared to other countries, in Singapore there's a harmony. I say Singapore done a very good job in that way." Even this respondent, though, who provided the most disillusioned commentary on Singapore's meritocracy, still provided enough contradictory commentary to warrant an identification of inconclusive with regards to her perception of the meritocracy. By identifying a high degree of "racial harmony," in the same words Ho (2010:224) identified in her research, the respondent thus conformed to the dominant ideology in the style of "spontaneous consent" identified by Gramsci's hegemonic discourse (Gramsci as cited in Au 2009). As disapproving or contradictory as some respondents' perception could be, all still purported the education system to "an ideal, just, and color-blind system for all" (Ho 2010:232). As such, the common discourse among respondents "ignore[d] the possibility of the existence of structural or institutional impediments" to particular groups," and maintained the notion that failure must necessarily result from an "individual's lack of effort or ability" (Ho 2010:222).

Standardized Testing and the Significance of Streaming

As stated previously, the standardized testing system in Singapore can be seen as the government's attempt to insert a meritocratic sorting system for its student population, thus providing appropriate curriculum and instruction for every student's identified aptitude (Moore 2000; Au 2009). Disentangling respondents' specific evaluation of standardized testing as meritocratic from their overall perception of Singapore as a meritocratic society is beyond the specificity of coding utilized in this study, but suffice to say that the general affirmation of Singapore's meritocracy identified above can be interpreted synonymously with Singaporean's belief that their testing system is meritocratic as well. In the words of one respondent {SL3 Indian Former Student} "standardized testing stinks, pigeon-holes and is backwards, but for a country that prides itself on meritocracy, it's the only route they [sic] can think of."

Having established the general perception of standardized testing as meritocratic, we shift our attention to Singaporeans' perception of the resulting sorting process which may be referred to interchangeably as streaming or tracking. However, the term "streaming" seems contestable. Some respondents seemed to identify existing streaming mechanisms in schools, but refused to acknowledge them as actual streaming students into aptitude-dependent classes. For instance, respondent SL11 {Chinese Student} commented that schools "they split [students] but they do not stream anymore." In this paper, we will use "streaming" to denote classes they are being placed in based on standardized testing.

For those who did affirm the significance of streaming, the comments were fairly similar. For instance, respondent SL1 {Malay Parent} commented that the results of the Primary School Leaving Examination (PSLE) dictate whether students attend a "good school" or a "normal school." Indian former student {SL3} commented even more emphatically on this topic, arguing that "early test results more or less dictate their [students'] future streaming path," and so "once you make it into a certain stream, there's no way out." She commented that this rigid streaming tunnel is commonly referred to as the "through train," and stated that the whole system is "very, very elitist," "if you don't make it on the train, then you're out of the system." Her rhetoric closely matched that of Kwang (2008:116), who also notes that critics of standardized testing's use to sort students regard "streaming as elitist and" as having a "stigmatizing effect of labeling students." Several respondents in this study {SA1 Chinese Administrator, SA3 Indian Administrator, ST1 Other Teacher} negated the potential stigmatization effect identified by these critics, but others had a different perception. Respondent SL10 {Malay Former Student} commented extensively on this topic, relaying that "people obviously want to be in EM1 [English and Mother Tongue, 1 being the most academically rigorous] because they're the top students and the clever ones." Being placed lower than that, on the other hand, "is not really a nice thing to me" as students then feel as if they "belong to the stupid bunch." According to this respondent, such stigmatization may have been most prominent in ITE, where students usually finish their schooling if they consistently perform poorly on the high-stakes standardized tests. One Chinese respondent claimed that "PSLE is the problem;" "you don't do well, you cannot go to private secondary school," meaning the best schooling Singapore has to offer. She further commented that even in Primary 4 "they [are] streaming;" "for those in the bottom class, there's no way you go to university."

Some respondents acknowledged the impact of streaming on students but qualified that, or provided contradictory commentary, usually saying that there may be an impact but students are always capable of shifting through the various streams relatively fluidly. When asked in response "how often do people actually move from normal to express?" which would be a shift up in secondary streams, one respondent replied "normally it's the top 5% of the normal academic who would be able to do well enough." Respondent SA1 {Chinese Administrator} commented "the outcomes of the 'O' and 'A' level [examinations] really has a bearing on your career, so [the exams] are high-stakes in that sense." However, he followed this statement by saying "you see our system allows anyone to move up to the university [or within streams in secondary school and within tertiary schooling options], it's only a question of how long you take."

Streaming can be viewed as a way to ensure meritocracy works in the education system. However, this sorting process is seen as a gatekeeper by some Singaporeans. SA3 {Indian Administrator}, when responding to an inquiry about the appropriateness of beginning the streaming process at Primary 4, replied "I don't think so. But there are students who come from disadvantaged families," and they "put them into the proper groups and run the programs. It is meant to help them." Respondent SL14 {Chinese Parent} offers the potentially calcifying effects of streaming when she questions the likelihood of a student

moving from a lower stream to a higher stream if “the best teacher, the best resources will go to the best student.”

5. The Role and Significance of Extra-Curricular Support

The role of extra-curricular support, particularly in the form of tuition, is meant to assist students to perform well at these standardized tests, helping those who may need extra assistance to level the playground. In the words of respondent SL5 {Chinese Parent}, tuition is “a mainstay. Everybody has tuition, one form or another.” This sentiment is shared by most respondents in the study. Comments such as the one above were pervasive during interviews: “parents force tuition from very young ages, as young as five . . . in some cases six days a week” {SL2 Chinese Former Student}; in Singapore, it is a “must to have tuition for kids.” School is so “competitive that everybody [must] have tuition;” “without it, it’s like you’re behind” {SL4 Malay Former Student}; and the education system is “highly competitive” so “tuition centers and tutors are making big money” {SA3 Indian Administrator}. Respondents did not stop at mere recognition of its importance, though. Some even speculated that for most students, learning takes place at home and during tuition, not in school {SL14 Chinese Parent}, and that students who enter primary school without prior educational experience will be extremely far behind {SL14 Chinese Parent; SL5 Chinese Parent; SL6-9 Chinese Students; SL4 Malay Former Student}.

However, the accessibility and availability of tuition for students are linked to the issue of affordability and financial feasibility for families wanting or needing it for their children. On the one hand, some Singaporeans seemed to believe that tuition is financially accessible for Singaporean students, in part depending on the frequency of meetings, the qualification of the instructor and whether it is in groups or one-on-one. On the other hand, other Singaporeans dissented against such an opinion. An interesting, perhaps not surprising, pattern occurred in terms of who was expressing these opinions. Administrators tended to identify tuition as financially accessible, whereas parents, the group most impacted financially by the role of tuition, tended to comment that not all students would have access to tuition, especially private or one-on-one tuition. This conclusion makes sense considering that most respondents estimated one primary tuition class to be between \$25 and \$35 dollars {SL 6-9 Chinese Students; SL14 Chinese Parent; SL4 Former Student; SL5 Chinese Parent}. Respondent SL4 {Malay Former Student} commented that she was able to charge at least \$40 an hour tutoring polytechnic students. With many students attending multiple tuitions per week, several respondents were quick to comment that parents can pay as much as \$50 to \$100 per week in tuition alone, sometimes for multiple children. Parents tended to disagree with the idea that tuition is equally financially accessible. Respondent SL14 {Chinese Parent} acknowledges that tuition is not financially accessible for everyone. She first replied to the question is “tuition equally accessible for everyone?” by stating “Yes, yes. You have money you pay.” However, when asked “does everyone seem to have the money to pay for tuition?” the respondent quickly replied “no, not really,” recognizing that students from poor families are less likely to enroll in this key extra-curricular support. Other parents acknowledged that many families would be unable to afford tuition if it were not for the existence of community clubs such as Mendaki or the Chinese Development Assistance Council, which “provide very cheap tuition” and “very cheap kindergarten for the local students.” However, respondent SL1 {Malay Parent} admonished that these programs “maybe [are] not enough and [are] of poor quality.”

One respondent {SL5 Chinese Parent} claimed that “people from rich families have better training” to “stimulated [children’s] development” versus poor families “that probably never

gone [sic] for enrichment until their primary 1.” What may seem like a common fact of life in countries where meritocracy and equal opportunity are only implied actually raises an alarming red flag in countries such as Singapore where these ideals are explicit components on the nation’s dominant ideology. Moore (2000: 356) rightly concludes that such economic conditions “would be inconsistent with the ideal of fair meritocracy, where individuals are judged and rewarded on their achieved merit rather than inherited advantage or disadvantage. While perceptions of financial accessibility may not have varied significantly by the respondents’ race, respondents often commented similarly on the groups of students most likely to enroll in tuition classes. It was quite common for respondents to identify Chinese parents as the most adamant that their children enroll in tuition {SL6-9 Chinese Student; SL4 Malay Former Students; SL5 Chinese Parent}. Furthermore, respondents often proceeded this statement by saying that Chinese students come from families best equipped to pay for expensive private tuition, usually multiple sessions per week {SL1 Malay Parent; SL5 Chinese Parent}. For instance, respondent SL4 {Malay Former student} commented the “Chinese . . . they could afford it;” “Malays, they try to afford it . . . if they really cares [sic] about their education.” As indicated by this last respondent, not only is participation in tuition dependent on a family’s financial background, but also on whether or not parents deem it worthwhile. While the majority of respondents in this study did emphatically recognize its importance, it would appear that a stereotype exists about Malay Singaporeans that they are not as interested in extra-curricular educational support.

6. Discussion

Perpetuating the ideology of meritocracy can be detrimental to certain groups who do not experience the same degree of 'equality' as other, more privileged groups (Koh 2014). Indeed Moore (2000:341) argues that there is a definite hierarchy in Singapore as reflected in "income, education, housing and virtually every other social and economic category", with "Chinese on the top, the Malays on the bottom, and the Indians straddled in the middle." Such social and economic stratification may be the result of "durable inequalities" which, according to Moen and others (1992:2) "once established, are difficult to eliminate . . . despite the legal quality of races, ethnic groups" and other categories. This is particularly important in terms of affordability of tuition. Tuition is extra-curricular support that typically comes in the form of one-on-one or small-group tutoring. Students from all grade levels, up to and including university, will take tuition courses to improve their grades in class and to improve their scores on the national standardized tests. Moore (2000:356) comments that "private tuition is so common [in Singapore] that is almost expected." Such a great emphasis is placed on this extra-curricular support because of the strong correlation between educational and economic success, and the resulting ferocity in educational competition. One business providing home tuition proudly claims on its website "home tuition is probably the greatest investment you can offer to your kids since it provides them a leg-up" (Tuition Singapore 2012).

While there may be a relative dearth of peer-reviewed research on the role of tuition in Singapore, conversations among parents and concerned citizens have become quite common, using social networking sites such as Facebook to create group pages, as well as op-ed sections of the Straits Times to provide commentary on the subject. For instance, one concerned citizen regards tuition as "essential" for any student, and promotes the use of Community Development Councils (CDCs) to "ensure that social mobility does not stall for children from low-income families" (Wong 2011). Similarly, another concerned parent comments that "extra coaching by private tuition" is the best way to "unlock [students'] fullest

potential," but may be more accessible by wealthy families "compared with students who cannot afford them" (Hui 2011). In short, tuition has become a pervasive element of the Singapore public education system, and so equal accessibility is obviously an area of concern with regards to ensuring the role of education as a vehicle for Singapore's meritocracy. However, Singapore's government has taken steps to eliminate potential impediments to equality. For instance, the national government chose English as the dominant language of instruction, a decision which was undertaken in an attempt to promote equality among races by eliminating the potential benefits of using the mother tongue of any specific race (Kwang 2008). Of course, the decision was an economic one too, providing Singapore with better chances of success in a global market. Singapore also has elements of corporate pluralism, in which the government recognizes various ethnic groups and attempts to ensure a degree of equality among them through political and economic recognition (Marger 2009:94). In addition, Moore (2000) documents the government's attempt to ensure a fair meritocracy when it helped establish a community-based self-help organization for the Malay population called Mendaki in the early 1980s. Similar self-help groups for the Chinese and Indian populations ensued over the next two decades.

There are also a number of recent and even historical policy implementations in Singapore that merit a great degree of praise. Our results confirm Kwang's (2008) assertion that Singapore has attempted to make its standardized tests culturally relevant for its various races, thus attempting not to privilege any particular group. Respondent SA2 {Malay Administrator} stated that the School Examination Assessment Board (SEAB) intentionally creates culturally sensitive examinations, in which no race appears to be valued over another, nor do the questions cater to a particular race's cultural or educational background. In addition, SEAB gives department heads in each school the autonomy to generate an examination which they deem appropriate for the specific demographic make-up in their school, providing a test bank of approved questions from which relevant questions may be selected in order to create a race-neutral examination. On another note, SL10 {Malay Former Student} who tended to be very critical in her perception of the streaming process, did comment that students in the lower primary and secondary streams do tend to develop special relationships with their teachers not present in higher streams—"EM3 and normal technical students receive more attention from the teachers." Furthermore, she stated that the government has provided critical support for ITE schools to improve the quality of facilities and instruction, and thus make ITE a more attractive option for all Singaporeans. Such measures, she believes, have reduced the stigmatization of ITE students dramatically. In addition, a liberal college was opened in Singapore to diversify the educational approaches in Singapore.

7. Conclusion

Singaporeans generally operate within the dominant ideology of meritocracy as prescribed and maintained by the government through the purportedly objective sorting mechanism of standardized testing in public schools. Singaporeans tend to believe that standardized testing, if a little elitist and unpleasant, is nevertheless the best way to ensure equal opportunity for citizens. Singaporeans also tend to recognize the significant impact of the resulting streaming process, which is dependent on the outcome of students' standardized tests scores, on students' educational aspirations. Finally, Singaporean's nearly unanimously recognize the importance of tuition in improving performance on these crucial standardized tests. Through this study, themes have been identified showing that perceptions of these various ideologies and educational mechanisms, as well as whether or not disparities in

educational outcome exist between different racial groups, are often colored by Singaporeans' race and relation to the education system, in ways that often undermine clear and logical analysis of the latent functions of these ideologies and meritocratic mechanisms.

The government has enacted several measures ensuring ever-greater degrees of meritocracy resulting from the public education system. While the results from a non-random sample cannot be generalized, they suggest that there are still areas of concern: the rigidity of the streaming process as measured by the fluidity between tracks and tertiary schooling options for students; financial accessibility for from pre-primary and onwards extra-curricular educational support; entrenched elements of cultural and color-blind racism as evidenced by respondents' discourse, which may impede progressive measure ensuring even greater equal opportunity for all Singaporean students. The results provide insights into generating more research hypotheses for future research. Further research on these topics from a larger sample and using more representative samples are strongly encouraged.

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Factors Affecting, And Methods To Improve, The Language Development Of Eal Learners

Kevin Norley

1. Overview and Context

When reflecting upon the literacy and language skills of people within the country, the needs of the increasing and ever-diversifying immigrant community has also, naturally, to be considered. The question that this discussion paper reflects upon is, 'How does the learning experience differ for the learner who is an EAL (English as an additional language) learner from that of an English native learner developing his/her literacy skills?'

A native learner acquires the English language from a very early age, whereas an EAL learner needs to learn the language. Hawkins (1984), in contrasting mother tongue learning during infancy and foreign language learning during school, argues that the motivation for mother tongue learning is greater than for foreign language learning because there is more in the way of discovery, excitement and associated rewards. Amongst EAL learners, Wallace (1988: 4&5) outlines the difference between those 'who are learning English as a foreign rather than a second language, and have come to Britain usually specifically to improve their English' and those from 'linguistic minorities who have settled in Britain' and who 'are likely to have to function in daily life, work and education primarily through the medium of English'.

The ability of an EAL adult learner to develop their literacy skills will depend on a variety of factors including their native language literacy skills (which in turn is a reflection of their educational background), personal circumstances and degree of motivation i.e. to what degree the learners need English in their daily lives e.g. work-related reasons, integration into the community, functional reasons (going to the doctor etc.) and the amount of exposure they get to the English language in their daily lives. Wallace (1988: 3) explains that for teachers of adult literacy, functional literacy should be the goal for their learners i.e. to be aware that it's 'part of everyday life in a personal and social sense'.

However, she also argues that the degree to which EAL learners, who have a different first language and culture to that of the indigenous population, need and view literacy in their everyday lives depends on their social role within their community, and backs this up by giving examples of the varying literacy expectations on an Indian housewife and a Pakistani Muslim boy.

Amongst EAL learners, naturally the range of initial levels of acquisition can be quite vast i.e. from someone who has little or no knowledge of the English language and little experience of its usage, to someone who is nearly fluent. Furthermore, there will be a wide ability range in terms of the learners' potential to develop their English literacy skills within such a range of learners. Common learning difficulties which EAL learners experience, whatever their starting point, relate to the degree to which the phonological system and grammatical structure of their own language differ from the English language. Common errors in spoken English amongst EAL learners relate to learners translating directly from their own language into English (mother tongue interference), using their native language's grammatical structures. However, the EAL learner may have strong literacy skills in their other language(s) and these are transferable but less so if the other languages use a different phonological system, and are written in scripts other than the Latin; if the first language is written in a non-alphabetic script, then even less so.

In comparing and contrasting the issues faced by native and non-native speakers in learning to read, Wallace (1988:64) argues that since native speakers use the English language in their

daily lives and have an 'intuitive knowledge about their own language', then 'reading is not an alien code', whereas for non-native speakers, they have to use 'what they know of English to predict the structure and vocabulary of written English' and as such may have, depending on their English competence, 'difficulty in anticipating certain structures in written texts'. Furthermore, Carrell et al. (1987) point out that amongst adults, research has shown that:

When a reader and writer share cultural assumptions and knowledge about social systems and rituals, there is a much higher level of interaction of the reader with the text than occurs when such assumptions and knowledge are not shared.

(Carrell 1987: 43)

An EAL learner's native language literacy skills will also affect their English reading skills in that if they have, for example, a poor comprehension of punctuation, or a sound knowledge of punctuation conventions in the first language which are not the same as those of English, then this will serve as an additional barrier in reading to the understanding of text to that served by understanding of vocabulary and pronunciation of words; and similarly for writing, poor handwriting skills and/or a poor comprehension of punctuation, grammar and spelling rules in the EAL learner's own language will compound a learner's difficulties in writing in another language.

Native learners who wish to develop their literacy skills however, are less likely to be concerned with English language usage, but more concerned with developing their reading and writing skills. The literacy skills which need to be developed, will naturally relate (as with EAL learners) to the level of literacy skills which the native learner already has. Those skills will, in turn, relate to the learners' own educational experiences and socio-economic background, abilities and interests. The incentives for the native learner to improve their literacy skills will naturally relate to their own motivation and personal and work-related circumstances.

EAL learners are less likely to be aware of the range of non-standard English dialects that exist in the United Kingdom than a native learner and as such, would need to be exposed during learning sessions to a range of dialects. Native learners on the other hand, who use non-standard dialects may not be aware of grammatical errors that they make in their spoken English (e.g. use of 'you was', 'I done' and 'we haven't got no' etc. are all quite common in non-standard dialects), and how this may impact on their written English. Also, it should be considered that there will be many EAL learners who, due to the areas they live in, may be equally, or more likely, to accept the non-standard colloquialisms around them as standard (e.g. 'innit?').

In the early stages of literacy where a sound-letter correspondence is being taught, care should be taken to ensure that the learner has an opportunity to hear the sound. Materials intended for native speakers often assume a knowledge of vocabulary (e.g. a picture of an igloo next to the letter I), but this knowledge cannot be assumed for EAL learners. When teaching vocabulary, the meaning, spoken form of the word, and written form of the word should all be emphasised with an EAL learner. If lessons are tailored to the needs of native learners, there is a possibility of neglecting one or other of the first two. Generally speaking, EAL learners will have a smaller vocabulary, and less of an instinctive knowledge of collocation (words that go with other words) e.g. traffic jam, traffic lights, draconian measures. A strategy employed by successful readers, that of guessing from context, cannot be employed by them unless the teacher ensures that there are not too many gaps in the text i.e. limits the vocabulary load. Writing frames, prepared for a range of levels, can be a useful strategy for developing writing skills in both EAL and native learners. Examples of writing

frames (writing letters, applying for courses etc.) can be found in Writing Works (2001). Both EAL and native learners could benefit from the support of pictures.

EAL learners will want to advance their knowledge of the English language alongside their literacy skills (acquiring new vocabulary and structures). In supporting general English acquisition through the written and spoken word, teachers should avoid the danger of overloading the text with unknowns and thus sabotaging the developing literacy skills. It should also be borne in mind that EAL learners who have advanced literacy skills in their own language may feel insulted by the simplicity of the content of beginner's texts. Similar sensitivity is required with adult native speakers too, as they tend not to want to read childish texts. Furthermore, EAL learners who do read well in their other language(s) should be explicitly taught how to use a bilingual dictionary.

2. Learning Theories

When reflecting on theories of language and development in order to choose an approach that would best enable any given learner to develop their literacy skills, it can be considered that according to Knowles (1998: 22), 'Learning theories fall into two major families: *behaviourist/connectionist theories* and *cognitive/gestalt theories*' Whereas cognitive development theories relate to understanding why adult learners have difficulties in dealing with quite advanced issues (Knowles 1998), behaviourist theories are based on the idea that learning is a function of change in overt behaviour and that those changes are the result of an individual's response to events (stimuli) that occur in the environment. The theory, as applied to language development, centres around the idea that a stimulus (such as the first sentence of a dialogue) meets with a response and that if that stimulus and response is praised or rewarded by the teacher, a stimulus-response pattern can be established with a learner which conditions that particular learner to respond in future instances. Reinforcement is the key element in the stimulus-response theory, where the reinforcement is anything that strengthens the desired response e.g. verbal praise, a good grade etc.

For a learner who is illiterate, language practice should take the form of question (stimulus) and answer (response) frames which expose students to the language in gradual steps. This requires that the learner makes a response for every frame and receives immediate feedback in the form of positive reinforcement on the basis that behaviour that is positively reinforced will reoccur. If a learner is illiterate, it is likely that they will have arrived in the UK as an immigrant or refugee from a rural community within a developing country (in Africa or Asia) where literacy is not as highly valued as it would be in other types of community. As such, there is a likelihood that the learner will have come from a tradition where although oral fluency would be important, literacy skills such as reading and writing are less valued, particularly for women. Furthermore, if a learner is illiterate in their own language, it is likely that their language skills will have been acquired in an informal way rather than learnt in a formal manner. Krashen (1981) outlines the difference between 'language acquisition' (the natural assimilation of language rules through using language for communication) and 'language learning' (the formal study of language rules as a conscious process).

In terms of theories of language learning, an approach which could be considered for an illiterate learner is the 'interactional view', whereby according to Richards and Rodgers (2001: 21), language is seen 'as a vehicle for the realization of interpersonal relations and for the performance of social transactions between individuals' and therefore 'as a tool for the creation and maintenance of social relations'.

An illiterate person will initially need the native language to ‘survive’ in a community i.e. to be able to interact with others in carrying out everyday functions such as shopping, accessing services and finding a job etc. It is important therefore that learning reflects realistic everyday life situations. In discussing adult learning theory, Knowles (1998) states that:

‘Adults are motivated to learn as they experience needs and interests that learning will satisfy’ and that ‘Adults’ orientation to learning is life-centred; therefore, the appropriate units for organising adult learning are life situations, not subjects.
(Knowles 1998: 40)

In distinguishing between theories of learning and theories of teaching, Gagne (1985) has argued that while learning theories address methods of learning, teaching theories address the methods employed to influence learning. An example of such a method, which is based on the learning theory of behaviourism (discussed above) is the ‘audio-lingual method’. According to Harmer (1991: 32), the method makes ‘constant drilling of the students followed by positive or negative reinforcement a major focus of classroom activity’. Basing the methodology on the stimulus-response-reinforcement model, mistakes are, according to Harmer (1991: 32) ‘immediately criticised, and correct utterances ... immediately praised.’

Other teaching methodologies focus more on the humanistic aspects of learning, whereby it is argued that language teaching should, in focusing on learners’ experiences, look to develop themselves as people and encourage positive feelings (Harmer 1991). Advocates of humanistic approaches then would, according to Harmer (1991: 36) tend to use classroom activities that made learners ‘feel good and ... remember happy times and events whilst at the same time practising language’. In terms of classroom activities that could be used to develop an illiterate learner’s aural skills, it should be borne in mind that, according to Ur (1984: 35), ‘a grasp of the phonology of the new language is a fairly basic requisite for learning to speak it’ and also a prerequisite for later developing sound-written symbol relationships. With this in mind, she advocates listening exercises whereby the learner is given the opportunity to practise ‘identifying correctly different sounds, sound-combinations and intonations’.

In order that the focus will be predominantly on developing the learner’s aural perception skills, Ur (1984: 35) suggests minimising visual stimuli and ‘contextual clues to meaning’ through use of a range of recordings rather than live speech. At the word level then, the learner practises listening to and repeating words in isolation from each other. Time should be built into the activities by the teacher for error correction and positive feedback to the learner.

At sentence level however, the difficulties for a learner increases as aural perception is hampered by the idiosyncrasies of English speech, such as word contractions, unstressed syllables, elision of consonants and variation in vowel sounds. In order to further develop the learner’s aural skills, activities need now to be focused on sensitising the learner to the ‘blurring’ of words that takes place in spoken discourse due to the above. The learner needs to listen to and repeat short phrases or sentences, still ensuring, as above, that they rely predominantly on their ear. Further aural activities can include; listening to recordings of short sentences and answering the question, ‘how many words?’, and listening to recordings of short sentences and asking if certain facts are true or false. Care should be taken to ensure that there is not too much in the way of new language or utterances introduced into each session that may ‘overload’ the learner, and that time is allowed for continual error correction and feedback to the learner.

On the basis that both the above activities rely on a stimulus (the learner hearing words or sentences) and a response (repetition of the word or sentence), error correction, drilling and

positive reinforcement, it can be argued that they lend themselves towards the audio-lingual teaching method and are hence based on a behaviourist learning model.

3. Everyday questions, contractions and unstressed syllables

Naturally, any group of learners starting a class will come from a variety of backgrounds and be motivated to learn English through a mixture of intrinsic and extrinsic factors. As such, the learners within a class will vary in their ability to learn. As far as it is possible, learners should be banded together in a class following an initial assessment of their speaking and listening, reading and writing skills, against criteria relating to a given level. Assuming a given level following initial assessment, for example entry level 2, learning in classes can be initially delivered through focusing on common, everyday questions and answers, and expressions, that the learner is likely to be familiar with, and which do not require any broad knowledge of grammar or tenses, such as, 'How are you?', 'What is your name?', 'What time is it?' and 'Where are you from?' etc. By restricting the variation in the grammar within the questions and answers to the components of the verb 'to be', a tutor is able to focus on developing their learners' fluency.

For example, students should get used to the sound of contractions early on, and be given the opportunity to practise listening and responding to questions with them. As well as being encouraged to use contractions in speech, they should learn how to recognise and write with (and without) them.

Attention should also be paid at this stage to the pronunciation of unstressed syllables in speech, as a means of improving learners' fluency. Due to the nature of English as a 'stress-timed' language, it is common for an ESOL learner to miss out or 'pass over' unstressed syllables such as 'a', 'the', 'm', 'are' and 'to'. The location and importance of these syllables can be reinforced through reading and writing exercises which clearly highlight the position of the unstressed syllables.

3.1 Present tense (everyday questions)

How are you? I am fine thanks I'm fine thanks
 What is your name? What's your name? My name is... My name's...
 What is his name? What's his name? His name is... His name's...
 Where are you from? I am from... I'm from...
 Where is he from? Where's he from? He is from... He's from...
 Where is she from? Where's she from? She is from... She's from ...
 Where are they from? They are from ...
 What time is it? It is ten past eight. It's ten past eight.
 What is the date today? It is the 12th of July
 What's the date today? It's the 22nd of August
 What is your job? I am a...
 What's your job? I'm a...
 How old are you? I am 26 years old. I'm 26 years old.
 Where's the pen? It's on the desk.
 Where are the pens? They are on the desk.
 Where's the book? It's on the shelf
 Where's the nearest toilet please? It's down the corridor on the right.
 Is there a supermarket nearby? Yes, there's one in the centre of town.

Are there many people in town today? Yes there are (many people in town today). No there aren't (many people in town today).

Are there any mountains in your country? Yes there are (mountains in my country).

No there aren't (any mountains in my country) etc.

The verb used to form the above sentences is, 'To Be', which needs to be known in its negative, interrogative and negative interrogative forms.

In the above, there isn't much change in the grammatical structure, but there is room to increase vocabulary (e.g. objects around the room, or professions) in degrees appropriate to the abilities of the students within the class. On the basis that many learners will not necessarily have the level of English to understand explanations regarding tenses, they will need to be demonstrated, and learnt through use i.e. combining speaking and listening, reading and writing exercises.

4. Comparing and contrasting tenses in pairs

Use of tenses can be learnt in the context of comparing the use of one tense in relation to another. For example, the present continuous can be explained through illustrating what is happening at the present moment ('now') or through describing momentary, or temporary, actions. This can be compared and contrasted with the simple present, which can be explained through illustrating events that happen all the time or sometimes, or that are true in general. The use of the present continuous in describing momentary actions, can be illustrated through pictures, such as in the following examples, then compared and contrasted with the use of the simple present:

Example 1 (present continuous): picture of a man teaching in a classroom

What's he doing? He's teaching.

Example 2 (present continuous): picture of a woman working on the computer

What's she doing? She's working on the computer.

Example 3 (present continuous): picture of a group of people adults around a table in a work setting.

What are they doing? They're having a meeting.

Example 4 (present continuous): picture of a cloud and rain.

Is it raining outside? Yes it is (raining outside).

The present simple:

1. He teaches part-time in the college.
2. She works on the computer every day.
3. They have a meeting every Thursday afternoon.
4. It usually rains in Autumn.

A way of further helping students to distinguish between the use of these 'paired' tenses, can be to highlight how the use of the subject and verb in the answer reflects the question. A common mistake made by ESOL learners in their spoken English is to omit the verb 'to be' from the present continuous, for example, '*I going to town later.*' Naturally, in the context of delivering learning in an ESOL class, such errors should be constantly and consistently corrected, and the proper use of the present continuous reinforced through structured written exercises. The exercise on pages 196 –199, 'correcting mistakes made in everyday spoken English' in Norley (2012), for example, gives learners the opportunity to identify and correct such errors (in spoken and written English).

4.1 Present continuous Vs Present simple

Present Continuous

What are you doing now?

I'm learning English; I'm sitting down; I'm reading a newspaper;

I'm looking at the board; I'm listening to music; I'm working on the computer.

What's Abdul doing?

He's learning English; He's playing football; He's playing on the computer.

What's he doing?

He's learning English; He's watching TV; He is filling in an application form.

What are they doing?

They are playing cricket; They're going shopping; They're walking home.

Is the computer working?

Yes, it is (working). No, it isn't (working).

Are the trains running on time?

Yes, they are (running on time). No, they're not (running on time) etc.

Present simple

Where do you work? I work in Milton Keynes.

Where does he work? He works in Milton Keynes

Where does John work? He works in Milton Keynes.

What time do you get up in the morning? I usually get up at half past seven.

What time does she get up in the morning? She gets up at half past seven.

What time does Helen get up in the morning? She gets up at half past seven.

Do you like coffee? Yes, I do (like coffee). No, I don't (like coffee).

Does he take milk and sugar? Yes, he does. No, he doesn't.

Do they go there often? Yes, they do. No, they don't etc.

The verb that needs to be learnt in the context of the above tense with regard to the questions, is 'to do', as an auxiliary (or supplementary) verb, including in its negative, interrogative and negative interrogative forms, since its structure, in each of these forms, can frequently cause difficulties with ESOL learners. A common error with the third person singular interrogative for example is to use the 's' ending twice e.g. Does he likes his present? The exercise in the aforementioned 'correcting mistakes made in everyday spoken English' in Norley (2012) includes examples whereby such errors can be identified and corrected (in spoken and written English).

Throughout the students' learning process, the tutor should ensure constant and consistent correction of errors, such as those indicated above related to developing their learners' fluency and pronunciation generally. If, as is commonly the case with students developing their spoken English skills, they find themselves hesitating or pausing between particular words in a sentence which do not require a pause, then a line (/) can be put through the written sentence on the board to indicate where the hesitation is occurring. When this has been done, the learner can be given the opportunity to practise blending the two relevant syllables either side of the pause. This procedure can further help develop learners' fluency.

4.2 Present continuous Vs Past continuous

Here, the use of the present continuous can be elaborated on and developed to include the future. This can be best explained through linking its use with a time reference, for example:

What are you doing tomorrow? I'm working all day; I'm going to town;

I'm going shopping; I'm visiting my friend

When are you going to Pakistan? We're going there in the summer;

When is he starting his course? He's starting it next week;

What's she doing later? She's going to the theatre. etc.

This can be compared with the use of the past continuous, which can be explained in the context of putting across the idea that you are describing a continuous action that was happening in the past. For example:

What were you doing yesterday afternoon?

I was working. I was watching TV

What were they doing yesterday evening?

They were working. They were watching TV.

Where was she going earlier?

She was going into town. She was going to the library.

Who was Colin meeting last night?

He was meeting his girlfriend. He was meeting his colleagues etc.

Again, the use of the verb in the answer can be shown to reflect its use in the question. The past continuous can be further illustrated through its use after 'while' and 'when'. For example:

'While I was cooking, I burnt myself.'

'I saw you when you were swimming.'

'She called while I was sleeping.'

'They arrived while I was taking a shower.'

As with the present continuous, a common error made by ESOL learners using the past continuous is to omit the verb 'to be', for example, '*I working yesterday.*' As with errors made in the use of the present continuous, errors made in the use of the past continuous should be constantly and consistently corrected, and its proper use reinforced through structured written exercises.

4.3 Past continuous Vs Simple past

In order to explain the use of the simple past, you can put across the idea that you are describing an action that has been completed, and compared with the above for the past continuous. For example:

What did you do yesterday afternoon? I went to the cinema.

I went shopping.

What did Jean do yesterday afternoon?

She went to the cinema. She went shopping.

Where did you have lunch? I had it in the school canteen.

What did you have for lunch?

I had fried chicken and chips. I had a lasagne with a salad.

What did she have for lunch?

She had fried chicken and chips. She had a lasagne with a salad.

Who did you see at school this morning?

I saw the headmaster. I saw my son's form teacher.

Who did he see at school this morning?

He saw the headmaster. He saw his son's form teacher.

Did you go out last night?

Yes I did (go out last night). No I didn't (go out last night).

Did she collect her car? Yes she did. No she didn't.

Did he meet his friend? Yes he did. No he didn't.

Did they win the match? Yes they did. No they didn't etc.

Common errors in the use of the simple past, include using the past form twice, for example:

'Did you saw him?'

'I didn't went to the cinema.'

4.4 Past simple Vs Present perfect

The use of the present perfect (have + past participle) can be explained in the context of describing an event which has finished in the recent past (or is unfinished), whereas with the simple past, there is a specific time reference, for example: last week, yesterday, in April 1994, a month ago etc. With the present perfect, we often use the following time adverbials: yet, already, recently, just, never, lately, ever etc.

Have you ever been to America? Yes *or* Yes, I have (*means* yes, I have been to America).

Have you heard of John Lennon? No *or* No, I haven't (*means* no, I haven't heard of John Lennon).

I have never eaten marmite. *c.f.* I ate marmite last week.

She has just arrived. *c.f.* She arrived at 3 o'clock.

We have never been to Paris.

I have lived in England for 3 years.

We have known each other for 2 weeks.

He has worked there since September.

I have already told you.

She has already eaten.

We have not finished yet.

The verb that needs to be learnt in the context of the above tense is 'to have', as an auxiliary (or supplementary) verb, including in its negative, interrogative and negative interrogative forms, as its structure, in each of these forms, can frequently cause difficulties with ESOL learners.

For ESOL speakers who may have been living and working in the UK for several years, it is often the distinction between the use of the past simple and present perfect that is the hardest, and one of the last parts of grammar to be mastered. Mistakes such as those in the exercise in the aforementioned 'correcting mistakes made in everyday spoken English' in Norley (2012), for example, numbers 32, 33, 35 and 36, are commonplace. For learners who make such mistakes, written exercises and examples can be given along with constant and consistent correction of spoken errors. In addition, during reading exercises, learners can be asked to highlight examples of the past simple and present perfect tenses i.e. to identify them in context. Learners also need to be given the opportunity to learn, through practice (speaking and listening, and reading and writing), the simple past and past participles of the most common regular and irregular verbs, which can be found listed in many language textbooks. Naturally, time allowing, if one is in a position to record learners' spoken English with a view to providing detailed and constructive feedback to assist their language development, then this should be done.

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Implicit and Explicit Conflict: Implications for Educational Relations⁶

Jose María Barroso Tristán

1. Introduction

To talk about conflict means to define it immediately, because the interpretation of this concept in its most extreme and negative version is widespread. Armed conflict, labour dispute or school conflict are just some different declinations of it, which help to identify the conflict in the collective imagination with its polarized version, as a traumatic and undesirable event.

There are plenty of authors (Burton, 1990; Jares, 2002; Entelman, 2002) who speak about the conflict, but I especially refer to the concept of conflict that provides Vinyamata (2004), who defines it as "fight, disagreement, apparent incompatibility, conflict of interests, perceptions or hostile attitudes between two or more parties (...) It is inherent to life itself, it is in direct relationship with the effort to live". Thus, I problematize the conflict as an inherent and permanent social situation in the subject, whether individual or collective, due to the uniqueness of it. Uniqueness enables subjects to find scenarios in which their preferences diverge from those of others, establishing the conflict. However, it is necessary to clarify that the conflict does not have to be between competing visions, but may be between different perspectives which, thanks to the intermediation of the dialogue, can be solved.

Standing in the field of education, the conflict occurs in all areas related to educational process and spaces, either explicitly or implicitly. The social organization of time and space, the curriculum and the student-educational center relationship are some of them. However, I will focus on the impact that the conflict has on the pedagogical processes that occur within the classroom.

As I mentioned earlier, the conflict is present when there is divergence between two or more parties. In the classroom we have two distinct subjects in simplified form: On the one hand, an individual subject, the teacher, and, on the other hand, a collective subject, the students. This encounter of subjectivities will cause the appearance of conflicts because the two different parts have different perceptions - therefore unequal views - on what they consider appropriate for the situation in which they are involved.

The teaching-learning process consists of a variety of elements such as: objectives, contents, methodology and evaluation. Each of them becomes an element of conflict between the two big subjectivities that have been already mentioned. However, the conflict does not occur in the same circumstances for both, because they occupy different positions in the relationship that is established within the micro-context of the classroom. On the one hand, there is the teacher who holds his position of authority, while, on the other hand, there are students as subordinates.

As a result, I will provide a brief definition of the types of authority on which I base my investigation, in order to analyze the implications of the conflict on the educational relations within the classroom based on each of the authorities I have identifies.

2. Types of authority: Rational and Irrational Authority

⁶ This communication is part of a broader research conducted at the Federal University of Bahia, Brazil. Such research is focused on the pedagogical implications of the epistemological anarchism and on the principles of libertarian education, with a study on their implications in university classroom. For this Congress, I focus on an element which has proven to be central in my investigation: the conflict.

In order to define the authority, I base on the conception of Erich Fromm (1986, p.87) which divides authority into two types. The rational authority, that "is based on competition, and its function is to help another person to accomplish a certain task", and the irrational authority, bearing in mind that the latter can be divided into two subcategories: obvious authority and anonymous authority. The obvious authority is exercised directly and explicitly through force, either by threats or physical violence. The anonymous authority "pretends that there is no authority, that everything is done with the consent of individuals", but it imposes its will through moral coercion, persuasion or psychic management (Fromm, IN: Neill, 1996, p. 10). With regard to this paper, I will only refer to the irrational authority by its subcategory of anonymous authority. Indeed, the obvious mode of irrational authority is explicitly exercised through force, so it is outside the scope of this essay.

On the one hand, the authority is rational when those who have been selected for leadership are able to demonstrate their knowledge or experience in a particular area. The dialogue is the core of the Rational Authority, because, thanks to the dialogue, the person in authority opens channels of communication with the others parties involved, with the aim of improving his or her procedures. This is because the person in authority understands that to achieve his or her objectives need to know the intersubjectivity that contains the group, in order to build a process that is adapted for each of their particularities. The characteristics of dialogic authority are critical, multidirectional and horizontal. It is critical because its position is always subjected to the approval of others; multidirectional, because a person could be an authority for another person in a given area, but the latter could be an authority for the former in a different area, and so on. It is also horizontal since this authority does not impose what actions need to be taken, but these are negotiated with the different actors involved.

On the other hand, the irrational authority is based on a relationship of domination of one over another, by using coercion or persuasion to impose its interests. This kind of authority is more difficult to limit in an array of characteristics, because it adopts rational authority positions to pretend that the individual consents his submission to it. The monologue is on the basis of its action, because the person in authority directs the process in a unidirectional way, understanding that the ingredients to achieve the objectives of the group are in his or her own person, and therefore it is not necessary the participation of other subjects in the construction of the educational process. Authority characteristics are: repression, submission and verticality. The repression is exercised through violence, physical or mental; the submission is exercised by establishing a relationship of subordination of the will of one over another one; and vertical because it keeps a hierarchical structure of imposition.

In this way, the principle of authority plays a central role in the type of relationships that are developed socially, and, in this case, in the educational space. The rational authority based on the horizontal dialogue. The irrational authority is characterized by the vertical monologue. The former, characterized by democratic elements, promotes relations of equality, freedom and respect for the differences. The latter, fostering relationships of domination and social and cultural reproduction, denies or ignores the other realities.

Following on from the types of authority and the definition of conflict, I can begin to analyze its implications regarding educational relations that influence the teaching-learning process.

3. The conflict emerging from each type of authority and its educational implications

When the teacher assumes the posture of irrational authority, he is the one who sets the guidelines of the different pedagogical elements. From the technical view of the educational process, the teacher considers that the fact that he, who has the technique, must integrally structure the educational process, from the goals to the evaluation, passing by the contents and

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methodology, without the need to establish a dialogue with the collective subject: the students. Thank to this model, the pedagogical construction is conducted in a unidirectional way, from the teacher to the students, in a kind of educational despotism. Consequently, the teacher imposes its subjectivity about what is right for the educational procedure, denying the other subjectivities in the classroom. and applying the fallacy of the “common culture” (Apple, 1996, p. 66). I agree with Freire (2005) when reveals the relationship of oppression that the Irrational Authority contains.

The one who is doing the decreeing defines himself and the class to which he belongs as those who know or were born to, know; he thereby defines others as alien entities. The words of his own class come to be the "true" words, which he imposes or attempts to impose on the others: the oppressed, whose words have been stolen from them. (p.134).

The conflict becomes implicit in the classroom through this imposition, because the exclusivity of the teacher in structuring the process precludes the arising of a correlation between the teaching style imposed by him and the learning styles of the collective subject of students (Figure 1).

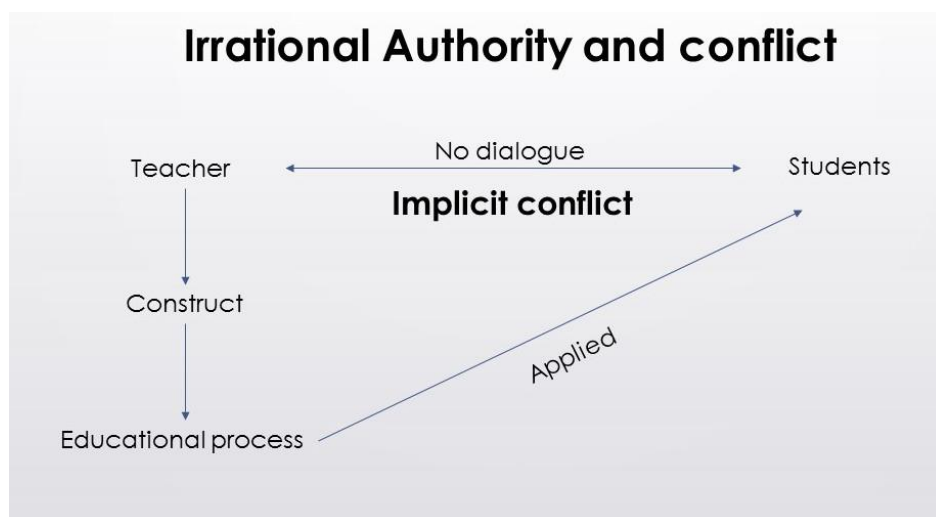


Figure 1. Irrational authority and conflict

In this case, the conflict is implied, because it remains dormant among students, who feel to be no able to express their disagreement with the pedagogical conditions imposed by the teacher. Indeed, this is the authority figure who could "punish" through repressive elements as such as the evaluation. This type of conflict is also internalized in the student formation as a historical subject, since it has been the “norm” in their school journey. This makes at least difficult that students feel themselves as active beings within the educational process. In other words, it objectified them, turning them into passive entities over who the teacher applies teaching programs in which the only difference from previous years will be the proposed amendments from the administration or the knowledge acquired by the teacher in his own previous experience. The personal qualities of his students will have no effect on his program, or will have very insubstantial effect, showing them indirectly that they are objects, and not subjects, of the educational process.

This type of implicit conflict acts mainly on four elements. Three of them are in intimate relationship within students: the motivation, the learning and the limitation to the personal development. The fourth, and final, a socio-psychological character, the heteronomy.

First, considering that the subjectivity of students is ignored / denied and they are treated as objects on which to apply a series of recipes previously established by the teacher, students' motivation to the educational procedure will be minimal because they don't feel identified or important in the educational development. From this perspective, the student has nothing to contribute to the educational process. He only can accept what is given by the teacher and memorize for when he will be asked to make it explicit. Students' motivation, thus, is just reflected in the evaluation process. Evaluation, indeed, is the only thing in which the student feels himself as protagonist, because the vote of the exam will indicate whether he can continue to advance in the school career or not. In this way, during the educational process (excepting the evaluation moment) apathy and disinterest reign, affecting the learning of course content. In the absence of a dialogue between the Authority and the students in developing the educational process, this will move away from the cognitive structure of the students. As consequence, the student cannot connect what he learnt with what he will learn, and gaps or overlaps in cognitive connections occur, i.e. the student cannot find "anchoring ideas" (Ausubel, Novak, & Hanesian, 1983) except casually. This lack of connection with the students' cognitive structure produces an absence of meaning in the learning of students, who acquire it to overcome the assessment tests. However, they will forget it very quickly due to the lack of connections that can expand the cognitive network that is already within each individual.

The implicit conflict also acts on limiting personal development. Since the educational programming is focused on the figure of the professor, there will be no space for students to post items they would like to delve into the contents taught, or to expand into field studies not provided for the teacher. As consequence, the chances that students explore new fields of interest where they could develop new skills and capabilities that are of their interest are very limited. In this way, Education is installed as a homogenizing space, where diversity and different interests are seen as a problem to be avoided.

As socio-psychological factor, by placing the student as a being to whom is necessary to tell what is best for him, he is inducing to be a heteronomous subject, unable to decide for himself. This heteronomous attitude, which belongs to the technological rationality (Marcuse, 2007), is considered undemocratic because it is contrary to the constitution of the subject as an autonomous person, an element that is referred in legal educational documents of the majority democracies. In this way, students' possibilities for personal development are curtailed. Students are subject to the willingness of the technique, occupied in this case by the teacher. I'm in agreement with Marcuse (2007) when, dealing with the technological rationality, he states:

In this universe, technology also provides the great rationalization of the unfreedom of man and demonstrates the "technical" impossibility of being autonomous, of determining one's own life. For this unfreedom appears neither as irrational nor as political, but rather as submission to the technical apparatus which enlarges the comforts of life and increases the productivity of labor. Technological rationality thus protects rather than cancels the legitimacy of domination, and the instrumentalist horizon of reason opens on a rationally totalitarian society. (p. 162).

Paraphrasing Marcuse, the alleged facilitation of the educational process, due to the knowledge of the technique of the teacher, hides a means of legitimizing a system of domination of one over the other. For this system is necessary to establish a majority of members heteronomous, unable to decide for themselves. They are taught to think that the technique is able to improve their lives without the need for them to participate.

On the other hand, when the teacher assumes a posture of rational authority, he establishes equality, freedom and respect for differences as the basis of his relationship with the

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other subjects. He has to use the democratic elements of dialogue, discussion and decision. From a democratic view of education and pedagogical knowledge coming from the same tradition, the teacher should be aware of his ignorance about the learning styles of his students. Thus, he has no choice to make evident the conflict between the educational elements which he sees as appropriate and that students consider to be most convenient to their characteristics as learners. The conflict can only be made explicit through the dialogue, in order to be resolved within a collective discussion, allowing the construction of the educational process in a democratic way and respecting the subjectivities of the classroom. Therefore, the dialogue provides valuable information for the pedagogical action, because according Prieto (2005):

(...) it allows teachers to broad the discursive horizon of the classroom, to set limits on the expression of his own voice, to minimize the traditional student resistance, to encourage more fertile contacts with their thoughts and experiences and to increase their knowledge about how students think and learn. (p. 35).

By appearing clear the conflict, the teacher is recognizing his students as subjects and understanding that the exposure of their subjectivities are fundamental to a significant teaching-learning process. Consequently, the participation of students to the teaching process will become a central element. I agree with Freire (1997) when he say that:

(...) making education since a critical and progressive perspective, we force ourselves, for the sake of coherence, to generate, to stimulate, to favor, in the educational practice, the exercise of the right to participation by all those who are directly or indirectly linked to the educational activities. (p. 73).

The program of the course, consequently, will become a multidirectional and dynamic element to be adapted to the characteristics of intersubjectivity in the classroom, that is, both the individual subject (teacher) and the collective subject (students). In this way, students are converted into active participants in their own training. Their knowledge, abilities and learning styles are made available to the collective construction of educational process in which they are involved (Figure 2).

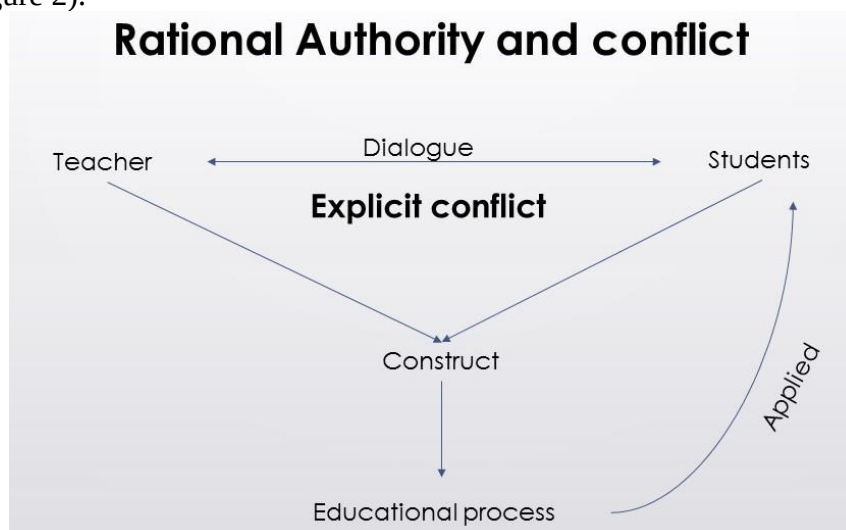


Figure 2. Rational authority and conflict

Making the conflicts explicit has an impact on the following five elements: motivation, learning, creativity, enabling different learning styles and autonomy.

As I mentioned before, Rational Authority based its action on dialogue. Through dialogue, this Authority gets information that is relevant to efficiently structure the process

towards achieving the goal. This dialogue is essential to know the characteristics of the subjects involved. It also makes possible to build meaningful learning processes. I agree with the principle enunciated in their preface by Ausubel, Novak and Hanesian (1978, p. 4), when they say: "If I had to reduce all of educational psychology to just one principle, I would say this: The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly". In this way, thanks to the dialogue, not only we could know what students already know, but also we could have knowledge about their interests, motivations and learning styles. As consequence, the motivation and the interest of students will increase as well as they feel themselves as protagonists in the construction of the educational process. Their subjectivities will be respected due to the permanent exposure to the development of the educational programming, getting closer the teaching style of the professor and the learning styles of the students. This consensus will favor the creation of a pedagogical method that is not completely alien to the students, and they will be felt aroused during the development of the entire course, not only during the evaluation moment.

Students' motivation and interest during the course of scholar activities, increased by their consensus in the educational process, is a sufficiently important fact to improve the processes both of teaching and learning. Undoubtedly, the position of rational authority of the teacher expliciting the conflicts in order to resolve them through dialogue has even more positive characteristics for the learning process. This kind of educational relationship enables the promotion of creativity and the development of different learning styles in the classroom.

Since the educational programming is not centralized in the hands of the teacher, this has greater flexibility and dynamism. The possibility of having frank discussions and exchanges of view expand students' imagination and creativity. They feel themselves as an active part in the development of the didactic plan. Thanks to their collaboration as co-creators in the teaching process, students will contribute to the educational development with their ideas coming from their life experience, proposing new actions and conditions that are adapted to the context in which they are.

At the same time, the possibility of resolving the conflict through dialogue will allow to know the different learning styles that exist in the classroom. Once this variety of styles has been made explicit, it will be possible to find new ways to manage it, considering every actor as a key part of the process.

Finally, the explicit conflict also favors the autonomy of students because they have the possibility to express their needs, thoughts and beliefs constantly about what is best for them as subject-apprentice. Consequently, the students will begin to recognize themselves as active subjects, able to influence and transform the world around them. Educational environment, as a place of socialization, is part of the social construction of identities that subjects subsequently will develop in society (Echavarria, 2003; García, 2007). That is why it is especially important to encourage the development of autonomy in students. Students should be able to discern and decide what is best for them through the encounter with others, to expose their thoughts on what they feel right for the future of society. We cannot forget that we live in a democratic society, where decisions cannot be taken in a heteronymous way, but autonomously, fitting the needs of our communities.

4. Conclusion

I based this discussion on the type of conflict that arises, and its implications, on the relationship that exists between the Authority and its dependents in the classroom.

From a democratic perspective, I consider necessary to start to build a kind of relationship in the classroom that recognizes the diversity of people, in order to potentiate the

characteristics pertaining to each of them. Democracy does not imply to homogenize the population, but rather, starting from its inherent plurality, to find points of consensus that will enable the development of all the subjects. Starting from this brief conception of democracy, I can infer that the education system contains an internal contradiction because it does not act democratically. When the teaching-learning process is unilaterally decided by the teacher, keeping the conflict implicitly, it involves the imposition of a subjectivity on the vast majority of whom are in the classroom. A democratic education, I mean, should promote the participation of all subjects involved in it and, in this case, also in the construction of educational programming.

This, obviously, implies a shift in current educational relationships where the teacher plays a leading role, almost absolutist. According to Giroux (1988), teachers should have a role as “transformative intellectuals who combine scholarly reflection and practice in the service of educating students to be thoughtful, active citizens” (p. 122). However, I think that teachers also should adopt a partial role as ignorant. This is because they need to recognize their position as ignorant respect to the social, historical and learning characteristics that students possess. It’s an essential first step to build educational processes that take into consideration the characteristics of them. Recognizing their position as ignorant, therefore, will be the start to the explicit conflict in order to invite students to contribute with their cognitive structures to a consensual development of educational performance.

Thus, we see how expliciting the conflict, in addition to influencing motivation, improving learning and empowering students, stand as a politically desirable action on democracy and contain a great ethical value because they respect subjectivities involved in the formation process.

I believe that we must have in prospect that education is the process of comprehensive development of the capacities of individuals, differentiating education from instruction, which is limited to the transmission of knowledge. We have seen that, for the transmission of knowledge, it would be more appropriate to make explicit the conflict because it increases both the students’ motivation and the learning process. However, our role is not to instruct but to educate. Therefore, in addition to the conceptual learning, we should add the attitudinal and procedural learnings that are characteristics of a democracy and, as I have developed in this article, we can achieve them by making the conflicts in the classroom explicit.

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Foreign language learning in transnational higher education: cosmopolitan multilingual students as citizens of the world

Konrad Gunesch

Introduction

This paper suggests language learning as a key element of transnational higher education for the globally mobile generation of 21st century students. It presents research into highly successful foreign language learners and revelations of their personal cultural identity within a worldwide higher education context, in a form that can be useful for students and professionals.

Conceptually, the paper first defines multilingualism and gives an account of literature of language learners describing their personal language learning experience and results, analyzed for their revelations of an international identity. Secondly, the paper presents the individual cultural identity model of cosmopolitanism, in the sense of a cultural world citizenship that straddles the global and the local spheres, in private as well as in professional contexts.

Empirically, the paper shows how a group of highly multilingual international students revealed themselves, in in-depth interviews, in terms of their cosmopolitan cultural identity. The student revelations of their identities allowed the synthesis of several ideal types of cosmopolitans which did not previously exist in the literature. This result contributes to two fields, namely that of language learning and mastery, and that of cosmopolitanism or world citizenship. The paper's results and contributions are meant to directly benefit everyone interested in lifelong learning and worldwide higher education at the beginning of the 21st century.

The definition of multilingualism

When defining quantity (number) and quality (mastery) of the languages that individuals are required to speak (in a wide sense), a definition that goes beyond "trilingualism" requires the mastery of "at least three foreign languages" (Apeltauer, 1993, p. 275). As for quality, the literature maintains that for multilinguals "it is inappropriate to expect near-native speaker competence" (Morgan, 2001, p. 46). In practice, I required of each research participant "advanced knowledge" if possible, but at least "good working knowledge" across the spectrum of skills (reading, listening, speaking, and writing) in at least three foreign languages beyond the mother tongue.

The identity of multilingual persons

The literature on the identity of multilingual persons is mostly unrelated to cosmopolitan cultural identity. The authors, analyzing themselves, merely find that they are "acquiring a different cultural identity in every language that I speak" (Kotchimidova, 2000, p. 130), or claim that multilingual individuals "have a richer repertoire of linguistic and cultural choices and could fine-tune their behavior to a greater variety of cultural contexts" (Stroińska, 2003, p. 97). Only two writers try to describe their linguistic identities in plastic terms, such as "strata" or "layers of a cake" or of "an onion" (Bassnett, 2000, p. 66-71; Steiner, 1998, p. 12-127), even if both these voices do so only in a brief and basic manner. Hence unsurprisingly, in view of

this scarcity of voices, the literature agrees that much more research is needed on the personal and cultural identity of multilingual persons. (Aronin and Ó Laoire, 2004, p. 12; Gunesch, 2008, p. 74-81).

Conceptual link between cosmopolitanism and multilingualism

It is only Pascal Bruckner who, in his article “The edge of Babel” (1996), closely links his notion of individual cosmopolitanism to personal linguistic development. Bruckner gives examples of historic and contemporary writers and poets (such as Vladimir Nabokov) who learned and prominently used foreign languages in their works. However, he more or less takes for granted, without deeper conceptualization or empirical evidence, that the cosmopolitan model he proposes, even if very sketchy, has a lot to do with languages and language learning.

The concept of cosmopolitanism

Historic complexity and disciplinary variety. This paper focuses on a contemporary understanding of cosmopolitanism. Yet for a sound historical basis, two millennia can be summed up in that cosmopolitanism has been especially intensely debated during three periods: firstly, in the time of the Greek Stoics of the 1st and 2nd century BC; secondly, in the seventeenth/eighteenth century; and thirdly, as of the early 1990s (see Appiah, 2006, p. xiii-xv; Carter, 2005, p. 15-28; Grovogui, 2005, p. 103; Mazlish, 2005, p. 101). The literature recognizes cosmopolitanism as a concept of multiple possible definitions across various disciplines, which in addition have changed over the course of those historical periods (Trepanier and Habib, 2011, p. 5; Brennan, 2001, p. 76; Pollock et al. 2002, p. 1; Mehta, 2000, p. 620; Dharwadker, 2001, p. 1). To make sense of this complexity and variety, our following definition of cosmopolitanism is not just a literature review, but a literature synthesis in form of a topics matrix that has further been enriched by considerable critical thinking. Its comprehensiveness and robustness will enable us in the end not only to describe a contemporary cultural individual identity form relevant for today’s students, but also to operationalize it for the empirical part of the research, and to investigate how a group of students revealed themselves against it.

Feeling at home in the world. To begin with, and on a broad level, cosmopolitanism comprises a “feeling at home in the world” (exemplified by the title of Brennan’s 1997 book, *At Home in the World: Cosmopolitanism Now*), or more specifically, as we will see below, an interest in or engagement with cultural diversity by straddling the global and the local spheres in terms of personal identity (meaning having one foot in each sphere, and finding a balance in which the global is decisive without necessarily dominating all the time).

The global-local continuum. While individual people that we typically see as “locals” may not be interested in cultural diversity, “cosmopolitans” consciously value, seek out and try to access local cultural diversity (Hannerz, 1990, p. 237, 249-250; Pollock, 2002, p. 17). This could be visualized as a continuum along which the cosmopolitan can advance, and which also serves to distinguish between different cosmopolitans with respect to their local competences, as well as between different degrees of competence (from one local culture to another) within the same cosmopolitan person.

Openness and engagement. A subjective characteristic of cosmopolitanism is “a willingness to engage with the Other, an...openness toward divergent cultural experiences” (Hannerz, 1992,

p. 252; similarly Papastephanou, 2002, p. 69-70). This willingness to engage could even include individual dislike of what or who (a culture or a person) is open-mindedly engaged with. That is, the individual cosmopolitan, while able to engage with a local culture, is free but not obliged, through that engagement, to endorse that culture positively, either in its entirety or with respect to components of it.

Traveling and tourism. Cosmopolitan traveling is indispensable for first-hand experiences of cultural diversity (Beck, 2000, p. 96; Clifford, 1992, p. 103), yet insufficient unless done with “connaissance” (connoisseurship) and an attitude of cultural engagement that would differentiate it from mere tourism (Hannerz, 1996, p. 105; Robbins, 1998a, p. 254). Especially “typical tourism” is often limited to holiday stereotypes and cultural clichés with respect to the target culture (Bruckner, 1996, p. 247-249; Carter, 2001, p. 77). The traveling aspect could thus likewise be seen as a continuum, showing individuals developing from (stages of) tourism to (stages of) cosmopolitanism. Indeed, one group of our investigated multilingual individuals helped to create and define an intermediate category of “advanced tourism” on such a continuum.

The question of home. The cosmopolitan’s variety of accessed and accessible cultures as well as his or her acquired multicultural perspectives might mean that “home” is not necessarily the “home culture” any more. Home could thus take on an entirely new meaning, formed from the multicultural perspective of the cosmopolitan individual (Hannerz, 1990, p. 240, 248; Hannerz 1992, p. 253-254; Hannerz 1996, p. 110), or it could combine several locations or perceptions of home. Probably the only limitation to endless locational or cultural variations is that logically and logistically, home cannot be just about “everywhere.” The empirical part below will also shed new light on the wide array of possible homes for the cosmopolitan, specially mediated by the linguistic abilities of the interviewees who experienced and expressed them.

The relationship with the nation-state. Part of the literature is mindful of the etymological classical Greek origin of the word “cosmopolitan,” namely kosmou politês, meaning “citizen of the world” (Appiah, 2006, p. xiv; Carter, 2005, p. 21; Kemp, 2011, p. 23; Werbner, 2008, p. 2). Consequently, some reject any attachments or loyalties of a cosmopolitan person if they are beneath an all-encompassing global level of humanity as a whole. Others, more conciliatory, put forward the notion of a “rooted cosmopolitanism, or...cosmopolitan patriotism” (Appiah, 1998, p. 91), which stresses the feasibility and necessity of having loyalties and ties to smaller geographical or cultural entities, such as nation-states, local communities, or families.

The relationship to internationalism. If we take the nation-state discussion to the global level, it is helpful to differentiate cosmopolitanism from “internationalism.” While often seen as synonyms, already etymologically the concept of internationalism (as “between and among nations”) cannot easily explain (as can the cosmopolitan’s “feeling at home in the world”) why a person’s home might actually be outside his or her own nation-state, or in several parts of the world. For the same reason, cultural issues that are below or above the nation-state remit (for instance interest in small-scale local cultural diversity, like regions or cities, or an overarching identity dimension covering the whole world) are easier to capture with cosmopolitanism.

The relationship to globalization. Globalization is associated with cultural uniformity (Sifakis and Sougari, 2003, p. 60) just as much as with cultural diversity (Scholte, 2000, p. 23), while cosmopolitanism mainly seeks out and focuses on diversity. Also, globalization started to be debated only in the 20th century (Nicholson, 1999, p. 24; Scholte, 2000, p. 16), while cosmopolitanism’s historical roots, as shown above, are much longer.

Literature summary

According to the synthesized literature, the following are the main areas of personal concern or engagement for a cosmopolitan person. They can serve as a catalog summary and reference for the empirical investigation below, but also as a dynamic and personally adaptable guideline for a student who wishes to combine his or her their foreign language learning activities in transnational higher education with a possible cosmopolitan cultural identity as citizens of the world:

- A straddling of the “global” and the “local” spheres as a world citizen;
- A “connaissance” (connoisseurship) with respect to local cultural diversity;
- A general willingness and openness towards that cultural diversity;
- The mobility to travel, as long as not just with a “typical tourist” attitude;
- A notion of “home” that can be extremely varied, even if not everywhere;
- An nation-state attitude between “rooted” and “unrooted” identity;
- An internationalism beyond its nation-state limitations; and finally,
- A globalization attitude embracing cultural diversity rather than uniformity.

Method

Methodology

Out of an overall sample of forty-eight international, post-graduate students at the University of Bath in England, pre-selected for their multi-linguistic ability and competence, I further selected the eleven most multilingual ones by means of a self-assessment questionnaire to each individual’s language learning history and ability, determined along the quantitative and qualitative criteria outlined earlier (namely requiring advanced working knowledge in at least three foreign languages beyond the mother tongue). Hence at the time of the empirical investigation, all of the interviewees already mastered at least three and up to five foreign languages (of European origin) on an advanced working knowledge level in all four skills of reading, writing, listening and speaking.

With this narrower sample of eleven students, qualitative, the relationship between cosmopolitanism and multilingualism was then explored from their perspective as multilingual persons, namely how they revealed themselves in terms of cosmopolitan cultural identity against the conceptual background, the matrix of cosmopolitanism.

The interviews were exploratory and in-depth in terms of methodology, and semi-structured and open-ended in terms of form, as well as covert in design. Covert means here that the topic of “the relationship between multilingualism and cosmopolitanism” was not given away to them, not even in a second-stage of follow-up interviews, until a third-stage of interviews held in form of focus groups with all of the participants brainstorming, contributing to, and enriching each other’s expressions of personal cultural identity. This was done so that the relationship between multilingualism and cosmopolitanism could be explored and expressed in a completely non-guiding manner to ensure that any established links would enjoy full validity.

Empirical analysis

The student interviewees thus expressed themselves freely about their language background and attitude, answering to questions that explored those linguistic elements covertly against the background of the cosmopolitan literature matrix categories (the theoretical framework of what constitutes a cosmopolitan person). Since these matrix-generated categories were treated as interpretive and flexible tools rather than fixed and immutable categories, it was possible for a pattern of three broad ideal types of (multilingual) interviewee profiles to emerge, which I

called “The Advanced Tourist,” “The Transitional Cosmopolitan,” and “The Interactive Cosmopolitan:”

- Type 1, labeled Advanced Tourist, is not the “simple” tourist” defined by the literature (as a counter-example to the cosmopolitan) any more. However, some interviewees revealed or maintained mere functional mastery concerns, consumerist “taking” attitudes, and/or national identities to varying degrees, which limited their willingness to engage with the diversity of target cultures.
- Type 2, labeled Transitional Cosmopolitan, is located somewhere between the tourist and the cosmopolitan on the continuum, but developing over the matrix categories towards the third type, namely the interactive cosmopolitan.
- Type 3, labeled Interactive Cosmopolitan, reveals on the whole rather (or even very) advanced forms of interactive and integrative behavior and mindset, as would befit the already ideal-typical literature requirements for a cosmopolitan individual, especially by displaying an open-minded, flexible, self-critical, as well as giving or sharing attitude.

Empirical synthesis

These three ideal profile types were then compared to each other by means of an empirical synthesis. To show both the elements of analysis and of synthesis, each of the below paragraph quotes corresponds to a statement made by one individual interviewee; in some places several of them are assembled under an ideal type and a specific aspect, to highlight the nature and process of the empirical synthesis. Quotation marks have been maintained to stress the “spoken and spontaneous” character of these statements, and to set off more clearly one interviewee from another in statements that follow each other.

Discussion

The Advanced Tourist

The advanced tourist’s identity dimensions centre on the local, regional, or national. While rational stances are adopted, such as in declarations of being an open and worldly person, the emotional inner world reveals rather parochial or local limits with respect to the matrix issues of “identity dimensions” as well as “home:”

“First of all I’m Basque, and afterwards a European. I don’t know; my European feelings haven’t been very developed yet.”

Specifically with respect to language, the advanced tourist stresses more than the other two ideal types the professional usefulness of language learning, which suggest that the advanced tourist is a prototype of the literature concept of “transnational occupational cultures” (Hannerz, 1990, p. 243, 246 and 1996, p. 108; similarly Robbins, 1998, p. 254):

“I think why I chose Spanish is especially because...Latin America is for Political Scientists a very interesting field of study...This was more utilitarian, to have more possibilities afterwards with the language...to find a job, in the now uniting Europe or in a job market that is getting more international every time.”

The Transitional Cosmopolitan

Transitional cosmopolitans move along the continuum between the advanced tourist and the interactive cosmopolitan. Accordingly, they might for instance have a profile more of an advanced tourist regarding certain matrix issues, such as the question of home, where national and even local attachments prevail, with wider attachments only established exceptionally:

“I tend to live wherever I go...It’s where you are brought up, where you had your first friends, and where you live, where your parents’ house is...But then, you have other parts of the world where you feel very comfortable as well...Madrid...became my second home...It usually doesn’t happen...but when it happens, it’s something exceptional.”

On the other hand, transitional cosmopolitans have a very cosmopolitan attitude towards their (native) nation-state, with their expressions of sympathy for cultures abroad triggering criticism from compatriots:

“The nation-state makes you homogeneous, and makes you patriotic, and gives you myths, gives you symbols, and gives you a whole set of ideas which are not very helpful if you want to live as a global person, and not as an ethnocentric person.”

“I have been treated as a xenomaniac by my friends sometimes... The fact that I can criticise Greece, it means that for them [the Greeks] I am a little bit of a foreigner.”

The Interactive Cosmopolitan

The interactive cosmopolitan reveals the most open-minded, flexible, holistic and giving attitude of the three ideal types, substantiating and contributing to core literature on cosmopolitanism. This type also has the most widespread and intensive linguistic mediation of (vital) matrix-generated categories. This means that for interactive cosmopolitans’ identities, languages are much more pervasive and important. For instance, they substantiate and personalize the link between multilingualism and cosmopolitanism by rephrasing and substantiating the key aspect of “effort” in one of the most advanced literary concepts of cosmopolitanism, namely Bruckner’s “finding joy and strength in overcoming habitual limits” (1996, p. 247) in linguistic terms, namely when it comes to overcoming linguistic insecurities and learning stages:

“[Learning and keeping up Dutch] was always kind of like a struggle, it was always hard to maintain, somehow. But...I could find out something that was beyond my limits...Through improving your language...you always go a step further.”

“I would really look forward to that [being in a culturally completely unfamiliar environment], if I could. When I went to Morocco...I was just so amazed...that...it was just totally different...a bit uncomfortable, but because I couldn’t speak the language.”

“I would be curious [in that culturally unfamiliar environment], nosy, would like to get to know...and would look for the keys...Keys being...language as a main source...Of course it’s also again feeling insecure, feeling incapable...but I think the feeling, or the eagerness of wanting to cope would be higher, or weigh more.”

For the interactive cosmopolitan, language mastery allows for highly open and interactive two-way cultural access and engagement. Reflexivity about the link between language and culture as altered by the linguistic-cultural experience culminates in critical self-reflection about one’s own country and culture. This enables a highly interactive travel with a “giving” element:

“[Languages] mean the opportunity of learning...Not only learning about people...It also would inspire your personal view of things. It makes you more open...It makes me feel more that I know where I’m going, and getting to know people better.”

“If I travel, I like to talk with people, and to learn something about their country and to learn then something about mine...Language learning...it’s a way of education, it’s a way of learning not only more about other cultures but also about yourself...You can anticipate to give something.”

The more interactive a person is, the more he or she sees the professional and the private aspects of learning and using foreign languages are indissolubly intertwined. The reasons for

such persons' learning and use are also in development, from function or profession to mind-set, worldview, and up to aesthetics:

"In contrast with European languages, you see that there are other systems, other ways of indicating things. For instance...my first inclination [of interest in the Arabic language] was because of the artistic way of writing. It's really like a piece of art...It's a beautiful language."

In terms of identity shifts related to languages, interactive cosmopolitans concede a "foreign identity" but refuse to substantiate it linguistically. In a more developed version, they would be taken into "another sphere" when using certain languages. This is almost on a par with the "strata," "layers" or "onions" dimensions described by just two authors on the identity of multilingual persons (Bassnett, 2000, p. 66-67 and Steiner, 1998, p. 120-125):

"I act differently when I speak Spanish. I'm more in the Spanish way of life. A bit more open, I'm more eager to say personal things...Maybe because values, education, family, and so on, brought with them, aren't established in my Spanish identity. Spanish identity, of course is an exaggeration, but when I speak Spanish...Of course I have several identities, but you can't stick to the languages."

"Speaking with a Dutch person carries me into another sphere. So kind of this cake [of my identity dimensions] changes and shifts, like from context to context...But a piece of it is definitely always Dutch...It's another way of seeing, of perceiving, I think...of being aware of yourself and of other people."

For an interactive cosmopolitan, language knowledge is not a causal, but an essential and indispensable factor for feeling at home. It is a matter of global identity, where languages serve as a passport or qualifier to access and cope in foreign environments:

"Knowing the language well doesn't make you feel at home. But you cannot feel at home unless you know the language."

"The language that is necessary to cope in the [everyday] situations is a basic factor of feeling [at] home."

Finally, the interactive cosmopolitan picture of "home" is highly differentiated, multi-dimensional and complex, strikingly reflecting two of Hannerz's alternatives, namely of "a privileged site of nostalgia," or "a comfortable place of familiar faces, where...there is some risk of boredom" (1990, p. 248; 1996, p. 110). "Home" can also be seen on different context-dependent geographical levels, triggering a complex diversity of dynamic interactions, and be embraced with an open attitude, besides involving multi-sensory perceptions:

"[Home:] How boring, at first. But of course, it's more than that...The word 'home' is 'stick to the same place', and I would like to move a lot...I would like to say that it is an uninteresting concept, but I still have some nostalgia towards home."

"It [home] means people I relate to...But it's not something where you're born. It is also where you're born, but other home places accumulate... It captures all of your senses, it's what you see, it's also what you smell...Then again it depends on the context...I would say that "a home" is a place where I can live any mood, a range of different situations."

Summary

This paper has shown how foreign language learning can be seen, perceived, and used in transnational higher education, by studying multilingual students' revelations of their individual cosmopolitan cultural identity, who have proven themselves as citizens of the world. The implications of this paper range from personal language learning efforts to societal or institutional considerations and applications of what the mastery and competence in foreign languages can mean beyond the mere linguistic skill.

The paper can thus be understood and utilized on several levels: as a motivation, prescription or recommendation for individual educational efforts, or for more wide-ranging, coordinated considerations, on various educational levels, nationally and internationally. This especially in view of its limitations, such as sample size, exploratory nature of the research, or number of languages investigated empirically. All of these criteria are open to being furthered in research projects (such as widening the sample size or the cultural origins of the research participants, adding quantitative elements, or including languages spoken by the interviewees other than those of European origin).

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A Dilemma in Turkish Examination System: Open-Ended or Multiple-Choice?⁷

Bengi Birgili, Ercan Kiraz

1. Introduction

Ministry of National Education (MoNE) in Turkey, expressed the transition to Kazakh Examination System (Haberturk; 2013; Sabah, 2013; TEDMEM, 2013; TRTNews, 2013; Vatan, 2013) in evaluating student success in Turkish schools. The declaration from MoNE in Turkey thematized that “Open-ended question formats would be preferred radically instead of multiple-choice formats since they intend to measure student achievement better” (Tartanoglu, 2013). At the beginning of these discussions, the focus was on the large-scale assessments such as Transition from Primary to Secondary Education Exam (MEB, 2013). The very same discussions has been speculated in the education community for four years (ABIDE, 2015; OSYM, 2015) and recently Measurement, Selection and Placement Center (OSYM) announced to try this transition process for the first time in Undergraduate Placement Examination in 2017 (OSYM, 2017). However, what kind of results using open-ended question formats insofar nation-wide examinations can pose has been yet beyond a scientific pursuit.

Not only in Turkey but in many other countries the very same concerns exist to study knowledge construction and individuals' interaction with the question types (Berberoğlu, 2009; Birenbaum & Tatsuoka, 1987; Rauch & Hartick, 2010; Stankous, 2016). While educational researchers professionally responsible for the search of truth, politicians, on the other side, should feel liable in making scientific results effective for public goods. Educational researchers clarify that political decisions without a scientific background will have been interrogated and, eventually, refuted. Hence, there should be a congruity between utilizing scientific truth and governing political power. There are many examples that decision makers have a tendency to use and cite scientific results to commercialize their popularity in the public eye even without comprehending the meaning of the study itself. Nevertheless, the real dilemma on today's educational research, especially in Turkey, is about research significance. That is to say, whether conducting a research that base its roots on overnight political declarations--about ameliorating educational system-- or conducting a research that becomes a base for accurate political decisions.

Based on aforementioned, similar to many studies that take their departure point from overnight decisions, this study concentrates one of the contemporary debates about the transition to Kazakh system in measuring student success through nation-wide exams at middle school level. More specifically, this research intends to underline some scientific backgrounds before any transitional process occurs. It is conducted to resolve the conflict in Turkey about whether examination system by employing open-ended question format must definitely be used in large-scale assessments such as Transition from Primary to Secondary Education Exam (MEB, 2013) by disregarding multiple-choice exams (Berberoğlu & Is-Guzel, 2013; Ozuru et. al., 2013). For this purpose, the main aim of this study is to explore the comparative effects of open-ended and multiple-choice exams with regard to metacognitive and affective dimensions according to new large-scale examination system in Turkey. Specifically pertinent to this study is to show differential effects of question formats (Bridgeman, 1992) especially in mathematics

⁷ This paper was revised after being presented at XII. European Conference of Social Science Research organized by the International Association of Social Science Research, Catania, Sicily, Italy, January 25-28, 2017. The paper was prepared on the basis of master thesis in Graduate School of Social Sciences in Middle East Technical University, Ankara, Turkey, 2014.

assessment to government officials before any actual nation-wide implementation. The main research question of this study is “*Can open-ended questions be a solution to current problems in terms of the transition from middle to high school in Turkish examination system?*” The study revealed what people think about usability and feasibility of this new assessment movement and how the replacement of MC with OE is perceived from different perspectives. Also, it investigated the differential effect of MC and OE on students' metacognitive and affective characteristics in terms of worry, effort, self-checking, and cognitive strategy (Efklides, 2011; O’Neil & Brown, 1998).

2. Method

In this study, phenomenological approach of qualitative research design was followed (Patton, 2002). This design allowed the researcher to comprehend the common experiences of the participants including eight-grade middle school students, branch teachers from middle schools and several academicians in a profound way.

Participants

The study was conducted with public middle schools and a private school in Turkey. Totally 10 8th grade middle school students, 16 branch teachers and 6 academicians were included. The participants were purposefully selected (Fraenkel, Wallen & Hyun, 2014). In line with this, the 8th graders were distributed with regard to high, moderate and low achievement in mathematics. They are the possible candidates of transition to high school in that academic year. The academicians were expert in the department of educational sciences-specifically, curriculum and instruction, and measurement and evaluation from the promise universities in Turkey. Also some of them were from the departments of English language, science and mathematics education. All participants had experienced in both multiple choice and open-ended question formats. Teachers’ experiences with students were 2 to 23 years from 5th to 8th grade in several middle schools.

Data Sources

The data sources used in this study was semi-structured interview forms developed by the researcher. Semi-structured interviews allow for systematic analysis of the data collected (Yildirim & Simsek, 2016). The interview form prepared for middle school students, teachers and academicians had 20 questions and consisted of two sections: 1) questions on personal information, and 2) questions regarding experiences on open-ended and multiple-choice question formats addressing each dimensions of metacognition and affect. The piloting of the interview forms was checked by experts of several fields such as measurement and evaluation in MoNE, curriculum and instructional program, and Turkish language and literature. All interviews were completed in Turkish and later translated into English to prepare for data analysis. Necessary revisions to the interview questions were made following that procedure which resulted in the final interview forms. Sample interview questions can be found in Appendix A.

Data Analysis

The qualitative data was analyzed with content analysis (Strauss & Corbin, 2008). After the transcription of data verbatim, the content analysis was applied with four stages: 1) coding of the data, 2) identification of the themes, 3) arrangement of the codes and the themes, and 4) description and interpretation of the findings. After all transcriptions summarized and codes

were determined, the codes from key actors (informants) were reviewed together and common structures between them were found. Data was systematized by the themes, for instance, Theme 1: Cognitive Strategy, Theme 2: Self-Checking, Theme 3: Worry, Theme 4: Effort. Some details on these themes and codes are provided in Table 1.

Table 1. Themes and Categories in the Codebook

Theme 1. Cognitive Strategy	Theme 3. Worry
1.a. Solution Strategy Preferences	3.a. Type of feeling
1.b. Cognitive strategies employed	3.b. Feeling of disappointment and regret
1.c. Rewording skill to activate cognitive strategy	3.c. Feeling of requirement to study more
1.d. Spending time to understand	3.d. Happiness due to question format
1.e. Students' thinking on meaning of problem	3.e. Concern about what if done
Theme 2. Self-Checking	3.f. Feeling of confidence
2.a. Checking works	3.g. Feeling of comfort
2.b. Going over choices	Theme 4. Effort
2.c. Judging correctness of solution	4.a. Amount of work
2.d. Asking how well doing	4.b. Keep working
2.e. Correcting errors	4.c. Concentration
2.f. Asking questions to stay on track	4.d. Students' reflection of total effort
	4.e. Not giving up

Trustworthiness

Trustworthiness of the study was ensured through certain steps (Patton, 2002). To begin with, the interview form was evaluated and corrected by a language and evaluation expert. The codebooks generated by the researcher went through many revisions to guarantee reliability. The final version the codebook included agreed upon themes, codes, definitions and example quotations. In the qualitative paradigm, the researcher avoided to work deductively from previously supported assumptions, to have inability data coding technique, lack of knowledge about process and strategy, to be exposed to more instructional process instead of following what the soul of the data says (Groenewald, 2004). More than one researcher implemented data analysis part, and they performed the pre-coding, coding and categorizing in similar time interval but in different places without seeing their work. Credibility, transferability, dependability and confirmability are followed by certain steps. In terms of triangulation, data were not gathered by various methods; only interview, informal conversation was utilized. The interviews and focus group sessions were recorded and transcriptions were sent to participants to check accuracy.

3. Findings

The data revealed five themes: 1) Cognitive Strategy, 2) Self-checking, 3) Worry, and 4) Effort. Cognitive strategy as a straightforward cognitive goal is aimed to improve one's own knowledge to make cognitive progress while self-checking implies self-monitoring one's performance when engaging in a task. These skills were categorized under the *metacognition*. On the other side, worry remarks a chain of thoughts and images, negatively affect-laden and relatively uncontrollable while effort implies the willingness to keep trying and the mental strength to persist to complete the task. These skills were categorized under the *affect*, which is a physical reaction of students to testing situation (Lufi, Okasha & Cohen, 2004). Within the scope of this study, these dimensions were selected as important aspects (O'Neil & Brown, 1998) and they were significant for the development of individual's capacity to think about how they learn through the process.

The primary purpose of this study was to generate deeper understanding on experiences of the students, the teachers and the academicians about the dilemma whether OE question formats can be a solution to current problems in terms of the transition from middle to high school in Turkish examination system. The participants' experiences were examined over the differential effect of MC and OE on students' metacognitive and affective characteristics.

Under *cognitive strategy* sub-dimension, the pre-coded categories found to be a) solution strategy preferences of students, b) the cognitive strategies employed, c) being able to reword to activate cognitive strategy, d) spending time to understand and e) students' thinking on meaning of problems. Majority of the students solve the questions by the way teachers taught. Half of the students perceived their teachers as knowledge source and a sole authority in class, and therefore, accept teachers' solution strategies rather than developing and using their own creative solution strategies. However, this preference decreases during solution of OE question formats. Secondly, the students solve problems including all sorts of reasoning, planning, arithmetic etc. As problem solving situation in large-scale examinations, the students have to use cognitive strategies to solve the question format regardless of MC or OE. In addition, to be able to reword the question roots after being given MC or OE questions is the indicator of using cognitive strategy skills actively. The common experiences showed us that one third of the eight graders reworded the question root of MC or explain the meaning in their minds before the solution whereas for OE, two third of the students' responses indicated that they reword problem root of OE. Besides, most of the participants experienced that OE questions require much time during the solution process and the tendency and the frequency of their experiences were higher about OE than MC in terms of generating rereading skills. Although very few students think about it as Student B,

the reason of why he does not need to reread MC as No, as I said, if you understand at first reading, it is due to reading habit. If you do not have a reading habit, it is difficult to comprehend the question in mind. At least, you need to read once or twice. Yet reading habit helps a lot in such questions. You read faster, understand better. You should first trust yourself, it does not matter whether it is open ended or multiple-choice questions. You can understand what you read.

One of the exemplar statements from a student for the case [solution strategy preferences] recorded is related with grading concern:

...I prefer the way my teacher prefers in answering open-ended questions because our teacher says that she will assign grades if we perform congruent with her/his problem solving path/ways. Otherwise, if I find a new or alternative path, s/he will not know whether the path is correct and same with his/hers...

An academician who is from the department of measurement and evaluation highlighted [on cognitive strategies employed] as

...In open-ended exams, children can really express what they think. In others, they select from what they are presented. However, in open-ended exams, they can transfer what they really know and think. The question asks what it is aimed to measure as knowledge, thoughts, and emotions and/or other. Children have more opportunity to use their creativity and they have more opportunity to create their own paths for solutions... students who can create their own paths, comprehend the paths and create another situation and transfer their knowledge [metacognition] are more successful and present

their success in exams. Therefore, open-ended exams are more promising.

Under **self-checking** sub-dimension, the pre-coded categories found to be a) checking works, b) going over choices, c) judging correctness of solution, d) asking how well doing, e) correcting errors, f) asking questions to stay on track. Most of the students, except two fifths, stated always the need of checking while solving OE formats. However, the participants' common experience indicated it is a common habit to go over the solution answer regardless of question formats. In terms of judging correctness, the common perception was toward OE question formats. In addition, the participants found a common ground about the students who may tend to ask themselves how they are doing during the solution process of an OE. Similarly, nearly most of them informed the learners may try to correct errors in OE more than MC that reflects the students can be aware of their mistakes. Finally, most of the participants, more than half, may open to activate questioning themselves to stay on track in the solution process of OE. For instance, Student J who always checks MC expressed "During solution, I do. Then I check the question again. Then I pass to the other questions. I progress like this." And the one who always needs to check the solution of OE said

Yes, particularly in written exams, the open ended-questions are few so that they are longer. I mean they more complicated, they require more focus and we undergo self-evaluation through these questions. We should decide and define what to do with the question. However, this period is shorter in multiple-choice questions. (Student C)

Teacher G who presented an opinion on whether the students are able to go over choices when they are solving MC mentioned

In multiple choices, isn't it? Can they see their mistakes? I think they cannot since multiple choices condition them. As I said, I am a classic teacher. I think multiple choice questions should not be in school life. I think they do not measure anything. Everything is ready for the students and they think that they should find the best alternative according to them...

Academician E explained her observations on the fact that the students have tendency toward asking questions to stay on track while solving MC by saying

They [the students] receive an education that provides time management skills and more true answers in short time, closer to SBS until that time. Not a motivation, but they have such behavior. Therefore, they can have a tendency to progress by controlling their answers. They can progress step by step controlling, not going back after the exam is over.

Under **worry** sub-dimension, the pre-coded categories found to be a) types of feeling created, b) feeling of disappointment and regret, c) feeling of requirement to study more, d) happiness caused by question format, e) concern about what if done, f) feeling of confidence, g) feeling of comfort. All of the participants indicated being exposed to large-scale assessments might initiate negative feelings. So, they are agreed on that. Although half of the academicians indicated the students may have feeling of disappointment during solution process of OE, the experiences of teachers showed us the opposite. In addition, feeling of the said "I wish I could study more" is one of the indicator of eliciting worry and the experiences of all of the participants have not record a great difference between MC and OE.

Teacher H evaluated this feeling with a different dimension as "When the exam approaches, their anxiety increases. They are anxious during the exam as well since

there is pressure to be successful. The families expect success from their children. It is important for them. The family has a huge influence.”

An academician who shared how students feel in solution to each question format said “They are happier since production is difficult [for OE format]. Besides, they cannot remember in open ended questions, but multiple choice questions can help them remember.” (Academician F).

Under **effort** sub-dimension, the pre-coded categories found to be a) amount of work, b) keep working, c) concentration, d) students reflection of total effort, and e) not giving up.

A huge amount of the participants experienced whether the students need work hard is the indicator of effortful activity on the solution process of the question formats. So, the findings indicated OE requires more amount of work than MC. Despite similarity to few students’ views on OE only one teacher said they did not keep working for OE by losing their effort. The Teacher F stated “To practice but not as much as with multiple choice questions. There, speed is important. However, here exercises on comprehension need to be done rather than practice...” Most of the participants agreed on the fact that solution process of OE formats necessitates keep working. On the contrary, common experiences indicated the eight graders need to concentrate as hard as they can while solving a MC. Finally, the common views of the participant’s experiences highlighted OE might be more probable question formats to reflect the students’ total effort on solution strategy. Even if length of an OE may force them get lost in the exam, they should not give up by keeping their effort strong. They may not give up easily on MC. However, some participants experienced counter arguments as such;

Student B who experienced MC as an easy format said,

Multiple-choice questions are easier comparing to open-ended questions. People’s perspective is that way and so is mine. In my opinion, multiple-choice questions are easier and require less effort than open-ended questions. Because one thinks a lot for open-ended questions. For instance, if you write an essay or paragraph you definitely need wide knowledge of vocabulary on the topic. However, you would not face the same problem with multiple-choice questions.

Majority of teachers who thought there is no much necessity of performance for MC thanks to familiarity of it whereas only two of them thought OE did not require harder work to perform well. For instance, Teacher A expressed and Academician E provided counter arguments;

Solving a multiple-choice test would be sufficient for someone who repeats his courses and solves the questions in his textbook. It shouldn’t be difficult for someone who knows the topic and solves 10-15 questions to solve the other tests. I don’t think that extremes practice, such as solving 300-500 questions is not necessary for a child at primary school.

...whatever the experience of the student shows. ‘Okay, I may not have solved this one but I will evaluate the others better’. There is the motivation of ‘this may come to my mind when solving the others’... There are announcements of tests saying ‘Pass the questions you couldn’t do, spend at least some minutes, pass and turn back to the question, don’t demotivate yourself.’ If the student has passed such a training and has practiced this then he will continue, and turn back because he has the motivation that the answer may come to his mind. Therefore, he may approach the questions differently. (Academician E)

4. Conclusion

This study aimed to explore the comparative effects of open-ended and multiple-choice exams with regard to metacognitive and affective dimensions. The main concentration of conducting this study was a declaration, which came from the Minister of National Education of Turkey. It was declared that instead of using multiple-choice exams to measure student success and use this nation-wide exam result for transition purposes from middle school to high schools, open-ended questions would be preferred since they intend to measure student achievement better. However, results of this study indicated that both examination types have positive and negative sides with regard to cognitive and affective dimensions. Therefore, before deciding about nation-wide changes, it is essential for political leaders to back up their decisions with scientific findings.

Having said that, this phenomenological study underlines the fact that both question types trigger different sorts of cognitive strategy. For instance, some students prefer multiple-choice more because self-checking through item stem and alternatives is easier while some prefer open-ended since it provides chances to look at the question from a broader perspectives. In addition, some students and teachers indicated that multiple-choice provides content validity benefits while open-ended is limited at this part. Moreover, findings showed that effort spent in solving questions differs among high, middle, and low achievers. Interestingly, there is no consensus among the level of achievers in relation to spending an effort on different types of questions. For instance, some high achievers indicated that open-ended requires more effort while others mentioned as less effortful. In addition, opinions differentiated in relation to anxiety and worry. While both exam types create less anxiety on high achievers, middle and low achievers demonstrate differences in anxiety levels. Based on the results of this study, changing the question type is not a spontaneous heal in improving student placement via test results (Heck & Stout, 1998; Johnson, Sieveking, & Clanton, 1974; Lawrenz, Huffman, & Welch, 2000; O'Neil & Abedi, 1992; Ozuru, Briner, Kurby, & McNamara, 2013).

As conclusion, the study asserted that the participants' experiences showed a positive trend toward open-ended question formats in large-scale assessments in Turkish examination system. Since the students can use metacognitive skills while solving open-ended questions rather than multiple-choice. Somehow, it is expected that the students' worrisome feelings are not toward the question formats regardless of open-ended or multiple-choice but toward the examination system competed by the millions in every year.

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Languages in Contact The Semantic Evolution of Turkish Loanwords in Romanian

Alina-Andreea Dragoescu

Introduction

The paper proposes a discussion of Turcisms, linguistic elements that have entered the Romanian language from Turkish and their evolution into the borrowing language from a semantic point of view. The adoption of older words, some of which acquire new meanings, the addition of derivatives and modified senses, their use as altered word categories, and their rekindled use in phrases, have become ways of enriching vocabularies in contact. The intention of the study is to display the extensive functionality of semantic change and derivation, which provides evidence for the exceptionally wide-ranging productivity of Turcisms. While a number of words have preserved their original Turkish meaning, numerous borrowings have been subjected to transformations by means of various types of semantic change such as abstraction, concretization, generalization, specialization of meaning, degeneration (or pejoration), melioration, conversion, blending, metonymy, auto-antonymy, and metaphorisation. The paper discusses all these types of semantic alteration and figurativeness from a linguistic standpoint.

Material and method

The material of the present semantic analysis consists of an (inevitably limited) number of Turkish loanwords, seen as a source of linguistic abundance in Romanian. Many of them were brought over by traders, soldiers, and diplomats from the Ottoman Empire, being consolidated by political relations and other socio-cultural influences. For this reason, Turkish borrowings or loanwords often belong to the social and political vocabulary, they are abundant in historical writings, and they resurface in current use. Loanwords are also used to describe the fauna, flora, food and life customs, commerce and industry, administration, military craft, etc. The research makes use of semantic and etymological analysis, as well as conceptual metaphor theory.

Results

It is noteworthy that Turkish loanwords make comebacks, as apparently outdated words used at certain points in the past, have more recently been retrieved as an innovative means of reviving language. These often take on new meanings, especially figurative and ironical connotations, given that they have remained in use particularly in colloquial and slang registers. Informal language in general capitalizes on its borrowed resources, with the intent of acquiring an exotic touch of novelty and originality. Many loanwords have become colloquialisms, being part of current Romanian and providing particularly rich resources for humorous and argotic language registers. Many of them carry exotic or ethnographical connotations, while their altered meanings and figurative use in expressions is often perceived as comical or derogatory.

Regarding new words formed by derivation, an exceptionally high productivity may be noticed. Turkish loanwords are easily recognizable due to certain suffixes, such as the final accentuated *-a* or *-ea* (e.g. *baclava*, *basma*, *belea*, *dambila*, etc.). What is more, suffixes borrowed from Turkish (*-giu*, *-iu*, *-lâc*) are so highly productive in Romanian that they are also attached to borrowings from other languages (e.g. *avocatlâc* < F *avocat* + Tk suffix *-lâc* pejoratively referring to 'the attorneys' profession'). The suffixes *-giu*, *-ciu* < Tk *ği*, *çi* are often assigned to words designating professions and occupations (e.g. *cafegiu*, *caftangiu*, etc.) with

extended meanings designating persons ironically (e.g. *zurbagiu* ‘troublemaker’ < Tk *zurba* ‘rebellion’). The semantic alteration of the term *caftangiu* is particularly outstanding. The word derived from Tk *kaftanci* initially designated ‘a functionary who symbolically laid the kaftan upon the shoulders of those granted a title or a fuction called *kaftan*’. Its meaning has figuratively extended to ‘a bully, a person who hurts or beats others’. The explanation may be based on a possible semantic rationalization comparable to the English slang expressions *to dust someone’s jacket* or *to dust someone off* meaning ‘to give someone a beating’, by ironic association with the obliging gesture of assisting someone with their jacket.

Similarly, the suffix *-a(n)giu* usually lends a pejorative connotation to the new meanings acquired by Turkish borrowings. For instance, *chilipirgiu* < Tk *kelepirci* refers to ‘a bargainee, one who is a hunter for bargains’, while also depicting ‘an opportunist’ with a marked pejorative nuance. Moreover, a certain occupation may, by prolonged subjection, develop into a habit. Thus, the same suffix receives the function of pointing out a persistent habit, which becomes an inurement or a negative trait of personality building on a certain theme. For instance, the term *cafegiu* < Tk *kahvec*, initially referred to an attendant at the imperial court who prepared and served coffee; the meaning later changed to ‘coffee-house keeper or proprietor’; in familiar speech today, it designates a coffee lover or ‘addict’. Other highly productive suffixes are diminutive suffixes, such as *-uț / -uță* (e.g. *cafeluță* < R *cafea* < Tk *kahve*, *tărăbuță* < R *tarabă* < Tk *tarab*) and suffixes *-lâc / -lic* < Tk *-lyk*, which stand for general qualities, classes, collectivities, or occupations (e.g. R *caraghioslâc* < Tk *karagözlük* ‘drollery, ridiculosity’; R *calabalâc* < Tk *kalabalik* ‘belongings, goods and chattels; crowd, mob’; R *samsarlâc* < Tk *simsarlik* ‘intermediation’). Following distinctive patterns of Turkish words, derivatives may also be formed in Romanian by adding such typical suffixes to loanwords from other languages (e.g. *reclamagiu*, *scandalagiu*, etc.) (Șăineanu, 1990:LIII).

As it may be seen, the extensive functionality of derivation provides evidence for the wide-ranging **productivity of Turcisms**. Although some of the borrowings have preserved their form to a higher degree, being close or identical to the Turkish etymon, a large number of loanwords have undergone changes in Romanian. There are few formal changes, but there are extensive transformations pertaining to word-formation and category, as well as semantic alterations. Relatively few words are out of use, and, surprisingly, even archaisms (e.g. *beizadea*, *pașă*, etc.) make comebacks taking on new figurative meanings.

While a number of words have preserved their original Turkish meaning, the majority of borrowings have been subjected to transformations of the territory of Romanian. In some cases of semantic specialization, the borrowed etymon has preserved a closely related meaning, but slightly diverging from the Turkish original meaning so as not to overlap with other words which already existed in Romanian. Change of meaning may occur by various means, some of which the most recurrent are: abstraction, concretization, generalization (or widening), narrowing, specialization of meaning, degeneration (or pejoration), melioration, adaptation to autochthonous realities, conversion, analogy, blending, metonymy, auto-antonymy, and metaphorisation (words acquiring figurativeness).

Types of semantic transformation

A few illustrations will further be discussed for each type of semantic modification, as well as derivatives and equivalent idiomatic expressions across languages (Turkish, Romanian and English).

1. Abstraction is the semantic process of creating abstract ideas or terms from more specific or concrete meanings. This semantic change is especially present in Turcisms employed in idiomatic phrases and will also be amply displayed in the section on figurativeness.

- **boia** < Tk *boya* 1. ‘paprika, a powdered seasoning made from sweet red peppers’; 2. → ‘colour, paint’; 3. (*Pejorative*) ‘women’s make-up’ = E (*Informal*) *war paint*;

- R *boială* (*Pejorative*) ‘excessive make-up’ = varnishing ‘a deceptively attractive external appearance, resembling varnish’.

- **farafastâc** < Tk *falan-fistik* 1. (*Pejorative*) ‘trifle, showy ornamentation without value’ = E (*Informal*) *furbelows, tinsel*; → 2. ‘fad, caprice’ = E (*Pejorative*) *airs and graces*.

- **liman** < Tk *liman* 1. ‘bank, coast’ → 2. (*Figurative*) ‘destination, end of the road’.

- R *a ajunge la liman* (*‘to get to the end of the road’) ‘to arrive at destination or in a safe place’ = E *to get to smooth water, to round the corner*.

2. Concretization is a semantic process by which the meaning of an abstract word is rendered concrete or more specific.

- **mezel** < Tk *mezelik* ‘appetizer, a dish served before the main course’ → ‘one of various cured meats, such as salami or sausages’ = E *cold cuts / meats*.

3. Generalization / widening of meaning is a linguistic change from subordinate level to superordinate level, an upward shift in a taxonomy, or a general extension of meaning. Numerous loanwords have undergone generalization of meaning, especially terms which were initially part of the military vocabulary, for example:

- **alai** < Tk *alay* ‘official parade, convoy’ → (*Figurative*) ‘noisy crowd of people following someone’ = E *all the world and his wife*; the E idiom *to climb / jump on the bandwagon* is based on a similar semantic mechanism, playing on the double meaning of *bandwagon* (‘a wagon for carrying the band in a parade’; (*Figurative*) ‘a popular trend that attracts growing support’).

- **buluc** Tk *bölük* ‘squad / troop of soldiers’ → (*Figurative*) ‘mob, herd of people’.

- **cafegiu** < Tk *kahveci* (*Obsolescent*) ‘attendant at the imperial court whose duty was to prepare and serve coffee’ → ‘coffee-house keeper or proprietor’ → (*Figurative*) ‘coffee lover or addict’.

- **caraghios** < Tk *karagöz* 1. ‘a harlequin or comic character in a well-known comical farce’; → 2. ‘comical; silly, ridiculous; odd’ = E *goofball, jackass, tomfool* ‘person who is considered ludicrous or laughable’.

4. Narrowing is a type of semantic change from superordinate level to subordinate level, when the meaning of a word is restricted to a more specific reference than before.

- **acaret** < Tk *akaret* 1. ‘annex, outbuilding, outhouse, dependences situated near a main building’ → 2. (pl.) ‘domestic goods’ → 3. (*Figurative*) ‘personal belongings’.

- **mezelic / mizilic** < Tk *mezelik* 1. ‘(cold) collation, snack, hors d’oeuvres’ → 2. ‘trifle, small, insignificant thing’.

5. Specialization of meaning is a downward shift in a taxonomy (Blank, 1998).

- **basma** < Tk *basma* ‘handkerchief’ → ‘kerchief, a woman's square scarf, often worn as a head covering’;

- R *a scoate basma curată* (*‘to pull out a clean kerchief’) = E ‘to do something to keep your reputation’ = E idioms: *to save one's face, to revarnish one's reputation*;

- R *a scăpa / a ieși basma curată* (*‘to escape / come out clean kerchief’) ‘to escape punishment or detection of a blameworthy act’ = E idioms: *to get away with murder, to escape / to get off scot-free, to bluff it out* (‘to escape in a dishonest manner’).

6. Degeneration (or **pejoration**) is a semantic deterioration of a word to a lower, derogatory meaning, as it acquires unfavourable connotations. Pejoratisms of Turkish origin are often based on a humorous degradation of meaning (e.g. *beizadea* from real prince to ‘a would-be prince, a person under false pretences’). That is why this category of borrowings remains resourceful in achieving comical effect, gaining all the more quaintness and piquancy. For instance, the Romanian media make ample use of the word *beizadea*, designating pejoratively the offspring of wealthy or privileged people. The corresponding notion is expressed in English by the phrase *daddy's son*, implying undeserved benefits obtained by means of genealogical circumstances. Its pejorative value probably developed in the second half of the XIX century, when the modern political discourse exploited ironically the abundant vocabulary of Turkish origin. Another example is the PM's sobriquet at the time - *The Vizier* (Zafiu, 2011). Many such words have extended on a semantic level of ironic figurativeness in current Romanian.

The markers of irony may sometimes be the very words which have received fixed ironical connotations. Many Turcisms have taken on a permanent undertone suggesting irony or derogatory implications, even when dictionaries fail to specify it; such words are in a synonymic series with other standard, unmarked forms; their marks of distinctiveness are: ironic distance and the pejorative nuance. For instance, *patalama* < Tk *batalama* (often deprecatory) is used in a synonymic series with words like ‘diploma’ or ‘certificate’, though its initially neutral meaning has altered to ‘an undeserved or easily obtained diploma’; although these words are apparently synonymous, it is the Turcism which incorporates a depreciative connotation as an irony marker, thus filling a semantic void in Romanian, especially in informal use.

- **cioban** < Tk *çoban* 1. ‘shepherd; 2. (Pejorative) ‘a coarse, vulgar person’ = E *hillbilly, rustic, yahoo, red / rough neck*. Interestingly, the feminine form has not acquired a pejorative meaning, while the adverbial derivative *ciobănește* meaning ‘like shepherds, rustically, in a rustic manner’, has preserved both senses.

- **ghiveci** < Tk *güvec, güveç* 1. ‘flower pot; 2. ‘vegetable hotchpotch / hodgepodge’; 3. (Figurative) ‘melange, mixture’ = E *hotchpotch, mishmash, ragbag*; 4. (Pejorative) ‘a confused mixture of dissimilar things’ = E *patchwork, farrago* (esp. worthless musical / literary works).

7. Melioration (or **elevation**) is the linguistic process by which the meaning of a word improves over a period of time, changing from a pejorative to a neutral or positive meaning. a

- **pezevenchi / pezevenghi** < Tk *pezevenk* ‘charlatan’ → ‘a (loveable) rogue, a playfully mischievous person’.

8. Adaptation to autochthonous realities occurs when words which do not (or no longer) have a reference in current speech are applied to indigenous actuality and thus naturalized (Suciu, 2011:106). Slang is a highly informal area of language which makes use of outdated words (marked as ‘*Obsolescent*’) that it reactivates, by applying them to present-day realities of life.

- **bulubasă / bulibaşă** ‘captain’ < (earlier) *bulucbaşă* < Tk *bölük-başı* ‘leader of a *buluc*, a troop of soldiers’; by extension, ‘a leader of gipsies’.

- **beizadea** < Tk *beyzade* ‘prince, son of a prince / sultan’; adapted from real prince to a ‘would-be prince’ = E daddy’s son; as the etymon *beyzade* - lacking negative connotations - was not applicable to modern Romanian realities, the term received figurative meaning by means of pejoration rather than being lost.

Numerous figurative expressions are based on words which initially functioned in a certain (cultural) context. The initial use and circumstances (partly) explains the figurative utilization of the respective word in new phrases and metaphorical contexts. Here are a few examples:

- R *a prinde (pe cineva) cu ocaua mică* (*‘to catch someone with a small oca’) ‘to catch someone with a lie or prove one’s dishonesty’, derived from the phrase **oca mică** (*‘small oca’) ‘a false measure which was smaller than the legal one’ (< Tk *okka* ‘weight measure’) = E idioms: *to find someone out*, *to catch someone tripping* (< *trip* ‘mistake, wrong step / action’);

- R *a umbla cu ocaua mică* (*‘to carry along a small oca’) *to play with marked cards*, *to play with loaded dice*.

- R *a nu face o para chioară / două parale* (*‘not worth a single-eyed penny / two pennies’) ‘of very little worth, or worthless’ = E *not worth a farthing* (‘coin formerly used in Great Britain worth one fourth of a penny; something of very little value’), *not worth a rap* (*Obsolescent* ‘counterfeit coin of half a penny’), *not worth a continental* (< Continental currency which depreciated during the American Revolution); likewise, R *para* (< Tk *para* ‘small Turkish coin’) developed a figurative meaning of ‘worthlessness’ from the earlier meaning ‘coin with a very small value’, based on the historical existence of perforated coins of small value which were held on a string; its adverbial use in the expression *a plăti părălește* (*‘to pay with pennies’) ‘in cash, on the spot’, has an English slang equivalent - *to pay on the barrelhead* - which also has a cultural explanation in the dated manner of paying for goods transported in barrels right on the upper surface of the container.

- R *a face (pe cineva) de două parale* (*‘to make somebody worth two pennies’) ‘to scold, to reprimand somebody’ = E idioms: *to tear somebody's character to rags / shreds*, *to call somebody on the carpet*, *to dress down*, *to chew somebody up*, *to bite somebody's nose off*, *to give it somebody hot (and strong)*, *to jump all over somebody*, *to tar and feather*; as in the case of the Romanian idiom, the cultural validation for the English idiom *tar and feather* (meaning ‘to humiliate or criticize severely’) is based on the literal meaning of ‘punishing someone by covering with tar and feathers’ - a torture in the past;

9. Conversion (also a function of word formation) is a process of recategorization of meaning, occurring more often as a change of grammatical category.

- **caraghios** < Tk *karagöz* 1. ‘a harlequin or comic character’; 2. ‘comical; silly, ridiculous; odd’; (it is currently used as an adjective applied to persons who are considered ludicrous or laughable) = E *goofball*, *jackass*, *tomfool*;

- **mucalit** < Tk *mukallit* 1. (*Obsolescent*) ‘actor’ (noun); 2. (adj.) ‘droll, funny’ (it is said of persons who know how to make others laugh) = E *joker*, *prankster*.

10. Analogy and blending are processes of semantic change by means of actual or perceived similarities between things that are otherwise dissimilar. Analogy is often a mechanism which explains metaphorisation or the use of words with figurative meanings. Blending refers to words produced by combining parts of other words, or to the merging of loanwords with local words which resemble them. This linguistic phenomenon often occurs when folk etymology interferes with the original meaning of loanwords.

- **afirim** < Tk *afirim* ‘Bravo! That’s well! Well done!’ However, the popular use has blended the original meaning ‘Thank God!’ to the Romanian phrase *Doamne ferește!* ‘God Forbid!’ on account of the popular mispronunciation *feri-mă* instead of *ferește-mă* ‘forbid’ which has a similar resonance;

- **caimac** < Tk *kaymak* 1. ‘(milk) skin, the part of milk containing the butterfat’; 2. ‘(coffee) cream, froth formed at the top when coffee boils’; 3. ‘the best part of something’ = E *the cream of the crop* and *crème de la crème* - perfect equivalents meaning ‘the best part of something’;

- R *a lua caimacul* (*‘to take the cream’) ‘to take the best part of something’ = E (Slang) also related to food: *to get the plumps* (esp. about jobs), *to pick the plums out of the pudding*, *to skin the cream (off)*, *to spoon off the cream*, *to skim the cream off something*;

11. Metonymy is a semantic change based on contiguity between concepts.

- **chihli(m)bar** < Tk *kehlibar* ‘amber, a yellow or yellowish-brown hard translucent fossilized resin derived from extinct coniferous trees (*Pinus succinifera* L.) that occurs in Tertiary deposits, used for making jewelry and other ornamental objects’; → 2. ‘a brownish yellow’; vs. compound *chihlimbar cenușiu* / *ambră* ‘ambergris, a waxy grayish substance secreted by the sperm whale (cachalot) and often found floating in the sea, having a pleasant odor, which is used in the manufacture of perfumes’;

12. Metaphorisation is a semantic process by which loanwords acquire figurativeness, based on the use of metaphor (figure of speech in which a word which ordinarily designates one thing is used to designate another, thus making an implicit comparison). This linguistic process is based on the difference between what is said and what is actually meant. Figurativeness (the use of metaphorical, non-literal language) is often connected to ironic or ambiguous usage, including innuendo or indirectness. Such words are explicitly taken from certain stylistic areas, especially familiar and argotic registers. Others are archaic, chiefly Turcisms reclaimed from clusters of loanwords which were once fashionable and later devalued. The latter category connotes contemporary snobbery and portentousness, just as present-day Anglicisms. The process by which words acquire metaphorical meanings represents the main vehicle of semantic change, as the greater part of borrowings is used figuratively or in a metaphorical sense.

Conclusion and Discussion

The extensive influence of Turkish elements upon Romanian is confirmed by the fact that numerous derivatives have been added to Turcisms, they are used in a large number of expressions and proverbs considered traditional, and they resurface in modern language acquiring new meanings. The discussed examples reveal the wide-ranging sway of Turkish upon Romanian. From a linguistic and cultural point of view, language contact (convergence, diffusion) has undeniably contributed to the enrichment of language. This influence may be regarded as an essential outcome of Romania’s enduring relationship with Turkey. Therefore, Romanian takes recourse, time and time again, to the ample stock of picturesque Turcisms whenever speakers feel like invigorating or rejuvenating language. The linguistic history of words (etymology) and the cultural history of ideas are interconnected in pointing to common elements in both languages and cultures. The analysis methods employed - comparing / contrasting languages, finding convergence areas, using etymology, word formation (derivation and compounding), making use of words within idiomatic phrases and different contexts (informal, slang registers, etc.) - are all strategies of rendering language learning more appealing.

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Mathematical Reasoning Skills of 7th Grade Students

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1. Introduction

Mathematics is assumed to be one of the courses, which are most frequently used in real life and attached importance to. We also believe that despite the importance it possesses, mathematics is still one of the most disliked courses. Even though mathematics is perceived as a disliked course, everybody conducts their thinking through their thinking skills and uses their reasoning skills when they are faced with a problematic situation throughout their lives.

Problem solving is making assumptions and deductions by using the available situation. In order to make deductions, one has to conduct reasoning. Reasoning is a skill mostly used in mathematics lessons. Pilten (2008) states that reasoning is the foundation of mathematics. Mathematics lessons teach students numbers, making operations, creating patterns, assumption, thinking in cause-effect framework, geometry, 3D figures, and using patterns (Umay, 2003). Problem solving is a process that contains mathematical reasoning in itself.

The most significant reasoning approaches are inductive and deductive reasoning (Yackel & Hanna, 2003). Polya (1988) defines inductive reasoning as obtaining knowledge through using scientific processing skills. In their reasoning, based on their personal experiences, people make interpretations about the events that may occur, make decisions, and try to produce proof. Eysenck (2003) divides deductive reasoning into four: conditional reasoning, reasoning based on comparison, spatial reasoning, and proportional reasoning. Conditional reasoning is defined as situations in which a logical connection must be established between events, certain conditions must exist for an event to occur, and reasoning cannot be conducted unless these conditions are fulfilled. Reasoning based on comparison is the process of determining the accuracy of results by associating the existing situations and comparing them to previous, current, or potential situations. Spatial reasoning can be defined as the process of analyzing events through using mental models in the existing situations (NCTM, 1999). Proportional reasoning is used in cases, in which two existing situations are compared in terms of their proportion.

According to Piaget's cognitive theory, second phase of the primary education is the period when students are capable of abstract thinking and problem solving. Hence, it is believed that facing students with problems, which could enable them to think and conduct reasoning, will yield positive results in terms of their mental development (Senemoğlu, 2010; Durmaz & Altun, 2014: 74). During this period, students are 13 years old, which means they are 7th graders. Students at this age group are capable of abstract thinking, as a consequence, during this period improvements are observed in students' success at mathematics (Yıldız & Fer, 2013; Siyer & Tarım, 2016). Therefore, it is believed that facing students at this age with non-routine questions, which would require them to use their reasoning skills, could improve their mathematical thinking skills.

Math-CATs (The Mathematical Thinking Classroom Assessment Techniques) (2007) argue that enabling students to solve non-routine questions, which they are not accustomed to and contain real-life problems, produces better results in terms the development of students. The students, who are faced with such problems, are believed to improve their mathematical assumption; proof & persuasion methods; skills of reasoning, obtaining a conclusion, and

stating an opinion. In this research, it is also assumed that the reasoning skills of individuals, who are faced with problems requiring them to use their reasoning skills, will be improved. Thereby, this study was conducted so as to determine the existing reasoning skills of students.

2. Method

This research is a case study, which is one of qualitative research patterns. The reason why we chose to use case study method is to determine and reveal the reasoning skills of students, which already exist in this process. Case study can be defined as deeply describing and examining the data accumulated within a limited system (Merriam, 2013:40; Creswell, 2013). Furthermore, case study could also be defined as empirical process, which examines a current or previous event by comparing it to real-life situations (Yin, 2008:18). The case study method is used in this research in order to determine the mathematical reasoning skills of students during this process.

2. Data Collection and Analysis

The study was carried out with 92 7th grade students, who study at four different secondary schools in Samsun, during the fall semester of the academic year of 2015-2016, by using random sampling method.

Three problems developed by Erdem (2015) in his doctoral thesis, which is named as the Effect of Enriched Learning Environment on Mathematical Reasoning and Attitude, have been used in this study. These three problems are demonstrated in below.

1. In each play, +5 points are given for each correct answer, and -2 points are given for each incorrect answer, and 0 point is given for the questions left blank. İsmail, who participated in that play, answered 17 questions, 5 of his answers were correct and he left 3 questions answered. According to this, how many points İsmail scored in this play? Explain.
2. Teacher Ali assigns questions to his students on a weekly basis. He gives -1 points for each unanswered question and +3 points for each additionally answered question. Mehmet, whose weekly question target number is 500, solves 700 questions at the end of two weeks. What is the maximum score Mehmet could obtain? Explain.
3. On a target board, the throws targeted at the red zone get $5/2$ points; those targeted at the green zone get $3/2$ points; those targeted at the yellow zone get 1 point; those targeted at the blue zone get $1/2$ point; and those targeted at the pink zone get $1/4$ point. According to this, how many points did Veli, who targeted 3 throws at the blue, 2 throws at the green, and 1 throw at the yellow zone, score in total? Explain.

These problems require students to solve it by considering possibilities and their reasoning skills are revealed during this process. In these three problems, students can obtain the solution through different ways. The students are ought to choose certain strategies since they have to solve the problems by explaining their process. In fact, these three problems set an example of non-routine problems. The problems applied have been evaluated through using the gradual rating scale developed by Marzano (2000). The gradual rating scale consists of 5 dimensions. These dimensions are solution/accuracy of the result; solving non-routine problems; developing logical arguments for the solution; generalization; and determining and using the appropriate reasoning. Each dimension is divided into 5 sections in itself and each section is evaluated on a 4-0 scale score. These evaluation criteria are displayed in the tables in findings.

3. Findings

The analysis of the solutions to these three problems produced by students are demonstrated in this chapter.

3. *Solution and Accuracy of the Result*

The results of the analysis of the data on the accuracy of the problem and the solution to the three problems by the students. The scores based on their ratio of answering all three problems and the scores based on their total arithmetic average are displayed in the table.

Table 1: Solution and Accuracy of the Result

Size of the Problem	Score	Behavior of the Student	1. Problem	2. Problem	3. Problem	f	%
Solution/Accuracy of the Result	4	Student chooses the appropriate strategy for solution. Student clearly explains why he/she solved it by using that strategy.	4	3	14	7	7.6
	3	Student chooses the appropriate strategy for solution. Student does not clearly explain why he/she solved it by using that strategy.	5	1	7	4	4.3
	2	Student chooses the strategy while deciding on how to solve it, however, they are not appropriate for the solution. Student cannot determine the most appropriate strategy among the criteria.	27	18	19	21	22.8
	1	Student uses criteria, which are not related to the problematic situation, during decision-making.	46	50	31	42	45.6
	0	Student cannot make any judgements.	10	21	22	18	19.5
Total			92	92	92	92	100

The table suggests that the students were more successful at the third problem; and less successful at the second problem. In the first problem, 4 students chose the convenient strategy for the solution and clearly explained the solution. 5 students chose the convenient strategy for the solution, however, did not clearly explain the problem. 27 students chose the correct strategy for the solution, however, made some errors in the implementation process and could not determine the convenient criteria for solution. 46 students misunderstood the problematic situation, thus did not use the required criteria. Moreover, 10 students did not make any judgements on the solution to the problem.

In the second problem, 3 students chose the convenient strategy for the solution and clearly explained the solution. 1 students chose the convenient strategy for the solution, however, did not clearly explain the problem. 18 students chose the correct strategy for the solution, however, made some errors in the implementation process and could not determine the convenient criteria for solution. 50 students misunderstood the problematic situation, thus did not use the required criteria. Moreover, 21 students did not make any judgements on the solution to the problem.

In the third problem, 14 students chose the convenient strategy for the solution and clearly explained the solution. 7 students chose the convenient strategy for the solution, however, did not clearly explain the problem. 19 students chose the correct strategy for the solution, however, made some errors in the implementation process and could not determine the convenient criteria for solution. 31 students misunderstood the problematic situation, thus did not use the required criteria. Moreover, 22 students did not make any judgements on the solution to the problem.

The overall picture suggests that 7.6% of the students scored 4 points, in other words, they chose the convenient strategy to solve the problematic situation and clearly explained why they chose that strategy.

4.3% of the students scored 3 points; 22.8% of the students had 2 points; whereas 45.6% of the students had 1 point and 19.5% of the students scored 0.

3. Solving Non-Routine Problems

The table below displays the analysis of the answers received by students about solving the non-routine problems.

Table 2: Solving Non-Routine Problems

Size of the Problem	Score	Behavior of the Student	1.	2.	3.	f	%
			Problem	Problem	Problem		
Solving Non-Routine Problems	4	Student chooses the most effective solution to the problem and clearly explains why he/she chose that solution instead of choosing another method. Student completely demonstrates the process of problem solving.	3	3	12	6	6.5
	3	Student chooses the most effective solution to the problem. However, student does not clearly explain why he/she chose that solution. Student completely demonstrates the process of problem solving.	7	2	8	6	6.5
	2	Student chooses the most a correct way to solve the problem, yet that way is not the most effective solution. Student partially demonstrates the correct answer in the process of problem solving.	27	18	16	20	21.7
	1	Student is unable to choose the correct way to solve the problem. The answer received by the student does not demonstrate the correct way to solve the problem.	45	49	33	42	45.6
	0	Student cannot make any judgements.	10	20	23	18	19.5
Total			92	92	92	92	100

The table displays how students handled non-routine problems. In the first problem, only 3 students chose the effective way to solve the problem and clearly explained the why they chose that method. Furthermore, the steps taken by these students while solving the problems are clearly stated in their answer sheets. 7 students chose the convenient way to solve the problem, however, did not explain why chose that solution. The solutions they chose can be clearly and

completely seen in their answer sheets. 27 students chose a way to solve the problem, however, did not explain why chose to conduct that operation. Besides, they were able to partially obtain the correct answer while conducting these operations. 45 students did not choose the correct way to solve the problem and their answers did not have any signs of demonstrating the correct solution. It was observed that 10 students did not make any judgements about this problematic situation.

In the second problem, 3 students chose the effective strategy for the solution and at the same time clearly and completely explained why they chose that solution. 2 students chose the correct solution to the problem, however, did not clearly explain why they chose that solution. Yet, they were still able to clearly and completely explain how they solved the problem. 18 students chose the correct solution, however, their solutions were not effective. 49 students did not choose the correct way to solve the problem and the answers received by them were incorrect. Moreover, 20 students did not make any judgements on this problematic solution.

In the third problem, the table suggests that only 12 students chose the effective way to solve the problem and explained the why they chose that method. Furthermore, the steps taken by these students while solving the problems are clearly stated in their answer sheets. 8 students chose the convenient way to solve the problem, however, did not explain why chose that solution. The solutions they chose can be clearly and completely seen in their answer sheets. 16 students chose a way to solve the problem, however, did not explain why chose to conduct that operation. Besides, they were able to partially obtain the correct answer while conducting these operations. 33 students did not choose the correct way to solve the problem and their answers did not have any signs of demonstrating the correct solution. It was observed that 23 students did not make any judgements about this problematic situation.

Examining all three problematic situations, 6.5% of the students scored 4 or 3 points; 21.7% of the students scored 2 points; 45.6% of the students had 1 point; and 19.5% scored 0.

3. *Producing Logical Arguments for the Solution*

Our third finding is related to the situation of producing logical arguments for the solution. The table below presents the analysis of students for that matter.

Table 3: Producing Logical Arguments for the Solution

Size of the problem	Score	Behavior of the Student	1.	2.	3.	f	%
			Problem	Problem	Problem		
Producing logical arguments for the solution	4	Student develops arguments, which are elaborated and express what he/she thinks in the best way. No logical errors are found in his/her arguments.	1	2	12	5	5.4
	3	Student expresses what he/she thinks in the best way, and develops elaborated arguments. No logical errors are found in his/her arguments.	9	2	6	6	6.5
	2	Student has proposed arguments related to the solution, however, they are not elaborated and do not express what	25	18	21	21	22.8

	he/she thinks. Some logical errors are found in his/her arguments.					
1	The arguments of the student are too abundant and not clear. They are invalid from a logical perspective.	47	50	28	42	45.6
0	Student cannot make any judgements.	10	20	25	18	19.5
Total		92	92	92	92	100

Analyzing the situations of students, who produced logical arguments about the solution, it is apparent that only 1 student scored 4 points for the first question. It is observed that this student developed an argument, which clearly stated his/her thoughts and had no logical errors. 9 students scored 3 points. These students properly expressed their thoughts, however, they did not elaborate their arguments. No logical errors were found in their arguments. 25 students produced arguments about the solution, which, however, were not elaborated. Some logical errors were found in some of their expressions. 47 students scored 1 point. The arguments these students produced were not clear, and thus were not found valid from a logical perspective. Moreover, 10 students did not make any judgements on the solution to the problem.

In the second problematic situation, 2 students obtained full score. These students expressed their thoughts and no logical errors were found in their arguments from a logical point of view. 2 students clearly expressed their thoughts and produced arguments without going into too much detail. No logical errors were found in the arguments they developed. 18 students produced arguments about the solution, however, these arguments were not elaborated and had logical errors. 50 students, meaning more than half of the class, did not produce clear arguments and their arguments were logically invalid. Whereas 20 students had no judgements about this question.

Analyzing the third problematic situation, it is observed that 12 students were successful. These students obtained full scores and developed arguments regarding the solution to the problem. Furthermore, the arguments they developed did not have any logical errors. 6 students clearly expressed their thoughts, however, did not deliver any elaborated arguments. 21 students indicated their thoughts, yet, did not elaborate them. Moreover, there were some logical errors in their expressions. 28 students formed sentences with too many arguments, most of which, however, were found incorrect. They established logically invalid arguments. Moreover, 25 students did not make any judgements on the solution to the problem.

It is also observed that only a small number of students developed logical and valid arguments about the solutions to all three problems. Examining the data based on the scores, 5.4% of the students scored 4; 6.5% of the students had 3 points; 22.8% of the students scored 2 points; 45.6% of the students had 1 point; and 19.5% scored 0.

3. Generalization

The table below presents the analysis of the generalizations made by the students for the problematic situations that they solved.

Table 4: Generalization

Size of the Problem	Score	Behavior of the Student	1. Problem	2. Problem	3. Problem	f	%

Mathematical Reasoning Skills of 7th Grade Students

Generalization	4	Student makes a valid generalization. Student clearly expresses the logic of this generalization.	2	2	12	5	5.4
	3	Student makes a valid generalization, however, he/she cannot clearly express the logic of the generalization.	9	2	6	6	6.5
	2	Student creates relations with a particular characteristic, however, he/she may not completely support this generalization.	26	17	20	21	22.8
	1	Student does not make a generalization; or student's generalization is not supported by the acknowledged characteristics.	45	51	29	42	45.6
	0	Student cannot make any judgements.	10	20	25	18	19.5
Total			92	92	92	92	100

The table suggests that for the first problematic situation, 2 students made a correct generalization and clearly expressed their generalizations. It is also observed that 9 students made a valid generalization, however, did not clearly explain the logic behind their generalizations. 26 students established a connection between a problem and an existing & known situation, which, however, did not support the generalization they made. Moreover, 45 students were unable to make a correct generalization, whereas; 10 students did not make any judgements.

Examining the table for the second problem, it is apparent that 2 students made a valid generalization and clearly expressed their generalizations. It is also observed that 2 students made a certain generalization, however, did not clearly indicate the logic behind their generalizations. 17 students attempted to make some generalizations, which, however, were not sufficient. 51 students failed to make a generalization. Furthermore; 20 students did not make any judgements on the problematic situation.

Examining the table for the third problem, it is visible that 12 students made a valid generalization and clearly expressed the logic behind generalizations. 6 students made some generalizations, but did not clearly indicate the logic behind their generalizations. 20 students associated the existing situations with their generalizations, which, still were not sufficient. 29 students failed to make a clear and complete generalization. Besides, 25 students did not make any judgements on this problematic solution.

Generally examining the data based on the scores obtained by the students, 5.4% of the students made a valid generalization. It is also observed that 6.5% of the students made a certain generalization, however, did not clearly indicate the logic behind their generalizations. 22.8% of the students failed to clearly establish the connection between the generalization and the existing situations. 45.6% of the students failed to make a generalization and to associate it with the known characteristics. 19.5% of the students did not make any judgements about this problematic situation.

3. *Determining and Using the Convenient Reasoning*

The table below displays the analysis of students' determining and using the convenient reasoning at the stage of problem solving.

Table 5: Determining and Using the Convenient Reasoning

Size of the Problem	Score	Behavior of the Student	1. Problem	2. Problem	3. Problem	f	%
Determining and using the convenient reasoning	4	Student gives the correct answer. The reasoning developed by the student is complete and clear; and reasoning is accurately used.	4	3	13	6	6.5
	3	Student gives the correct answer, however, the reasoning developed is neither complete nor clear.	6	0	6	4	4.3
	2	Student gives an incorrect answer and specifies the correct reasoning and attempts to use it, however, failed to complete it.	29	17	16	21	22.8
	1	Student gives an incorrect answer; and the reasoning developed is partially correct, which, however, can be only used for a part of the problem.	43	52	30	42	45.6
	0	Student cannot make any judgements.	10	20	27	19	20.6
Total			92	92	92	92	100

Regarding the students' determining and using the convenient reasoning for the first problematic situation, the table suggests that 4 students correctly solved the problem and the reasonings developed by them are accurate. 6 students scored 3 points. These students correctly answered the question, yet, the reasonings they developed were neither complete nor clear. 29 students scored 2 points. These students incorrectly solved the problem, however, delivered the correct reasoning. They used this reasoning, but failed to complete it. 43 students scored 1 point. These students incorrectly answered the question. They partially developed the correct reasoning, however, they applied it to only a part of the question rather than to the whole question. 10 students scored 0. These students did not make any judgement for the solution to the problem.

For the second problematic situation, 3 students scored 4 points. In other words, these students correctly answered the question. The reasonings these students developed were complete and clear, moreover; they succeeded to accurately use the reasoning. There were no students who had exactly 3 points. 17 students scored 2 points. Even though these students specified the correct reasoning, they were unable to completely apply the reasoning to the problem. 52 students scored 1 point. These students incorrectly answered the problem. They partially developed the correct reasoning, however, they applied it to only a part of the question. 20 students scored 0. These students did not make any judgement for the solution to the problem.

For the third problem, the table suggests that 13 students obtained 4 points. In other words, these students correctly answered the question. Moreover, they delivered a clear reasoning. 6 students scored 3 points. They correctly answered the question despite failing to develop a clear reasoning. 16 students scored 2 points. These students incorrectly answered the question. They specified their reasoning, however, they failed to apply it to the whole question. 30 students scored 1 point. These students incorrectly answered the question. The reasoning they delivered was incomplete and not applied to the whole question. 27 students scored 0. These students did not make any judgement for the solution to the problem. The data suggest that 6.5% of the students obtained 4 points; 4.3% of them scored 3 points; 22.8% of them had 2 points; 45.6% of them had 1 point; and 20.6% of them scored 0.

4. Discussion and Conclusion

Examining the students' solution to all three problems in terms their way of solving it and accuracy of their solution, the overall picture suggests that 7.6% of the students scored 4 points, in other words, they chose the convenient strategy to solve the problematic situation and clearly explained why they chose that strategy.

The students, who chose the appropriate strategy to obtain the solution, are those who scored 3 points. 4.3% of the students could not clearly explain why they chose that strategy to solve the problem. 22.8% of the students scored 2 points, in other words they chose the appropriate strategy to obtain the solution. 45.6% of the students scored 1 point, which means they used criteria that were irrelevant to the problematic situation, during decision-making. The students, who scored 0, did not make any judgements on the problematic situation. These students consist of 19.5% of the total. The overall picture suggest that students had a hard time and even failed to completely solve the problems. It is observed that they tried to solve the problems by focusing on incorrect criteria. They attempted to solve the problems by using the numbers, which were given in the problematic situation, in any four operations. Only a few students used their reasoning skills. Furthermore, only 7.6% of the students clearly explained why and how they solved the problem. This suggests that the students did not solve the problems through high level thinking and using their reasoning skills. We believe that the reason why students had difficulty with solving the problems is because they were not accustomed to this type of problems. In general, they failed to solve the problems.

Three problematic situations were examined at the stage of solving non-routine problematic situations. 6.5% of the students scored 4 points, in other words they chose the most effective solution to the problem and clearly explained why he/she chose that solution instead of choosing another method. Moreover, these students fully completed the problem solving process. 6.5% of the students scored 3 points, in other words they chose the most effective solution to the problem yet failed to clearly express why he/she chose that solution. Still, these students fully completed the problem solving process. Students receive 2 points when they choose the correct way to solve the problem, however, this way happens to be not the most effective one. In the process of problem solving, 21.7% of the students' solutions to the problems were partially indicative of the correct answer.

The students, who scored 1 point, were unable to choose the correct way to solve the problem. The students, whose answers did not demonstrate the correct way to solve the problem, refer to 45.6% of the total. The students, who did not make any judgements, scored 0. These students refer to 19.5% of the total. This suggests that these students were unsuccessful at solving the problems. The student group could not succeed at solving non-routine problems. It is observed that as the literature suggests the students were not very successful at solving non-routine problems. However, the students, who received certain trainings, were successful at solving such problems (Pilten 2008, Erdem 2011, and Erdem 2015).

The findings of the stage of developing logical arguments for solution suggest that only a small number of students developed logical and valid arguments about the solutions to all three problems. Examining the data based on the scores of students, it is apparent that 5.4% of them obtained 4 points, in other words, they developed elaborated arguments, which expressed their thoughts in the best way and had no logical errors. Furthermore, 6.5% of the students obtained 3 points, in other words, they developed arguments, which expressed their thoughts in a proper

manner and had no logical errors but were not elaborated enough. The students, who scored 2 points, proposed arguments related to the solution and question, however, they were not elaborated and did not express what he/she thought. 22.8% of the students made some logical errors in their arguments. The arguments delivered by the students, who scored 1 point, were not clear and invalid from a logical perspective. These students consist of 45.6% of the total. Moreover, the students who scored 0 refers to 19.5% of the total, which almost equals to one fifth of the class. These students did not make any judgement for the solution to the problem. The scores of the students suggest that they could not deliver logical arguments, which expressed their thoughts.

Examining the students based on their generalizations, 5.4% of the students scored 4 points. These students developed a valid generalization at this phase. Furthermore, they clearly expressed the logic behind their generalizations. 6.5% of the students scored 3 points. At this phase, students delivered a valid generalization, however, did not clearly indicate the logic behind their generalizations. 22.8% of the students scored 2 points. In this phase, the students create relations with particular characteristic, however, they may not completely support this generalization. 45.6% of the students scored 1 point. In this phase, students do not make a generalization; or students' generalization are not supported by the acknowledged characteristics. 19.5% of the students scored 0. These students did not make any judgements on the problematic situation. The results suggest that at the generalization phase, the majority of the students failed to make an effective generalization. These students could not support their existing knowledge with different information.

In the phase of determining and using the convenient reasoning, 6.5% of the students scored 4 points. These students correctly answered the problem. The reasonings developed by these students are complete and clear; and reasoning is accurately used. 4.3% of the students scored 3 points. These students correctly answered the question, however, the reasonings they developed were neither complete nor clear. 22.8% of the students scored 2 points. The students in this group gave an incorrect answer and specified the correct reasoning and attempts to use the reasoning, however, failed to complete it. 45.6% of the students scored 1 point. These students incorrectly solved the problem. The reasoning they developed for solving the problem is partially correct, yet, could be only used for a part of the problem. 20.6% of the students scored 0. These students did not make any judgement for the solution to the problem.

Mevarech & Fridkin (2006), Çimen 2008, Pilten (2008), Erdem (2011), Tıraşoğlu (2013) and Erdem (2015) argue that teaching based on metacognition improves mathematical reasoning. It is believed that students' mathematical reasoning could be improved through such teaching methods.

Blakey and Spence (1990) discuss that it is possible to discover what students know and do not know through delivering teachings, which increase metacognition and process mathematical reasoning. Moreover, thanks to this method, students could easily express their opinions, and they could be provided with settings, where they can question thinking processes and evaluate themselves. In this study, it is determined that students are not able to easily express what they think and do not conduct reasoning to a sufficient extent.

In the research carried out by Marzano and Heflebower (2011), they enabled the students to formally and informally conduct activities, in which the students had to use their reasoning skills. The results demonstrated that at the end of their training, the students obtain 4 points, which refers to the highest score. Moreover, they scored only 3 points when they did not receive any training.

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Investigation of The Relationship of Metacognitive Awareness and Learningmotivations of Secondary School Students to Their Science Achievement

Esma Buluş Kirikkaya, Gülşah Bali

Introduction

The concept of metacognition comes from the the root of "Meta", meaning beyond and was essentially introduced into literature by Flavell in 1979. Flavel conducted a study on children's advanced memory capabilities in 1979 and put forth the concept of Metamemory. Later, he added the Concept of Metacognition to this study and expended his theory; however, the Concept of Metacognition can be represented in the literature of our country with various expressions such as knowledge of cognition, metacognitive knowledge, executive cognition, method of using knowledge and cognitive awareness. (In this study, the expression of metacognition is preferred.)

In the most general sense, metacognition means an individual's being aware of their own thinking processes while performing an action, planning these processes, organizing their thoughts about what they have planned and evaluating the results. Metacognition is thinking about thinking and an individual's knowledge of what they know or do not know, that is to say; one's awareness of their own views, strategies and emotions and how these affect the others (Ersözölü, 2006).

The concept of metacognition is generally confused with cognition and even perceived as a synonym of it. However, there is a clear distinction between them despite being related. Metacognition is about the awareness of cognition and the ability to use it according to the circumstances (Brown, 1980). In other words; cognition is the awareness and comprehension of something, whereas metacognition is the knowledge of how it is learnt in addition to learning and understanding something. While cognition involves the concepts such as perception, comprehension and recall, cognitive awareness involves one's thought about their self-perception, comprehension and recall (Papaleontiou & Louca, 2003).

Baird et al. (1991), consider metacognition as an individual's purposive decision making on the knowledge of their learning, effective learning strategies and the strength and weakness of their learning apart from learning being aware of what they are doing and why they are doing it and their current learning process and nature (Ersözölü, 2006).

Metacognitive awareness is the state of an individual having knowledge about their own metacognitive knowledge and strategies. Flavell (1987) defines metacognitive awareness as thinking about thinking. According to Wilson (1999), metacognitive awareness represents "Awareness of individuals in their learning processes, their knowledge about content knowledge, their personal learning strategies, and what has been done and what is needed to be done.

The Concept of Cognitive Awareness is occasionally confused with the concept of metacognitive awareness. It is the knowledge of an individual about their own cognitive system, structure and working, which has an equivalent meaning to the concept of metacognition. In the literature, the concept of metacognition is often used instead of the concept of cognitive awareness. On the other hand, metacognitive awareness is the knowledge of an individual about their own metacognitive system. The perceptions of an individual on how and in what level their own metacognitive knowledge and metacognitive control processes are exhibit their

metacognitive awareness. For example; an individual can claim that his metacognitive knowledge level is high; however, his metacognitive control level is low. This is related to the individual's own metacognitive awareness (Heppner et al., 2004).

In this study, whether secondary school students' metacognitive awareness and learning motivations varied by gender and grade level and whether there was a significant relationship between their science achievement and their learning motivations and metacognitive awareness were investigated. For this purpose, the answers to the following questions were searched for:

1. Do the metacognitive awareness levels of secondary school students and their science learning motivations vary by gender?
2. Do the metacognitive awareness levels of the students and their science learning motivations vary by grade level?
3. Is there a significant relationship between the metacognitive awareness and learning motivations of the students and their science achievements?

Method

In this study, whether students' metacognitive awareness and learning motivations varied by gender and grade level and whether there was a significant relationship between their science achievement and their learning motivations and metacognitive awareness were investigated. For this reason, the relational screening model was used in the study. Screening models is a research approach which describes a past or present situation as it is in its own circumstances without changing it. The relational screening model is a research model that helps to determine whether there is a relationship between two or more variables and the level of it if there is (Karasar, 2007).

Population and Sample

The population of the study consisted of all the 5th, 6th, 7th and 8th grade students studying in schools in the county town of Kelkit in the province of Gümüşhane. Examining the primary and secondary schools located in the town of Kelkit in the province of Gümüşhane, it was determined that there were 9 schools affiliated with the county town. Due to the small number schools, all of these schools were included in the study. Thus, it was aimed to build a general opinion about the county town with the results obtained. 15 randomly selected students were included in the sample for each grade level out of each of the 5th, 6th, 7th and 8th grades in the schools included in the study. Thus, the sample of the study was composed by a total of 540 students studying in the specified schools in the spring term of 2014.

Data Collection Tools

Metacognitive Awareness Inventory for Children

For this study, metacognitive awareness inventories used in academic studies were examined and it was determined that the Metacognitive Awareness Inventory for Children was the most appropriate inventory for the purpose of the study among the inventories appealing to the age group of our study. The Metacognitive Awareness Inventory (Jr-MAI), which was used in the study, was developed by Sperling, Howard, Miller and Murphy (2002) and adapted into Turkish

and the validity and reliability study was conducted by Sema KARAKELLE and Seda SARAÇ in 2007. Form A of this inventory used for the 3rd, 4th and 5th grades is a 12-item three-point Likert-type scale. The answer choices are as follows; 1- Never, 2- Sometimes, 3- Always. The lowest score to be obtained from this scale is 12 and the highest score is 36. The Jr-MAI Form A does not have any negative expressions. The Cronbach-alpha reliability value of Form A of the scale was found as .64. Form B used for the 6th, 7th, 8th and 9th grades consists of 18 items. The lowest score to be obtained from this scale is 18 and the highest score is 90. The scale is a five-point Likert type including the choices of; 1- Never, 2- Rarely, 3- Sometimes, 4- Often and 5- Always. The Jr-MAI Form B does not have any negative expressions. The Cronbach-alpha reliability value of Form B of the scale was found as .80 (Karakelle & Saraç, 2007). The Cronbach-alpha reliability was calculated again for this sampling of study, It is found .85.

The Science Learning Motivation Scale

The Science Learning Motivation Scale was applied to determine the motivations of students towards science learning. The Science Learning Motivation Scale, which was used in the study, was developed by Tuan, Chin & Shieh (2005) and adapted into Turkish and the validity and reliability study was conducted by Hülya YILMAZ and Pınar HUYUGÜZEL ÇAVAŞ in 2007. The scale consists of 33 items of 5-point Likert type. The answer choices are as follows: 1- I certainly disagree, 2- I disagree, 3- I am neutral, 4- I agree and 5- I certainly agree. The Cronbach-alpha reliability coefficient of the scale was found as .87 (Yılmaz & Huyugüzel Cavaş, 2007). The Cronbach-alpha reliability was calculated again for this sampling of study, It is found .91.

Findings

In this section, the findings obtained on the basis of the research questions are presented. Whether the metacognitive awareness levels of secondary school students and their science learning motivations varied significantly by gender, which was the first research question, was analyzed with the t test and the results are placed in Table 1.

1. The t test results of the change of the students' metacognitive awareness levels and science learning motivations by gender.

	Gender	N	$\bar{x}$	S	sd	t	p
metacognitive awareness	F	331	3,61	,78	666	1,40	,16
	M	337	3,53	,74			
science learning motivation	F	331	3,86	,65	666	2,07	,039*
	M	337	3,76	,62			

*p<.05

Examining Table 1, it is seen that the metacognitive awareness of the students do not vary by gender, whereas their science learning motivations show a significant difference in favor of female students.

Whether the metacognitive awareness levels of secondary school students and their science learning motivations varied by grade level, which was the second research question, was investigated and analyzed with the Anova test and the results are shown in Table 2. The differences between the groups were analyzed with the Tukey test.

Grade Level	Metacognitive Awareness			Science Learning Motivation	
	N	$\bar{x}$	S	$\bar{x}$	S
5	135	2,58	,26	4,03	,61
6	135	3,83	,56	3,68	,64

7	135	3,92	,53	3,80	,64
8	135	3,89	,63	3,72	,61
Total	540	3,57	,75	3,81	64

Table 2. The Anova test results of the change of the students' metacognitive awareness levels and science learning motivations by grade level.

	Varyansın Kaynağı	Kareler Toplamı	sd	Kareler Ortalaması	F	p	Anlamlı fark
metacognitive awareness	Gruplararası	206,49	3	68,832	256,24	.00**	5-6, 5-7, 5-8
	Gruplariçi	178,36	664	,269			
	Toplam	384,85	667				
science learning motivation	Gruplararası	10,80	3	3,60	9,06	.00**	5-6, 5-7, 5-8
	Gruplariçi	263,80	664	,397			
	Toplam	274,60	667				

**p<.001

According to the results shown in Table 2, the metacognitive awareness levels of the students and their science learning motivations vary significantly by grade level.

Whether there was a relationship between the metacognitive awareness and science learning motivations of the students and their science achievements, which was the third research question, was found using the Pearson Correlation and is shown in Table 3. Before the production of this statistics, the One-Sample Kolmogorov-Smirnov Test was applied to determine the conformity of the data to normal distribution and it was seen that the answers of the tests where both the metacognitive awareness levels and science learning motivations of the students were measured showed a normal distribution.

Table 3. The Pearson Correlation results of the relationship between the metacognitive awareness and science learning motivations of the students and their science achievements.

	metacognitive awareness	science achievement	science learning motivation
metacognitive awareness			,160** ,000
science learning motivation		,423** ,000	
science achievement	,188** ,000		

**Correlation is significant at the 0.01 level (2-tailed).

Examining Table 3, it was seen that there was significant and positive but in low level relationship between the metacognitive awareness of the students and their science learning motivations and science achievements. This situation can be interpreted as the science learning motivations and science achievements of the students increase as their metacognitive awareness increases. Also It was found significant and positive but in low level a relationship between science learning motivation and science achievement.

Results and Discussion

According to the results of this study, the metacognitive awareness of the students does not vary by gender, whereas their science learning motivations show a significant difference in favor of female students. The main purpose of the investigation of gender variable is to see whether the consequences of inequality created by gender in terms of access to the meanings and opportunities assigned to boys by our society in particular are effective in this study.

In a study Topçu and Yılmaz-Tüzün (2009) conducted on primary school students, the metacognitive awareness of girls was found to be higher than that of boys. However, there is a great deal of studies where gender does not create a difference in the literature (Dilci & Kaya, 2012).

The metacognitive awareness levels of the students and their science learning motivations vary significantly by grade level according to other important result of this study. This result is consistent with other science learning motivations studies conducted by Çavaş, 2011, Singh et al., 2002. Topçu. and Yılmaz-Tüzün, Ö. (2009)' study revealed that elementary school students' science achievement was related to their metacognition.

it is found that there is a positive relationship between the metacognitive awareness of the students and their science learning motivations and science achievements but in low level. This situation can be interpreted as the science learning motivations and science achievements of the students increase as their metacognitive awareness increases. According to Bağçeci et. al, 2011, metacognitive awareness was the positive predictor of academic success. Kruger and Dunning (1999) drew attention to the importance of learning concerning metacognition being a powerful predictor of academic success. Students with strong metacognitive awareness have more performance and think more strategically than students with weak metacognitive awareness . (Coutinho, 2008).

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The Application of the Course Music Education by the Graduates of Pre-School Education Department at Pre-School Institutions

Tuğba Çağlak, İlay Bilge Denktaş

1. Introduction

Education is a lifelong process. According to Tezcan (1985, p. 4), education the sum of processes in which an individual develops his/her skills, attitudes and other behaviors of positive value in the society he/she lives in. According to Uçan's (2005, p. 30) definition, music education, which exists in the extensive setting of education, 'is the process of purposefully instilling an individual certain musical behaviors through his/her own life, the process of purposefully creating certain changes in an individual's musical behavior through his/her own life, or the process of an individual's purposefully changing or developing musical behavior through his/her own life.'

Music education plays a very important role in an individual's social, cognitive, affective, kinesthetic developments and language achievement. At the same time, music is one of the method an individual uses to express him/herself. In the light of both its impact on the individual and its relation to other fields of science, music education is considered to be a highly important process. Human beings' experience with music starts in the womb and the process of music education starts from the moment of birth. The period until the starting age for compulsory education is considered to be pre-school education.

As stated by the Ministry of Education, 'the article 19 of the Turkish Basic National Education Law no. 1739, while defining pre-school education as the education of children who are not at the age of compulsory education, mentions that this education is compulsory'. According to Oğuzkan (1981, p. 109), pre-school education is the education applied by parents and some institutions to help children with their physical, emotional and social developments from birth until the age of compulsory education while taking their individual differences and skills into consideration.'

The purpose of pre-school music education is to help children with their emotional, cognitive language and psychomotor developments, to enable them to express themselves freely with musical elements such as rhythm and songs and to introduce the musical culture. With a quality and informed music education, a child can learn the concept of unity by being part of a group, resulting in an increase in self-confidence. Çetinkaya (2010, p. 27) argues that 'the tongue twisters and musical children's games taught during the course of music education contributes to the development of language skills, ear-training, rhythm training, and musical development.'

Music education in the pre-school period does not only consist of singing; music education aids in the acquisition of desired behaviors with regard to their levels of development. The activities to be done in this process should be supportive. In order to do all this, in pre-school educational institutions, there is a need for educators with extensive music training.

In Gazi University Faculty of Education Pre-school Education undergraduate programs, music education is a 3 credit required course taken in 5th and 6th semesters as Music Education-I / Music Education- II. The learning outcomes of Music Education-I in Gazi University's Information Package (2015) are: the role and importance of music in a child's development; basics of music; breathing and voice exercises; rhythm and solfege (note reading) exercises; techniques of singing and using one's own voice properly; methods of song selection; methods of teaching songs; building an extensive knowledge of children's songs; accompanying instrument. The course content prepared in this respect is presented in Table.1.

Table.1 Music Education-I course content

1. Week	The role and importance of music in the development of the child
2. Week	The effects of music the child's areas of development
3. Week	The development of musical behaviors in accordance with age in the pre-school period
4. Week	Basics of music
5. Week	The protection and use of voice
6. Week	Breathing and Voice exercises
7. Week	The proper use of voice
8. Week	MID-TERM EXAM
9. Week	Rhythm exercises
10. Week	Solfege exercises
11. Week	Proper singing techniques
12. Week	Pre-school song selection and song teaching methods
13. Week	Building a knowledge of children's songs
14. Week	Accompanying instrument (Recorder, Melodica, Organ, Guitar, etc.)
15. Week	Introduction to Orff instruments and accompaniment exercises
16. Week	FINAL EXAM

The learning outcomes of Music Education-II course shown in Gazi University's Information Package (2015) are: the relationship between children and music; the importance of pre-school music education; the musical development and skills of a child in the 0-6 age group; different approaches to pre-school music education; accompanying instrument, pre-school instrument design and use; the development of musical skills in the child; musical dramatization exercises; creative movement and dance exercises. The course content prepared in this respect is presented in Table.2.

The Application of the Course Music Education

Table.2 Music Education-II course content

1. Week	The relationship between children and music
2. Week	The importance of pre-school music education
3. Week	The musical development and skills of a child in the 0-6 age group
4. Week	Different approaches to pre-school music education
5. Week	Different approaches to pre-school music education
6. Week	Accompanying instrument (Recorder, Melodica, Organ, Guitar, etc.)
7. Week	MID-TERM EXAM
8. Week	Accompanying instrument (Recorder, Melodica, Organ, Guitar, etc.)
9. Week	Pre-school instrument design
10. Week	Pre-school instrument design
11. Week	Building children's taste for music (the education of taste)
12. Week	Building children's taste for music (the education of taste)
13. Week	Musical dramatization exercises
14. Week	Musical dramatization exercises
15. Week	Creative Movements and Dance
16. Week	FINAL EXAM

The problem status of our research consists of the course content of music education in the pre-school education undergraduate programs in Turkish faculties of education and the application status of music education in institutions where teachers work in line with this content.

In this direction, the course contents of music education courses in Gazi University Faculty of Education Department of Pre-school Education will be analyzed and the results will be interpreted by contacting Gazi University Faculty of Education Department of Pre-school Education alumni with at least 2 years of experience in the field and by applying a semi-structured interview form.

2. Method

In this section, there will be information presented about the population and sample of the research, measurement devices, data collection and analysis of the data.

2.1. Research Model

In this research, to question the requirements of the music courses the pre-school teachers took during their undergraduate studies, a semi-structured interview for was applied to the teachers. Therefore, this research has the characteristics of a qualitative research. Since this study aims

to analyze the course content and uncover the present situation, survey method was used as well.

2.2. Data Collection Techniques

The data of this research were collected by applying a semi-structured interview form to 6 Gazi University Faculty of Education Department of Pre-school Education alumni with at least 2 years of teaching experience in the field. The interviews were done off-campus and with appointments. In a semi-structured interview (interview form approach), the topics to be discussed are determined in advance. The purpose of the form in a semi-structured interview is to ensure that all the aspects of the problem is in the scope. In a semi-structured interview, issues or questions do not have to be sorted. The researcher can ask additional questions if necessary (Akbiyık, 2014). The application of semi-structured interview was required for the researcher to be able to ask additional questions during the interview where he/she sees fit to conduct a more detailed research.

2.3. Data Collection and Analysis

In the research, the semi-structured interview forms were interpreted with regard to the questions. Though not excessive, figures are used in this research. "Qualitative research is not absolutely against digitization. However, it accepts that digitization is not a stand-alone data analysis and presentation technique. Besides using simple descriptive statistics, qualitative researchers prioritize reflecting the opinions of the highly selected participants and describing events and phenomena in their respective settings." (Yıldırım and Şimşek, 2013).

3. Findings and Interpretations

In this section of our research, the answers given by the graduates from the department of pre-school education on the semi-structured interview which was applied in relation to their application status of their previous music education in pre-school institutions will be interpreted.

3.1. Have you ever taken any music education courses during your undergraduate studies?

All the participants (100%) stated that they had taken the music education course included in their undergraduate curriculum.

3.2. Have you ever played any instruments in the music courses you took during your undergraduate studies?

Of all the participating graduates from the department of pre-school education 4 participants (66.4%) stated that they played an instrument in the music courses they took during their undergraduate studies, whereas 2 participants (33.2%) stated that they did not play any instruments.

One of the most important branches of music education is instrument education and it is very important for every child. The received music education in pre-school, no matter what this instrument, children should touch an instrument, produce sound and try to make music.

Therefore, even if the level of as starter of pre-school teachers are required to have one or more than one instrument is playing.

3.3. If your answer to the above question is 'yes', what instrument did you play?

Of the 4 participants (66.4%) who stated that they played an instrument in the music courses they took during their undergraduate studies, 3 participants (49.8%) said they took flute lessons, 1 participant (16.6%) said that he/she took organ lessons.

3.4. Do you use this instrument in the institution where you actively work?

While the 3 participants (49.8%) - among the 4 participants (66.4%) who stated that they played an instrument in the music courses they took during their undergraduate studies - stated that they did not use their instrument actively, that 1 participant who took organ lessons (16.6%) still played the flute actively.

3.5. Can the institution where you currently work provide its students with instrument lessons?

The 4 participants (66.4%) who stated that they played an instrument in the music courses they took during their undergraduate studies noted that they could not teach their students how to play the instruments they played in their respective pre-school institutions.

Instrument training covers a very important process. It requires patience and motivation. In preschool, the scope of instrument education, at the beginning of behavior need to be gained acclaim education income in children education. Even if the children body skills have not reached the level to play instrument, have an idea; what it is, how it is played, where to use it in a song. In addition, owing to instrument, musical taste is achieved. Therefore, instruments, one of the most important pieces of early music education.

3.6. During your undergraduate studies or after your graduation have you ever attended any music education related seminar?

While 2 (33.2%) of all the participants stated that they did, 4 (66.4%) participants stated otherwise.

Pre-school department music education courses is located only 2 periods during the license period, so the musical work may not be enough. University inside or outside the university, especially the many seminars for preschool teachers. Music applications with Orff approach to preschool, comes at the beginning of the seminars.

According to Gürgen (2006), Orff-Schulwerk, in general, have been functionalized in the field of pre-school and primary education; developed by composer Carl Orff and dancer Gunid Keeter; integrates music, movement and speech / audio element in music education. Therefore, each pre-school educators should participate in such seminars or self-improvement.

3.7. If your answer to the above question is 'yes', what did you learn from this seminar?

In our research 1 (16.6%) of the 2 participants (33.2%) who answered 'yes' stated that the seminar taught about in-class creative dance and rhythm exercises, that the seminar was very helpful, and that they were easy to apply in class. The other participant (16.6%) stated that the seminar helped develop a wider repertoire.

3.8. Could you please talk about the methods and techniques you use in your pre-school education music courses?

Of the participants who answered the interview questions, 2 participants (33.2%) stated that they only listened to children's songs in pre-school music courses; 1 participant stated that (16.6%) they sang songs aimed at concept learning; 1 participant (16.6%) said that they prepared a different activity every day and that they danced and listened to music during the activity; 1 participant (16.6%) said that they did exercises aimed at familiarizing with sounds in which the sounds of the flute were imitated by the children; the last participant (16.6%) said that they did exercises on playing the organ with both hands, that they applied the rhythm exercises on accompanied songs and that they used the solfege and bona techniques.

4. Findings

The following results were obtained in this research:

- There are music courses in pre-school teachers' undergraduate curriculum. But there were problems with teaching and information transfer.
- It has been confirmed that teachers use different instruments in music courses and that they do not have confidence in their musical knowledge.
- Although music plays an important role during pre-school education, we observed that teachers did not take it seriously enough.
- We have observed that the pre-school teachers who played the flute did not use it actively in their professional lives.

5. Discussion and Suggestions

Pre-school education is the most important education process with respect to children's cognitive, affective and psychomotor developments. Music education has an undisputed effect on these development processes. In the even that undergraduate pre-school programs adopt more a intensive and effective approach to music education courses, it is possible for teachers to be able to feel more able to give children the education they deserve. Because, unfortunately, there is not a music teachers in every pre-school institution.

Preschool teachers are responsible for the proper progress of music courses. Therefore, there should be more music courses in the undergraduate pre-school programs and the course content should be altered. Academic staff must care more about their courses and put more effort into providing the pre-service teachers with extensive knowledge.

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Ad. 1. Interview Form**The Application of the Course Music Education by the Graduates of Pre-School Education Department at Pre-School Institutions**

Dear educationist,

The problem status of our research consists of the course content of music education in the pre-school education undergraduate programs in Turkish faculties of education and the application status of music education in institutions where teachers work in line with this content. In this direction, the course contents of music education courses in Gazi University Faculty of Education Department of Pre-school Education will be analyzed and the results will be interpreted by contacting Gazi University Faculty of Education Department of Pre-school Education alumni with at least 2 years of experience in the field and by applying a semi-structured interview form.

Your responses to the interview questions will remain confidential, proprietary information belonging to you the results of the study will not be shared. This study is based on a completely voluntary basis. Thank you for your attention and time you reserve.

Instructor İlay Bilge DENKTAŞ
Research Assistant Tuğba ÇAĞLAK

Personel questions:

- 1) What is the name of university the you graduated?
- 2) What is the name of institution that you still work?
- 3) What is your education status?
 - () License Degree
 - () Master Degree
 - () Phd
- 4) How many years you work in a pre-school institutions?
 - () less than 1 year
 - () 1-5 years
 - () 6-9 yearsl
 - () 10 years and more
- 5) Have you ever taken any music education courses during your undergraduate studies?
 - () Yes
 - () No

Questions about music education:

- 6) Have you ever played any instruments in the music courses you took during your undergraduate studies?
- ☐ Yes
☐ No
- 7) If your answer to the above question is 'yes', what instrument did you play?
- 8) Do you use this instrument in the institution where you actively work?
- ☐ Yes
☐ No
- 9) Can the institution where you currently work provide its students with instrument lessons?
- ☐ Yes
☐ No
- 10) During your undergraduate studies or after your graduation have you ever attended any music education related seminar?
- ☐ Yes
☐ No
- 11) If your answer to the above question is 'yes', what did you learn from this seminar?
- 12) Could you please talk about the methods and techniques you use in your pre-school education music courses

Evaluation in the Context of Constructivism of Learning Environments According to Primary School Teacher Candidates

Tuncay Canbulat, Cigdem Senyigit, Fatma Erdogan, Ayse Yesiloglu

1. Introduction

Although there is no learning approach that describes learning conditions (Senemoğlu, 2005), many theories were developed that try to nature and results of learning. In developed constructivist learning environment students learn by thinking, researching, imaging and solving problems (Ersoy and Kaya, 2009). Although aimed targets have a structure to compansate the requirements of era, the datas obtained at the end of process show that the aims could not be reached as it was desired (Başbay, 2006; Organisation for Economic Co-operation and Development [OECD], 2006).

Turkey has sometimes changed systems in parallel to the developments in the world in order to become a scientific society that can produce and disseminate information. As education programme changes are examined, it is seen that until education programme in 1948 programmes were put on each other with development efforts, evolved to student centered way and especially in 1968 programme there gained an important speed in that way. However 2005 programme became rather different from these two programmes, a period in which learning and educating were directed by constructivist paradigm and the knowledge was provided to be configured by student depending on experiential learning during education (Aykaç, 2011). In researches done after changes although there reached positive results regarding constructivist approach, there are also many criticisms: Aykaç (2007a) expresses that the reason of not reflecting new methods and techniques to education period as it was demanded is the effect of teachers being unequipped about active education method and techniques. Again; Özpolat, Sezer, İşgör and Sezer (2007) in his research found out that education methods in 2005 education programme were not totally known by teachers. Aykaç (2007b) and Yanpar (2005) in their study pointed out that some difficulties were encountered in transferring knowledge into life since applicative activities were not give place sufficiently in 2005 education programmes although they were prepared by basing on constructivist approach.

In researches done after five years passing to conductivist approach, it was reported that similar problems still continues: According to the result of the research of Karadüz (2010), it was obtained that learning environments of secondary school Turkish lesson continues with behavioral approach in many ways. In the research done by Çiftçi, Sünbül and Köksal (2013), he showed that most of class teachers have negative attitudes towards programme whereas new teachers in the field perform it better. Kurtdele Fidan and Duman (2014) in his researches reached the conclusion that class teachers consider themselves equipped enough for constructivist approach however according to observation results it was obtained that they do not have enough qualifications for constructivist approach. Şahin (2014) in his research about training period of teacher candidates, stated that 43% of teacher candidate participants were educated as “traditional” (teacher centered, unqualified, passive-silent) teachers.

Besides these researches, Organisation for Economic Co-operation and Development (OECD) the research results of 2006, 2009 and 2012 International Student Evaluation Programme (PISA) are important for indicating if Turkey is not at demanded level in terms of learning-educating quality (OECD, 2006, 2010 and 2013).

The researches done show that the educated teachers are insufficient to compansate learning-education demands. The researchers state that constructivist learning condition can be configured by the help of feedbacks coming from application area and their insufficiencies can be compansated (Fer and Cırık, 2006; Arkün and Aşkar, 2010). The repetition of researches

with specific periods is important in collecting healthy datas regarding the functioning of system. This study is also thought to be important in giving information about the functioning of constructivist learning that has been applied until 2005-2006 academic year. In this scope this research identified the question “What are the opinions of teacher candidates in evaluation of constructivist learning environments (undergraduate education and schoool experience with teaching application periods)?” as a problem sentence. Sub problems based on problem sentence were presented in findings and comments section.

2. Method

The research was designed with its original form by descriptive scanning modal (Karasar, 2013).

Class teacher candidates educating in 3rd and 4th grades of Education Faculties in Ege region formed the population of research. 480 teacher candidates that were obtained from population by sampling formed the sampling of research.

3. The Data Collecting Tools

In collection of datas “Personal Information Form” that was developed by researcher and “Constructivist Learning Environment Scale (Teacher and Student Form)” that was developed by Tenenbaum, Naidu, Jegede and Austin (2001) and adapted to Turkish by Fer and Cırık (2006), were used. Both teacher and student form of scale were filled by teacher candidates. By using Constructivist Learning Environment Scale that involves 30 items in 5-point likert type, teacher candidates were asked questions regarding the school they are educating and the schools they are going for teaching training. As the analyses were made over the total of scale, the point that was supposed to get is between 30-150. Cronbach Alpha (α) value was calculated as 0.95 in teacher form and 0.91 in student form. In the scope of this research for the total of scale Cronbach Alpha (α) value was recalculated again and it was found 0.97 in teacher form and 0.96 in student form.

4.Data Analyzing

In analysis of datas SPSS 23.0 programme was used. In analysis of datas arithmetical mean, standard deviation, (Independent Samples T-Test), (One-way ANOVA), Kruskal- Wallis test and Mann-Whitney U test were used.

5. Findings

Findings and Comments Regarding First Sub Problem

The first sub problem of research was identified as “At what level are the opinions of teacher candidates about university learning environments?”

As datas were examined, it can be said that teacher candidates gave an answer as “Very” to 15th item “We did lessons by giving suitable examples to our subject” that has the highest point average ($\bar{X} = 3.61$) whereas they answered as “Partially” to 7th item “Lessons confused my mind” that has the lowest point average ($\bar{X} = 2.62$). It can also be said that the opinions of teacher candidates regarding university learning environments is “Partially” level ($\bar{X} = 3.31$).

Findings and Comments Regarding Second Sub Problem

The second sub problem of research was identified as “Do the opinions of teacher candidates regarding university learning environments show a significant difference according to their genders?”

Table 1. Independent Samples t Test Results According to Gender

Gender	n	$\bar{X}$	S	sd	t	p
Female	341	98.90	21.10	478	-.586	.558
Male	139	100.10	18.40			

As Table 1 is examined it was seen that the opinions of teacher candidates regarding university learning environments do not show significant difference according to their genders [$t_{(478)} = -.586$, $p > .05$]. According to this, it can be said that the genders of teachers do not have significant effect on their opinions regarding university learning environments.

Findings and Comments Regarding Third Sub Problem

The third sub problem of research was identified as “Do the opinions of teacher candidates regarding university learning environments show a significant difference according to class level?”.

Table 2. Independent Samples t Test Results According to Class Level

Class Level	n	$\bar{X}$	S	sd	t	p
3rd Grade	234	102.11	19.88	478	3.033	.003*
4th Grade	246	96.52	20.45			

* $p < .05$

As Table 2 is examined it was seen that the opinions of teacher candidates regarding university learning environments show significant difference according to class level [$t_{(478)} = 3.033$, $p < .05$]. According to this, the average point of 3rd grade teacher candidate regarding university learning conditions was found significantly high ($\bar{X} = 102.11$) than the average points of 4th grade teacher candidates ($\bar{X} = 96.52$).

Findings and Comments Regarding Fourth Sub Problem

The fourth sub problem of research was identified as “Do the opinions of teacher candidates regarding university learning environments show a significant difference according to academic success?”. In this direction the opinions of teacher candidates regarding university learning environments were examined in three groups according to their general academic success (0.00-2.00, 2.01-3.00, 3.01-4.00).

Table 3. One-Way ANOVA Results According to General Academic Success

The source of variance	Sum of Squares	Sd	Mean Square	F	p
Between Groups	714.627	2	357.313	.863	.423
Within Groups	197544.9	477	414.140		
Total	198259.5	479			

As Table 3 is examined it was seen that the opinions of teacher candidates regarding university learning environments do not show significant difference according to general academic success [$F_{(2-477)} = .863$, $p > .05$]. According to this, it can be said that the average of general success of teachers do not have significant effect on their opinions regarding university learning environments.

Findings and Comments Regarding Fifth Sub Problem

The fifth sub problem of research was identified as “Do the opinions of teacher candidates regarding university learning environments show a significant difference according to the university they are educating in?”.

Table 4. Kruskal-Wallis Test Results According to University

The University Studying	n	Mean Rank	sd	χ^2	p	Significant Difference
1) Dokuz Eylül University	183	184.66	5	64.647	.000*	2-1, 3-1 4-1, 5-1 4-2, 4-5 4-6, 3-6
2) Ege University	68	261.07				
3) Adnan Menderes University	34	312.81				
4) Pamukkale University	73	316.27				
5) Afyon Kocatepe University	81	260.41				
6) Uşak University	41	221.40				

* $p < .05$

As Table 4 is examined it was seen that the opinions of teacher candidates regarding university learning environments show significant difference according to university [$\chi^2_{(5)} = 64.647$, $p < .05$]. As a result of multiple comparisons made by Mann-Whitney U test this significant difference is between Pamukkale University and Dokuz Eylül University, Ege University, Afyon Kocatepe University and Uşak University, Adnan Menderes University and Dokuz Eylül University, Uşak University and lastly Ege University, Afyon Kocatepe University with Dokuz Eylül University in favour of ones having high points significant differences were obtained.

Findings and Comments Regarding Sixth Sub Problem

The sixth sub problem of research was identified as “At what level do the opinions of teacher candidates regarding primary school learning environments are?” and arithmetical mean and standard deviation of each item were calculated. As findings were examined, it can be said that teacher candidates gave an answer as “Very” to 30th item “The lessons were done by enriching with examples” that has the highest point average ($\bar{X} = 3.52$) whereas they answered as “Partially” to 7th item “Lessons confused my mind” that has the lowest point average ($\bar{X} = 2.78$). It can also be said that the opinions of teacher candidates regarding primary school learning environments is “Partially” level ($\bar{X} = 3.22$).

Findings and Comments Regarding Seventh Sub Problem

The seventh sub problem of research was identified as “Do the opinions of teacher candidates regarding primary school learning environments show a significant difference according to their genders?”.

Table 5. Independent Samples t Test Results According to Gender

Gender	n	$\bar{X}$	S	sd	t	p
Female	341	95.64	23.19	478	-1.370	.171
Male	139	98.77	21.49			

As Table 5 is examined it was seen that the opinions of teacher candidates regarding primary school learning environments do not show significant difference according to their genders [$t_{(478)} = -1.370$, $p > .05$]. According to this, it can be said that the genders of teachers do not have significant effect on their opinions regarding primary school learning environments.

Findings and Comments Regarding Eight Sub Problem

The eighth sub problem of research was identified as “Do the opinions of teacher candidates regarding primary school learning environments show a significant difference according to class levels?”

Table 6. Independent Samples t Test Results According to Class Level

Class Level	n	$\bar{X}$	S	sd	t	p
3rd Grade	234	98.52	21.57	478	1.861	.063
4th Grade	246	94.67	23.68			

As Table 6 is examined it was seen that the opinions of teacher candidates regarding primary school learning environments do not show significant difference according to class levels [$t_{(478)} = 1.861$, $p > .05$]. According to this, it can be said that the class levels of teachers do not have significant effect on their opinions regarding primary school learning environments.

Findings and Comments Regarding Ninth Sub Problem

The ninth sub problem of research was identified as “Do the opinions of teacher candidates regarding primary school learning environments show a significant difference according to academic success?” That is why their opinions were examined in three groups according to their academic success averages (0.00-2.00, 2.01-3.00, 3.01-4.00).

Table 7. One-Way ANOVA Result According to General Academic Success Averages

The source of variance	Sum of Squares	Sd	Mean Square	F	p
Between Groups	1633.679	2	816.839	1.584	.206
Within Groups	245955.3	477	515.630		
Total	247589.0	479			

In Table 7 it was seen that the opinions of teacher candidates regarding primary school learning environments do not show significant difference according to academic success averages [$F_{(2-477)} = 1.584, p > .05$]. According to this it can be said that general academic success averages of teacher candidates do not have significant effect on their opinions regarding primary school learning environments.

Findings and Comments Regarding Tenth Sub Problem

The tenth sub problem of research was identified as “Do the opinions of teacher candidates regarding primary school learning environments show a significant difference according to universities they are educating in?”

Table 8. Arithmetical Mean and Standard Deviation Values According to University

The University Studying	n	$\bar{X}$	S
1) Dokuz Eylül University	183	99.07	22.77
2) Ege University	68	92.50	20.19
3) Adnan Menderes University	34	95.97	20.00
4) Pamukkale University	73	106.08	19.48
5) Afyon Kocatepe University	81	86.01	25.19
6) Uşak University	41	96.29	20.43
Total	480	96.55	22.74

As point averages of teacher candidates regarding primary school learning environments according to their universities in Table 8 were examined, it was seen that the highest point average of candidates educating in Pamukkale University ($\bar{X} = 106.08$) whereas the lowest point average of candidates educating in Afyon Kocatepe University ($\bar{X} = 86.01$).

Table 9. One-Way ANOVA Results According to University

The source of variance	Sum of Squares	Sd	Mean Square	F	p	Significant Difference
Between Groups	17919.962	5	3583.992	7.397	.000*	4-5, 4-2
Within Groups	229669.0	474	484.534			1-5
Total	247589.0	479				

* $p < .05$

As Table 9 was examined, it was seen that the opinions of teacher candidates show significant difference according to the universities they are educating in [$F_{(5-474)} = 7.397, p < .05$]. The average points of teacher candidates educating in Pamukkale University ($\bar{X} = 106.08$) was found significantly higher than the ones educating in Ege University ($\bar{X} = 92.50$) and the ones in Afyon Kocatepe University ($\bar{X} = 86.01$). Also the average points of teacher candidates regarding primary school learning environments, educating in Dokuz Eylül University ($\bar{X} = 99.07$) is significantly higher than the ones in educating in Afyon Kocatepe University ($\bar{X} = 86.01$).

6. Discussion

Based on findings of research it was found out that the opinions of teacher candidates regarding university learning environments ($\bar{X} = 3.31$) and their opinions regarding primary school learning environment ($\bar{X} = 3.22$) are at “Partially” level. In research of Kurtde Fidan and Duman (2014) found that teachers consider themselves rather sufficient in forming constructivist learning environment. However in this research teacher candidates making observations show that they consider learning environments formed by class teachers “partially” sufficient level. The reason of this can generate from that educational activities cannot be understood totally in university learning environments, they cannot be transferred to education period completely or they were thinking about education periods mostly be done according to behavioral education methods and techniques (Aykaç, 2007a; Aykaç, 2007b; Yanpar, 2005; Karadüz, 2010; Şahin, 2014).

It was also found that opinions of teacher candidates regarding university and primary school learning environments do not show significant difference according to their genders and academic successes. This result show similarity with gender variable results in research of Çalışkan (2015).

It was obtained that opinions of teacher candidates regarding university learning environments show significant difference according to class level. However it was seen that average points of 3rd grade teacher candidates regarding university learning environments is more positive than the ones in 4th grade teachers. The reasons of this can be ordered as last grade teacher candidates have exam anxiety or they find faculty learning environments less constructivist since they have more knowledge about constructivism than 3rd grade teacher candidates.

There reached a conclusion that opinions of teacher candidates regarding university and primary school learning environments show significant difference according to their universities educating in. The city living in, student profile, parents profile, educational staff of university and practice primary schools, their managements and physical structure are thought to be effective in forming of this difference.

7. Recommendations

- It is suggested to increase faculty school cooperation and information sharing for the sake of developing university and primary school learning environment with constructivist perspective.
- Instructors and teachers should be given seminars in order to form constructivist learning environments.
- In faculty lectures regulations that involve designing and developing skills to form constructivist learning environments, have to be done.
- Studies regarding constructivist learning environments have to be repeated periodically.
- Studies regarding constructivist learning environments should be repeated with teacher sampling as well.

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Initial Steps Towards a Strong Curriculum: Turkish/Russian Translation BA Programs in Turkey

Nilüfer Denissova

1. Introductions

This article has gone through some sort of evolutionary process. In the beginning, the research has focused on the curriculum enhancement, thus the issue of in-service training for academic staff has been laid outside its scope. Nonetheless, in the process of collecting and evaluating the empirical data, it became clear that under the given conditions this is the initial issue one should address before taking further steps. Although a few indicative works shed light on the issue (Kelly, 2005, p. 53-60; Kelly, 2008; Pym, 2003; EMT, 2013), training of trainers remains an area relatively less explored. Using Kelly's formulation:

There are two sets of participants in the teaching and learning process, both of whom are essential for its success: students or trainees, and teachers or trainers. [...] little has been said about students and their profiles... But even less has been said about teachers or trainers. (2008, p. 99).

Without any claims to start filling this gap, this paper shares how the findings and conclusions led the author to this direction. The main purpose of the article is to put under the microscope the curricula of the Turkish/Russian Translation (TRT) BA programs in Turkey. The study is descriptive in nature, that is, the author seeks to present a complete picture of the current state of the programs' curricula from the aspect of the translation competence development. Besides, the author pursues to identify the main problems that program designers have faced, as well as suggest the possible solutions to these problems.

2.Data and Methodology

Currently, there are 5 TRT undergraduate programs at the following universities: Okan University (Istanbul), Beykent University (Istanbul), Istanbul Aydın University (Istanbul), Avrasya University (Trabzon) and Kyrgyz-Turk Manas University (Bishkek).

In compliance with the Bologna Process framework, the programs open their curricula, teaching objectives, learning outcomes, academic staff CV's and other relevant information for the public access online. These resources comprise the body of the empirical data for the study. In addition, other relevant characteristics such as, date of opening, type of the university, the number of students, postgraduate level, etc. were also taken into account to give the exhaustive description of the scene.

Empirical data were put to the two-fold comparative analysis: At the first stage, local TRT programs were compared to determine their differences and similarities and, most importantly, to clarify the relationship between the course program and the translation competence development. At the second stage a sort of a "model" was reviewed and to this end 4 CUITI (Conference Internationale Permanente D'Instituts Universitaires De Traducteurs et Interpretes) members: Moscow State University (Russia), Hacettepe University (Turkey), Montréal University (Canada) and Heriot-Watt University (UK) were selected.

Also, a bilingual questionnaire was drawn up for the HoD's, to obtain the first-hand information about the process of work on the curriculum, its fundamental principles and objective difficulties that may have impeded an "ideal" course program. The questionnaire was sent to the recipients via email, the responses have become the major factor in changing the direction of the current research.

3. Limitations

Our study has several limitations that may put, to some extent, under the question the reliability of his findings and conclusions. We have to take as a fact, that the online information about the form and content of the educational process reflects the actual situation with an absolute precision. It is known that in the process of training the content and the methodology of the course can be refracted; a trainer, in the light of numerous and not always predictable developments, may have to revise the different aspects of the course and, accordingly, alter the nature of acquired knowledge and skills. Nevertheless, the general format of the curricula, such basic characteristics as the ratio of practical and theoretical sessions or the liaison among the objectives, outcomes, and translation sub-competencies, remains unchanged. Thus, it seems safe to presume that the collected empirical data reflect the reality.

Since not all programs in question have already completed the open-access documentation package, it was not always possible to obtain all necessary data for the thorough research. For example, it was not possible to access the information on teaching objectives or learning outcomes for Beykent University TRT program. Likewise, the documentation on course content is still not available on the web page of Istanbul Aydın TRT program. However, we believe that the results are still sufficiently indicative.

4. Translation Competence: Theoretical Framework

The question of curriculum design for translation departments has been the subject of detailed and multilateral scientific research for many years already. Kelly's diagram (2005, p. 3) gives the idea about the complexity of the problem. Here we see steps like formulating aims and outcomes, identifying students' needs and profiles, designing overall course content and structure, designing teaching, learning and assessment activities, to name just a few. Each of those deserves a special close attention, but the definition of translation competence is a logical basis for the overall program design: before we start training the *competent translators* we have to know what meaning we actually assign to this term.

A considerable amount of literature has been written on this subject. Of the theories go by a name of a single scholar, one can recall the minimalist approach by Pym (2003), 7 characteristics and 5 sub-competences of the translation competence by Neubert (2000) or other classifications offered by Schäffner (2000), Yazıcı (2007), Akdağ (2015), Komissarov (2002), etc. Other sub-competence structures usually referred belong to research groups like PACTE (2003, 2008, 2011, see also Beeby, 2000 and Hurtado Albir, 2007), EMT (2009) and TransComp (Göpferich, 2016)

Neubert's definition of translation competence highlights the cognitive aspect of translation as a process of task-solving: "Translation involves variable tasks that make specific demands on the cognitive system of the translator. What enables translators to cope with these tasks is their translational competence." (2000, p. 3) PACTE sees the translation competence as the communicative competence enhanced with the expert knowledge (2003, p. 4, for different perspective see Alves & Gonçalves, 2004). According to Yazıcı, translation competence is a sort of a professional awareness, starting even before the actual process of translating (2005, p. 175). Whereas, Pym speaks in defense of a more purified definition that can maintain a solid fundament for translation training in our age of diversity and innovations: "...a simple minimalist concept of translation competence, based on the production then elimination of alternatives, can help orient translator training in times of rapid technological and professional change." (2003, p. 494)

One way or another, the majority of researchers views the translation competence as a sequence of interdependent sub-competences (or parameters, as in Nuebert, 2000) and here, as well, we find alternative sub-structures and definitions:

Table 1. Translation Sub-competences Classifications

Neubert	1. Language; 2. Textual; 3. Subject; 4. Cultural; 5. Transfer
Schäffner	1. Linguistic; 2. Cultural; 3. Textual; 4. Domain/subject; 5. (Re)search; 6. Transfer
Komissarov	1. Language; 2. Textual; 3. Communicative; 4. Transfer; 5. Research; 6. Ethical; 7. Psycho-physiological; 8. Technological
Yazıcı	1. Bilingual /bicultural knowledge; 2. Theoretical knowledge; 3. Knowledge of creating transferable technical texts to be used in multilingual contexts; 4. Research knowledge and skills; 5. Technological knowledge; 6. Project Design knowledge; 7. Marketing knowledge
Akdağ	1. Cultural; 2. Domain; 3. Language; 4. Research; 5. Technological; 6. Textual; 7. Translation knowledge; 8. Translation service provision; 9. Strategic competence; 10. Psycho-physiological component
PACTE	1. Bilingual; 2. Extra-linguistic; 3. Instrumental; 4. Strategic; 5. Knowledge about Translation sub-competence and 6. Psycho-physiological component
EMT	1. Language; 2. Thematic; 3. Intercultural; 4. Translation service provision; 5. Info mining; 6. Technological
TransComp	1. Communicative competence in at least 2 languages; 2. Domain; 3. Psycho-motor; 4. Translation routine activation; 5. Tools and research; 6. Strategic

In all classifications, given in Table 1, we see a Language/Linguistic/Bilingual sub-competence, which in a very simplified way can be defined as a fluency in both languages, with its pragmatic, sociolinguistic, lexical-grammatical, textual, and other aspects. Some researchers differentiate the Textual sub-competence, with its concepts of coherence, discourse, etc. Subject/Domain/Thematic sub-competence focuses on a specific area of expertise, while Technological/Instrumental/Tools and Research category relates to the skills of using the encyclopedias, dictionaries, translation memories, CAT tools, editing software, etc. The semantic fields of the definitions often overlap and even the briefest comparative summary of those would require a considerable place. In this paper, the author uses the terminological framework of PACTE (2003), where 5 sub-competences and 1 component are interrelated in the following manner (p. 18):

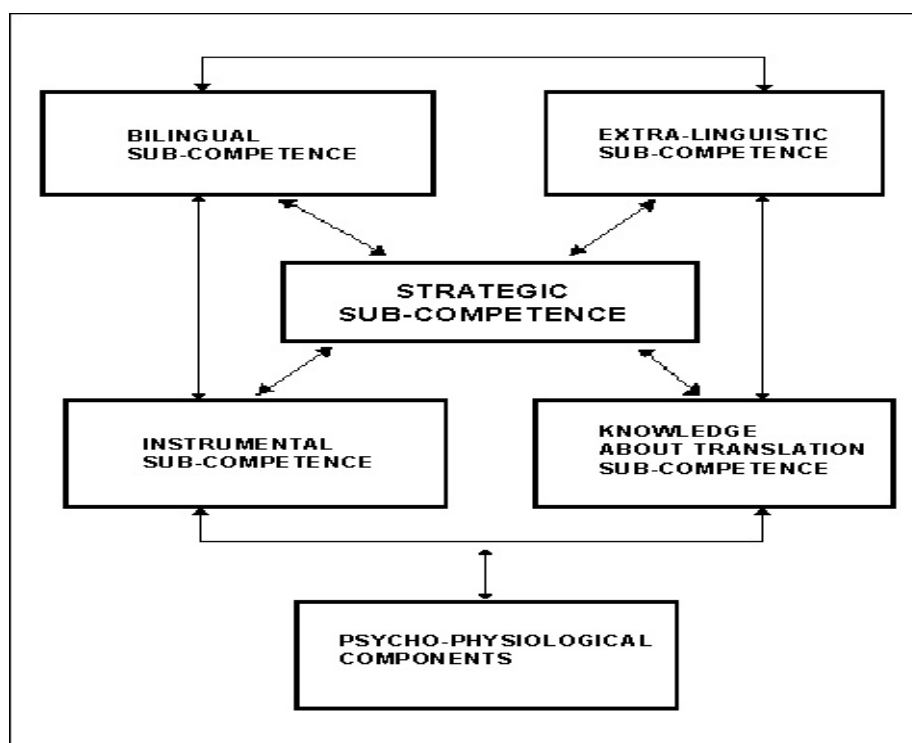


Figure 1. PACTE Translation Competence Chart

While Bilingual and Extra-linguistic sub-competences have a more general nature, Strategic, Instrumental and Knowledge about Translation (KaT hereinafter) are specific to translation competence (PACTE, 2011, p. 6).

Strategic sub-competence is the core of the structure, a procedural knowledge that is used to:

...plan the translation project; activate, monitor and compensate for shortcomings in other translation sub-competencies; detect translation problems; apply translation strategies; monitor and evaluate both the translation process and the partial results obtained in relation to the intended target text, etc. (PACTE, 2003, p. 15)

KaT sub-competence is a declarative knowledge of professional translation realities: work market, clients, methods, procedures, choice of the correct strategies and techniques.

The psycho-physiological component is related to the various mental and physical mechanisms, activated in the process of work, from memory and attention to confidence, motivation and logical reasoning.

It is easy to notice that, unlike most of the abovementioned classifications, PACTE's terminological system does not contain Textual, Domain or even Transfer sub-competences, while the latter is often seen as the supporting column of a translational activity. In their 2003 article, where in the light of the newly collected empirical data the participants of the project presented an update for the 1998 version, this moment is explained in details. Based on the concept of *natural translation* by Harris and Sherwood (1978), PACTE sees all bilinguals as natural translators. Anyone with an excellent knowledge of two languages owns a covert elementary ability of transfer, whereas for professional translators the process of transfer is conscious (PACTE, 2003, p. 15). Besides this, a trained translator has a basis of special theoretical knowledge and practical skills, techniques and strategies, as well as extra-linguistic knowledge for professional specialization. To our understanding, the Bilingual sub-competence here is an extensive concept embracing the fields of Textual and Domain sub-competences. To be precise, the last two are formed at the point of intersection of Bilingual, Extra-linguistic, KaT and other sub-classes.

5. Results

5.1. Okan University

Okan University is a foundation university, founded in 1998. Its TRT program, opened in the 2004-2005 academic year, is the first in the country. TRT program, along with English, Arabic and Chinese translation programs, operates within the Department of Translation Studies, Faculty of Human and Social Sciences. The curricula of English translation program of Bosphorus and Istanbul Universities were taken as a model for TRT curriculum design, while the lecturers of both universities provided their support and counseling (personal communication with HoD Hülya Arslan, June 15, 2016). Within 4-years period, the program offers 32 compulsory and 18 elective courses (50 courses in total).

As data analysis demonstrates, this program develops the translation sub-competences in the following order: (1) Bilingual, (2) KaT, (3) Extra-linguistic, (4) Strategic and (5) Instrumental sub-competences.

Among the courses, related to the development of Bilingual sub-competence in terms of domain, we can name Media and Translation, Consecutive Interpretation, Simultaneous Interpretation, Subtitles and Doubling, Specialization in Translation (Tourism or International Trade), etc. In the frame of Bilingual/Textual sub-competence, courses like Discourse Analysis, Text Typology, Introduction to Linguistics, etc. can be mentioned. Courses like Basic Translation/Interpretation Skills, Translation-Aimed Text Analysis, Translation Theory, History of Translation can be linked to the KaT development, while Russian Literature, International Trade, Tourism, Comparative Cultural Studies, European Union, Mass Media, Methods of Scientific Research, etc. seems to be more relevant with Extra-linguistic sub-competence. Of course, we realize that each course develops more than one sub-competence concurrently. On the other hand, it is safe to say that Russian Literature or International Trade courses fall into the Extra-linguistic category rather than any of the others. Besides, we also take into consideration all other available materials existing at the department's information package. Having all these in mind, we believe the results of the research to be quite indicative. We could identify only 4 courses, presumably intended to develop the Strategic sub-competence: 1 compulsory course (Senior Project) and 3 elective courses: Group Project, Internship and Seminar. We could not detect any course, related to the Instrumental sub-competence, although the department has, for example, a simultaneous lab and a computer class. Head of the program explains this fact with the credits vs. hours ratio, time-worn equipment and the shortage of staff with the relevant skills (about similar conditions see Calvo, 2011, p.12).

5.2. Beykent University

This is a foundation university founded in 1997; its TRT department, one of the 2 translation departments (English) of the Faculty of Science and Letters, operates since 2007. The program offers 49 courses in 4 years. Letter from Head of Department states: "Our graduates, following their own individual tendencies and choices, are able to reach possibilities to work in the fields of translation, interpreting, editing, journalism, language education etc."

Based on this statement, we can presume that the program puts a special emphasis on the Extra-linguistic sub-competence and the results of our research support this presumption. The program develops, in following order, (1) Bilingual, (2) Extra-linguistic, (3) KaT, (4) Strategic and (5) Instrumental sub-competences.

5.3. Istanbul Aydın University

Another private university founded in 2007; High School of Foreign Languages has two 4-years translation programs (English & Russian) plus three 2-years programs of Applied Translation in English, Spanish and Russian. Within 4-years period, the program offers 61 courses (50 c/11 e). High School has an internal Translation Office, where the “successful students can practice under the supervision of their instructors” and Simultaneous Interpretation Lab for 3 languages and 35 translators.

Just as in the example of Beykent, these programs develop, in the same order, (1) Bilingual, (2) Extra-linguistic, (3) KaT, (4) Strategic and (5) Instrumental sub-competences. Bilingual and Extra-linguistic sub-competences are equally and very strongly presented; all other sub-competences are hardly addressed at all. Although KaT takes the third place, it can be linked only to one compulsory course (Introduction to Translation Theory and Practice) and one elective course (Translation Analysis).

5.4. Avrasya University

A foundation university in Trabzon (The Eastern Black Sea Region), founded in 2011. TRT program here has an interesting biography. In the beginning, TRT was established as an affiliated program alongside with the Department of Russian Language and Literature (RLL). In 2013-2014 academic year the Board shut down RLL, gathering all students under the single roof of TRT; nevertheless, the course format and contents still show the remarkable traces of its RLL past. To give an example, in the Letter from HoD the program is still referred to as RLL and translation is not mentioned whatsoever:

Russian Language and Literature BA program offers you courses on language structure, grammar, the etymology of words and relationship between Russian and other languages. Besides, you will also be taking courses on Russian Literature, stylistic and thematic specifications of literary texts. [...] This education program will maximize your reading, speaking, listening and comprehension skills.

No information about translation education we find on “Our Mission & Vision” page, either. However, the curriculum contains 50 courses (37c/13e) and includes examples like Simultaneous Interpretation, Medical and Legal Translation, Translation-oriented Text Analysis, etc. Based on this data, this curriculum develops, in this order: (1) Bilingual, (2) Extra-linguistic, (3) KaT, (4) Instrumental and (5) Strategic sub-competences.

In all four cases, (1) and (2), being the most pronounced sub-competences, are usually addressed more or less equally. Then, with a certain proportional difference, comes (3); finally, after an extraordinary interval, we see Instrumental and Strategic sub-competences at the end of the list.

5.5. Manas University

The only state university on the list, Manas was founded in 1997. TRT and another two translation programs (Kyrgyz-Turkish and Kyrgyz-English) hierarchically belong to the Faculty of Letters, Department of Translation & Interpretation, opened in 2008. The program has a well-prepared information package, where curriculum and syllabi for most of the courses are available online. Within 4-years period, the program offers 77 compulsory and 5 elective courses (82 courses in total).

As data analysis demonstrates, this program develops the translation sub-competences in the following order: (1) Bilingual, (2) Extra-linguistic, (3) KaT, (4) Instrumental and (5)

Strategic sub-competences. The first three subclasses are introduced in an approximately equal manner, while the presence of the last two is hardly noticeable.

6. Conclusions and Suggestions

Table 2. Summary

	OKAN	BEYKENT	IST. AYDIN	AVRASYA	MANAS
Year of Foundation	2004	2007	2007	2014	2008
Number of Courses	50 (32c/18e)	49	61 (50/11)	50 (37/13)	82 (77/5)
Sub-Comp. (top 3)	Bilingual KaT Extra-Ling.	Bilingual Extra-Ling. KaT	Bilingual Extra-Ling. KaT	Bilingual Extra-Ling. KaT	Bilingual Extra-Ling. KaT

Based on the results we can conclude that all curricula put a special emphasis on fluency in both languages, supporting it with supplementary domain knowledge and certain acquaintance with theory and history of translation. Whereas The translator's competence surpasses pure foreign language competence as acquired in foreign language classes. The translator's competence, as the ability to produce a target language text for a source language text according to certain requirements, the so-called equivalence requirements, is *qualitatively* different from the mastery of the languages involved, thus different from pure language competence. (Koller, 1992, p. 19-20 as cited in Rothe-Neves, 2007, p. 2)

We believe one of the reasons behind these results may be found in the academic background of the teaching staff. Reviewing the relevant page of, for example, University of Montréal, one can easily notice the areas of translational expertise next to the name of each lecturer: History of Translation, Translation Pedagogy, Theories of Translation, Literary Translation, Political Discourse in Translation, Biomedical Translation, etc.

Judging by the CV's of TRT academic staff, most of the lecturers working here are prominent specialists with profound teaching experience, but – in a different area. HoDs at Okan, Beykent and Istanbul Aydın are famous literary translators. All other scholars have degrees in Russian Language and Literature or Turkic Languages, with no traceable connection to translation. Their publication lists, although quite impressive, do not reveal any published translations or papers on this subject, as well. And, as Kiraly puts it, "It cannot be expected that language instructors without professional translation expertise will have a professional translator self-concept themselves or that they will be able to help their translation students develop one." (1995, p. 3)

All TRT programs in question are relatively young and still undergo a (re)structuring process. On the other hand, the educational process here is already activated and, under given circumstances, it can be concluded that TRT programs in Turkey need a sort of in-service training for trainers.

Kelly suggests the following list of requirements for a competent translation trainer: (1) Professional translation practice, (2) Translation Studies as an academic discipline, (3) Teaching skills (2005, p. 151; in more detail Kelly, 2008)

As it was mentioned above, TRT academic staff already has sufficient teaching experience; as for professional translation practice, one cannot be forced into it, but a training program may help to raise the awareness towards translation as an inseparable part of a habitual professional activity. In terms of academic knowledge, the course structure and content must be consistent, systematic and thoroughly planned, starting with the stage of trainees' academic background and needs analyses to the stage of envisioned learning outcomes. Certain steps in this direction have already been taken. To give an example, annual one-week CTTT (Consortium for Training Translation Teachers) seminars or Certificate programs at the Universitat de Vic (Spain), University of Monterey (California, USA), postgraduate and doctoral programs in various educational institutions can be mentioned. EMT Translation Trainer Profile (2013) can also be a solid starting point for the program design. In Turkey, Okan University already organized in-service training twice in previous years, so there is a certain international and national experience that can be taken as a basis and/or a framework.

A more general, global objective of this study is to unite the efforts of the teaching staff of the field and design an optimal – as much as possible - curriculum, based on the latest scientific research and taking into account the conditions of the local academic and working environment. Implementation of this objective may take several years and require launching of an inclusive project. This research may serve as a preparatory stage of the given project.

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Mathematics Education and Reasoning Skill

Esen Ersoy, Belgin Bal İncebacak

1. Introduction

Mathematics course is often perceived as a not enjoyable course. Especially, it is believed that the problems solved in mathematics lessons are the most difficult ones for students, who get bored while solving them. In a world where problem solving is not liked by many, people are not only faced with mathematics problems but also many other types of problems. Therefore, they feel the need to solve the problems they are faced with. In order for those problems to be solved, it is necessary to train students who can think, become a problem-solver, and develop reasoning skills. For that reason, it is apparent that it is of high importance to teach students this skill, first stage of which is rationally thinking.

Rationale is analyzing the existing situation through accurate thinking. Each situation questioned is a product of accurate thinking, which requires reasoning skills. Reasoning is establishing a connection between two existing situations. When it comes to the concept of reasoning, it can be defined as the process of gathering information through associating the symbols and relations in mathematics, by considering the existing situations, with thinking techniques (Aydoğdu İskenderoğlu, et al., 2013: 153). Piaget defines reasoning as assimilating from specific to specific without generalizing and rational strictness (Yavuzer, 2001). According to National Council of Teachers of Mathematics (NCTM) standards, even students in young age groups are capable of reasoning. They also argue that while reasoning, students make deductions based on their own experiences. It is observed that they often apply fundamentally deductive method.

A permanent mathematics education could be obtained through associating the situation with previous situations via reasoning; questioning the situations; and making deductions via asking why and how questions. Students could widen and construct their knowledge in their mind through this method (Umay & Kaf, 2005:188). Therefore, it is important to improve this skill. Students could discover the relation between the events occurring around them and existing situations, thanks to this skill. Moreover, they could reinforce their permanent learning through reasoning and their sense of curiosity will always be triggered like a scientist.

It is expected that besides the mathematics problems solved in lessons at school, the students will recognize the real life problems and realize that they both are, in fact, a problematic situation. The Programme for International Student Assessment (2006) aims at determining whether students use their mathematics knowledge in their real life rather than their pure mathematics knowledge. The individuals, who are only able to solve problematic situations at school, have not achieved actual learning. The general aim of education is bringing individuals in skills, which could help them live in a society in a healthy manner. Thomson and Bortoli (2008) discuss that thanks to PISA questions, students focus on the skills of analyzing, reasoning, problem solving, and openly expressing their opinions. It is important to concentrate on not what students learn at school but what they are able to do (EARGED, 2010). Furthermore, it is significant that the reasoning skills of students should improve in the process, in which students have to stay focused. Students can produce rationalist solutions to the problems, which they are faced with, through their reasoning skills. Peresini and Webb (1999) state that reasoning consists of activities involving various styles of thinking. Reasoning is described as the process of reaching a rational conclusion after thinking over. This, in fact,

quite present in real life. Students, who will come across with many problems throughout their lives, are obligated to reach a conclusion within a rational framework after rethinking about them. Therefore, it is of importance to enable students to face with such problems.

In that context, it is believed that determining how students use their reasoning skills in PISA questions, will contribute to the field, due to the fact that PISA is applied to a certain number of students and carries out a general evaluation throughout Turkey. In this study, it is aimed to determine the attitude of students in Samsun towards these questions and to reveal their levels. Furthermore, revealing the levels of students' reasoning skills and having an opinion on the current situation could be a guide for the PISA examinations in future. Hence, the problem called Going to the Movies from the Chapter 1 of normal units, which is named Problem Solving Questions from PISA, is used in this study. The problem called Going to the Movies consists of 2 questions. The problems applied have been evaluated according to the reasoning stages of NCTM (2000). The points, which we paid attention to in this study, are stated below. NCTM (2000) has determined the reasoning skills, which students should have at primary school level. According to this, students should be able to realize that reasoning and proof are the foundation of mathematics; to conduct a research and make mathematical deductions; to develop and evaluate mathematical arguments and proofs; and to choose and use various methods of proof.

2. Method

Since the study is about having an opinion on an existing situation and presenting data on the situation, case study method, which is compatible with the nature of qualitative research, has been employed. Patton (1990); Cohen & Manion (1997); Yıldırım & Şimşek (2005); and Creswell (2013) define the studies, which reveal and examine the solutions to the problems encountered in real life, as case studies. Denzin & Lincoln (1996); Bassey (1999); and Creswell (2013) discuss that in such studies the process consists of the following phases: marking off the situation, determining the phenomena that may be encountered throughout the study, determining the data sets to be used in the study, revealing the findings according to data sets, and concluding the study by making interpretations according to the findings.

2. Study Group

The study group consists of 51 students in total. The students have been chosen from a province in the Black Sea region of Turkey by using random sampling method. This research has been conducted during the fall semester of the academic year of 2015-2016.

2. Data Collection and Analysis

The problem called Going to the Movies from the Chapter 1 of normal units, which is named Problem Solving Questions from PISA, is used in this study. The problem called Going to the Movies consists of 2 questions. These questions serve as the data collection tool of this study. The questions are as follows.

Going To The Movies

This problem is related to finding the convenient day and time to go to the movies.

İhsan is 15 years old and wants to go to the movies with two of his friends, who are at the same age as him, during his one-week school break. The break starts on Saturday, March 24 and ends on Sunday, April 1.

İhsan asks his friends for an appropriate day and time to go to the movies. The information he collects is as follows.

Fuat: *“On Monday and Wednesday afternoon I have to be home to practice music from 14:30 to 15:30”*

Sedat: *“On Sundays, I have to visit my grandmother, therefore Sundays do not work for me. I have seen Pokémon movie, I do not wish to see it again.”*

İhsan’s parents insisted that he should only go to the movies, which are appropriate for his age group, and did not want him to walk home back alone. İhsan’s parents can pick up children and take them home any time before 22:00.

İhsan checks for the times of the movies, which are displayed during their one-week break. The information he collects are as follows.

Table 1: Problem and Solution

CITY MOVIE THEATRE			
Booking Telephone: 442 30 00			
You can call us 7/24: 442 00 71			
Discount on Tuesdays: All movies are 3 TL			
Two-week movie schedule from Friday, March 23:			
Kids in Danger		Pokémon	
113 mins for 12+	Convenient	105 mins Advisory:	Parental
14:00 (Only Mon-Fri)		13:40 (Every day)	It may contain
21:35 (Only Sat-Sun)		16:35 (Every day)	inappropriate for
		children	
Monster in the Bottom		The Secret	

164 mins for 18+ 19:55 (Only Fri-Sat)	Convenient	144 mins for 12+ 15:00 (Only Mon-Fri) 18:00 (Only Sat-Sun)	Convenient
Carnival 148 mins for 18+ 18:30 (Every day)	Convenient	The Lion King 117 mins groups 14:35 (Only Mon-Fri) 18:50 (Sat-Sun)	Convenient for all age groups

Question 1: GOING TO THE MOVIES

Considering the information İhsan and his friends collected, which of the following movie/movies should İhsan and his friends go to?

Circle either “Yes” or “No” for each movie.

Movie	Should three children consider going to this movie?
Kids in Danger	Yes/No
Monsters in the Bottom	Yes/No
Carnival	Yes/No
Pokémon	Yes/No
The Secret	Yes/No
The Lion King	Yes/No

Scoring For Going To The Movies 1

Full Score: Sorting should be as follows:

Yes, No, No, No, Yes, Yes.

Partial Score:

If there is only one error in the sorting, a partial score should be given.

No Score:

Other answers.

Question 2: GOING TO THE MOVIES

If all three children wanted to go to the movie “Kids in Danger”, which of the following dates is convenient for them?

- A) Monday, March 26
 - B) Wednesday, March 28
 - C) Friday, March 30
 - D) Saturday, March 31
 - E) Sunday, April 1
-

Scoring For Going To The Movies 2

Full Score:

- C) Friday, March 30

No Score:

Other Answers.

Blank.

The answers of students have been determined according to the reasoning skills, which students should have at primary school level in the opinion of NCTM (2000). Accordingly, the students were evaluated based on the following criteria.

Student should be able to realize that reasoning and proof are the foundation of mathematics (Student chooses the appropriate strategy while deciding on the solution. Student clearly explains why he/she solved it by using that strategy. Student chooses the appropriate strategy for solution. Student does not clearly explain why he/she solved it by using that strategy. Student chooses the strategy while deciding on how to solve it, however, they are not appropriate for the solution. Student cannot determine the most appropriate strategy among the options. Student cannot make any judgements);

Student should be able to research and make deductions; (Student makes a valid deduction. Student clearly expresses the logic of the deduction. Student makes a valid deduction, however, he/she cannot clearly express the logic of the deduction. Student creates relations with a particular characteristic, however, he/she may not support this deduction with other mathematical conceptions. Student cannot make any deductions);

Student should be able to develop and evaluate arguments and proof (Student develops elaborated arguments, which express what he/she thinks in the best way. No logical errors are found in his/her arguments. Student expresses what he/she thinks in the best way, however, he/she has not developed elaborated arguments. No logical errors are found in his/her arguments. Student has proposed arguments related to the solution, however, they are not elaborated and do not express what he/she thinks. Student cannot make any judgements);

Student should be able to choose and use various methods of proof (Student gives the correct answer. Proof method is completely and clearly used. Student gives the correct answer, however, the proof method used is not complete and clear. Student gives the incorrect answer, then he/she attempts to use some methods to prove it but cannot complete it. Student cannot make any judgements);

According to the abovementioned evaluation criteria, the answers received by students were examined by 2 researchers. Through the agreement percentage formula of Miles & Huberman (1994)

$P = \frac{N_a \times 100}{N_a + N_d}$ the reliability of a qualitative study can be determined. Miles & Huberman (1994) state that the reliability of coding should be at least at 80% compatibility level for achieving reliability. The agreement percentage of the study has been calculated as 98%. The reliability achieved from the study (98%) confirmed the reliability of the qualitative study.

3. Findings

3. Findings about the First Question

The analysis of the answers received by the students according to reasoning skills at primary school level, proposed by NCTM (2000), is as follows.

- Student should be able to realize reasoning and proof are the foundation of mathematics; for the solution of the problem, at this stage students solved the first question, conducted reasoning, and provided proof in order to ensure its accuracy. They explained why they chose those options.

Table 1: Realize that reasoning and proof are the foundation of mathematics

Movie	Should three children consider watching it?			
	Yes	No	f	%
Kids in Danger	39	9	39	76.4
Monsters in the bottom	7	41	41	88.3
Carnival	6	42	42	82.3
Pokémon	24	24	24	47.0
The Secret	32	16	32	62.7
Lion King	39	9	39	76.4
The ones, who left it empty	3		3	5.8
5-6 correct answers	Student chooses the appropriate strategy for solution. Student clearly explains why he/she solved it by using that strategy.		30	58.8
3-4 correct answers	Student chooses the appropriate strategy for solution. Student does not clearly explain why he/she solved it by using that strategy.		12	23.5
2-1 correct answers	Student chooses the strategy while deciding on how to solve it, however, they are not appropriate for the solution. Student cannot determine the most appropriate strategy among the options.		6	11.7
Empty	Student cannot make any judgements.		3	5.8

The table, which presents the choices students marked for the problematic situations given to them and their explanations on why they marked those choices, suggest that more than half of the students were successful in selecting the most appropriate movie for all three children. Evaluating their answers based on movie, 76.4% of students correctly found the movie called Kids in Danger appropriate. 88.3% of the students correctly found the movie called Monsters in the Bottom inappropriate. 82.3% of them also correctly found the movie called Carnival inappropriate. For the movie called Pokémon, the answers of students fall into two equal parts. 62.7% of the students correctly found the movie called the Secret appropriate. 76.4% of the students correctly found the movie called the Lion King appropriate. It is observed that 58.8% of the students gave correct answers. 10 of these students gave the correct answer for 6 movies; and 20 student gave the correct answer for the appropriateness of 5 movies. These students chose the movies according to their strategy for choosing that particular movie. 8 students, meaning 23.5% of the group correctly suggested 4 movies, while; 4 students correctly suggested 3 movies. When the papers of these students were examined, it was observed that they chose the convenient strategy for the solution, however, they were unable to explain why they chose that strategy. 5 students, meaning 11.7% of the group, correctly suggest 2 movies; whereas 1 student correctly suggested only 1 movie. These students solved it through the convenient strategy, however, it was not enough for the solution. That 1 particular student was not very successful at choosing the most convenient option among all options. 3 students, meaning 5.8% of the group, did not make any judgements for solving the question.

- Student should be able to research and make mathematical deductions: the analysis of the answers received from the students at this stage is as follows:

Table 2: Being able to research and make mathematical deductions

Net	Evaluation Criteria	f	%
5-6 correct answers	Student makes a valid deduction. Student clearly expresses the logic of the deduction.	30	58.8
3-4 correct answers	Student makes a valid deduction, however, he/she cannot clearly express the logic of the deduction.	12	23.5
2-1 correct answers	Student creates relations with a particular characteristic, however, he/she may not support this deduction with other mathematical conceptions.	6	11.7
Empty	Student cannot make any deductions.	3	5.8

The table suggests that 30 students determined the valid deductions and clearly expressed the deductions they made. These students consist of 58.8% of the group. Moreover, it is observed that they marked 5-6 correct answers in the situations given in the question. 12 of the students made valid deductions, however, were unable to clearly express their logic. These students consist of 23.5% of the group. These students correctly answered 3-4 options of the questions. 11.7% of the group, in other words 6 students gave 1-2 correct answers. These students associated the deduction in the question with a known characteristic, however, they were unable to support this deduction with a mathematical conception of expression. 5.8% of the group, meaning 3 students did not make any deductions about the questions they were provided with.

- Student should be able to develop mathematical arguments and proof; the analysis of the answers received from the students at this stage is as follows:

Table 3: Being able to develop and evaluate mathematical arguments and proof

Net	Evaluation Criteria	f	%
5-6 correct answers	Student develops arguments, which are elaborated and express what he/she thinks in the best way. No logical errors are found in his/her arguments.	30	58.8
3-4 correct answers	Student expresses what he/she thinks in the best way, however, he/she has not developed elaborated arguments. No logical errors are found in his/her arguments.	12	23.5
2-1 correct answers	Student has proposed arguments related to the solution, however, they are not elaborated and do not express what he/she thinks. Some logical errors are found in his/her arguments.	6	11.7
Empty	Student cannot make any judgements.	3	5.8

The table was examined according to the criteria of the stage of being able to develop and evaluate mathematical arguments and proof. The answers received from the students suggest that 58.8% of them developed arguments, which properly expressed their opinions. It is also observed that there are no logical errors in the arguments they developed. 23.5% of the student group properly expressed their opinions, however, they have not developed elaborated arguments. Yet, there are no logical errors in the arguments they developed. 11.7% of the students have tried to develop arguments related to the solution. However, the arguments they have tried to develop do not express all of their opinions. Furthermore, there are some logical errors in terms of their way of expression. 5.8% of the students did not make any deductions or judgements about the subjects, which they did not discuss at all.

- Student should be able to choose and use various ways of proof; the analysis of the answers received from the students at this stage is as follows:

Table 4: Being able to choose and use various ways of proof

Net	Evaluation Criteria	f	%
5-6-4 correct answers	Student gives the correct answer. Proof method is completely and clearly used.	38	74.5
3-2 correct answers	Student gives the correct answer, however, the proof method used is not complete and clear.	9	17.6
1 correct answer	Student gives the incorrect answer, then he/she attempts to use some methods to prove it but cannot complete it.	1	1.9
Empty	Student cannot make any judgements.	3	5.8

The students were asked to provide proof for the problems they solved and demonstrate that proof on the question. 74.5% of the students correctly answered the question, and completely and clearly expressed their method of proof. On the other hand, 17.6% of the students correctly answered the question, however, they have not completely and clearly expressed their method of proof. 1.9% of the students incorrectly answered to the majority of the question. They attempted to prove their answers in various manners, however, they have not completed explaining their proof. The rest of the students did not make any judgement for the question.

3. Findings about the Second Question

The analysis of the answers received from the students for the second question are demonstrated in the table below.

Table 5: Frequency and Percentage of Correct Answers

The option they marked	f	%
Option A	5	9.8
Option B	2	3.9
Option C	13	25.4
Option D	24	47.0
Option E	5	9.8
EMPTY	2	3.9
Total	51	100

The answers received from the students suggest that a great majority of students marked option D. The second most marked option by students is option C, which is the correct answer. The number of students marking option A and option E are equal. Whereas 2 students marked option B; 2 other students left the question unanswered.

4. Discussion and Conclusion

Examining the answers received by students, the success level rates indicate that more than half of the student group is successful. These answers students gave for the first movie demonstrate that 88.3% of students considered it appropriate for three children to go to. This is because the first movie, which is called Kids in Danger, is indicated as only convenient for children, who are 12 or older, and is displayed on Fridays, when all of the children are free.

88.3% of the students correctly answered to the question related to the movie called Monsters in the Bottom. The students considered this movie as too inappropriate for the children to go to, since it is indicated as only convenient for those, who are 18 or older. The students, who incorrectly answered this question, appears to have answered the question without paying attention to information in the paper given to them, by only focusing on the children's schedule for the days.

82.3% of the students correctly answered to the question regarding the appropriateness of the movie called Carnival. The reason why students considered this movie inappropriate is because it is indicated as only convenient for those, who are 18 or older to watch. There were also some students, who considered the movie inappropriate because the movie would end at a late hour and the children would have to walk home late at night. The students, who incorrectly answered the question, stated that they did not pay attention to age limitation and they thought the movie was appropriate to go to since it was displayed every day of the week. Moreover, they thought the time of the movie was not a problem because their parents would pick the children up from the movie theatre.

47% of the students named Pokémon as an inappropriate movie to go to. These students argued that Pokémon had scenes inappropriate for children to watch and should be watched under the guidance of parents; thus, they stated, it was not appropriate for the children to go to. The other students thought it was appropriate for the children to go to, by only focusing on the schedule of the children for the week without paying attention to the abovementioned factors. On top of that, Pokémon was displayed every day in two sessions, thus the students thought it was appropriate for the children to go to.

62.7% of the students named the Secret as an inappropriate movie for the children to go to. 16 of the students had negative opinions on this movie. The rest of them considered this movie appropriate because the movie was indicated as convenient for those, who are 12 and older. Moreover, the movie was displayed on Fridays and Saturdays, hence appropriate for the children to go to. Other students did not consider this movie appropriate because it was displayed on Sunday and Monday, both of which days were not convenient for Suat and Fuat.

The information given to the students suggest that some of the movies are displayed on two different days of the week. However, when students saw that one of the days was not convenient for children to go, they did not think about looking at students' schedules for the other days. 76.4% of the students considered the movie Lion King appropriate for the children to go to. The reason why they suggested children go to the Lion King was because it was convenient for all age groups and displayed on Friday and Saturday, on both of which days all of the children were free. The reason why some of the students did not suggest Lion King, was because Fuat was occupied on Mondays and Suat was occupied on Sundays.

3 students did not make any judgements for this question. These students consist of 5.8% of the group.

The analysis of the stage, which is named students should be able to research and make mathematical deductions, indicate that more than half of the students are successful at this stage. It was determined that 58.8% of the students made a general deduction and clearly expressed the logic behind these deductions. These students understood the logic behind the questions. The students, who had 5 correct answers, incorrectly answered some of the questions because they did not pay attention to a point given in the question. This is because the deduction and logic they built while solving the problem are accurate and clear. 23.5% of the students had 3-4 correct answers. It is observed that these students made a valid deduction while solving the questions. However, they could not clearly express the logic behind the deductions they made. 11.7% of the group only had 1-2 correct answers. It is observed that the answers received from these students are not supported with mathematical deductions. Furthermore, some of these students were able to give the correct answer out of luck, while; some of them were able to do so through making certain deductions. We are not able to make any comments on the other 3 students since they did not make any deductions about the questions at all.

Examining the answers received from the students at the stage of being able to develop mathematical arguments and proof, it is apparent that majority of the students developed reasonable arguments, which expressed what they thought. Less than half of the students developed arguments, which expressed what they thought, yet were not quite elaborated. Very few students in the group made logical errors in their arguments. In the arguments they produced, these students could not clearly express what they thought. Moreover, their arguments were not elaborated. A small number of students did not comment on the question.

The analysis of the stage, which is named being able to choose and use various methods of proof suggest that 74.5% of the students correctly answered the question, moreover they clearly and completely used the method of proof they chose. 17.6% of the students correctly answered the question. However, they were not able to completely and clearly express what they tried to prove. 1.9% of the students incorrectly answered to the majority of the question. However, they attempted to prove their answers, however, they have not completed explaining their proof. 5.8% of the students did not make any judgements about the question, thus did not need to use a method of proof.

The answers received from the students for the second question suggest that a great majority of students marked option D. The second most marked option by students is option C, which is the correct answer. The number of students marking option A and option E are equal. Whereas 2 students marked option B; 2 other students left the question unanswered.

The comments the students on their answers indicate that they eliminated it because Monday, March 26 was not convenient for Fuat. However, 5 students did not pay attention to that information. Again, they eliminated it because Wednesday, March 28 was not convenient for Fuat. 2 other students marked this day because they thought the movie was appropriate for those, who are 12 and older. 25.4% of the students marked Friday, March 30. These students stated that they chose that option because it was displayed on the days, when all three children were free and moreover there was not an age limit. 47% of the students marked option D. The reason why they chose that option is because the movie was convenient for those, who are 12 and over to watch, and on the days it was displayed all three children were free. The students, in fact, focused on and picked the day, when all children were free. On Fridays and Saturdays all three children's schedules were convenient for going to most of the movies. However, it was observed that they did not pay attention to the time of the movies that were displayed on Saturdays. These students did not pay attention to children's curfew when they chose the movie which started at 21:35. The students did not use more than one choices for this question. 9.8% of the students, who marked option E, did not pay attention Sedat's situation. 3.9% of the students did not mark any options for this question.

It is observed that majority of the students used their reasoning skills. The mathematical reasoning skills of students are proportional to their level of approaching the problem and answering the questions. The better the reasoning they develop for the question, the more accurately they answer questions. Similarly, Pilten (2008), Erdem (2011), Tıraşoğlu (2013), and Erdem (2015) discuss that in order to improve their reasoning skills, students should be faced with such problems, so that they will become more successful as a result of getting used to such problems.

Additionally, it is stated in the literature that when students are faced with such problematic situations, it increases their determining and using the convenient reasoning levels; mathematical knowledge; assumption skills; using patterns; developing arguments about solutions; generalization skills; solving non-routine problems; and mathematical reasoning

skills (Pilten, 2008; Erdem, 2011). It is determined that students are mostly successful at solving non-routine questions, during processes of which they can use their reasoning skills. As a result of incompletely reading the content of the questions and not producing proper reasonings, the students were not able to obtain the correct answer.

Briefly stated, mathematical reasoning is the foundation of mathematics. The objective of mathematical education is enabling students to mathematically think, through teaching them mathematical knowledge. Within that context, Çoban (2010) argues that in mathematical education not only mathematical operations should be taught but also skills such as establishing connections among situations, reasoning, and problem solving. Mathematical reasoning could be improved in classroom settings, where students are able to openly express their opinions and explain themselves. Therefore, during lessons teachers should enable students to realize what they lack of and to obtain solutions through thinking in the processes of explaining their ideas, defending the accuracy of their ideas, and criticizing. In other words, teachers should create a classroom setting, where students can improve their mathematical reasoning.

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Activities with Concrete Manipulatives for Development of Spatial Abilities of Elementary School Students

Sevda Goktepe Yildiz, Ahmet Sukru Ozdemir

1. Introduction

There is a great diversity about the definition of the spatial ability. Concepts such as spatial thinking, spatial perception, spatial reasoning are used instead of spatial ability (Clements & Battista, 1992; NCTM, 2000; Olkun, 2003). It can be said for the reason of this diversity that spatial abilities are discussed by using different viewpoints. Ekstrom, French, Harman and Derman (1976) defined spatial ability as the tendency ability in new situations occurred in space and the ability to understand spatial figures. According to Tartre (1990) spatial ability is the ability to express, organize, understand and use the correlations between the objects visually. Olkun (2003) defined spatial ability as the ability to visualize, rotate and interpret two or three-dimensional pieces of the objects in mind. When we generally look at the definitions, we can say that there are common features inferred from one another. These common features can be listed as the ability to visualize, change and re-organize; move and rotate two or three-dimensional pieces of the objects in the mind and the ability to understand the correlations between figures.

Since mathematics and geometry subjects have generally an abstract structure, students have difficulties to understand these concepts. Besides, it is important to convey concepts with the support of concrete materials for elementary school students who are passing to formal operations stage from concrete operations stage (Aydoğdu, Erşen & Tutak, 2014). There are studies which concluded that activities supported by concrete materials have positively affected students' achievement and attitudes in elementary school mathematics courses. Teaching sets subject with the support of materials have positively affected the mathematical achievement and attitudes of the students (Aydoğdu, Erşen, & Tutak, 2014). Mathematics workshop in which activities supported by materials were conducted in geometry, numbers, sets, divisibility, and fractions subjects have positively contributed in students' mathematical thinking skills and having a better understanding of mathematical concepts (Kılıç, Tunç Pekkan & Karatoprak, 2013). Kutluca and Akın (2013) introduced a concrete material which is called as algebra scale with four containers and which will be used in teaching whole numbers at elementary school level. Similarly, there are activities which are supported by various materials in teaching mathematics studies to develop spatial abilities and using concrete materials while teaching mathematics topics requiring spatial thinking affects students' achievement positively (e.g., Olkun, 2001; Yurt, 2011). Olkun (2001) in his study tried to help students to make sense of the volume formula by using unit cubes and various drawings. He stated that students found big prisms more complex and had difficulties in visualizing that is to say constructing the regular structure of the prisms composed of unit cubes in their minds. Yurt (2011) indicated as a result of his study that modelling-based activities which are carried out by using concrete materials improves students' spatial thinking skills and provides limited amount of progress in their mental rotation abilities.

In mathematics curriculum which was prepared for elementary school students in Turkey in 2013, there are some suggestions made for using computer-based activities and concrete materials in geometrical objects sub-learning area which contains objectives used about students' spatial abilities (MEB, 2013). NCTM (2000) is also stated that students need to use mathematical materials in the lessons. However, there is not enough information about how activities will be designed and used. The activities used in teachers' books and course books

are not sufficient. 3 different activities which are supported by concrete materials were introduced in this study. In two of them, the volume and surface areas of the three-dimensional geometric objects are calculated. A rectangular prism, cube and tetragonal prism are constructed with mathematics cubes in different colors by eight grade students. In other activity, the features of the three-dimensional geometric figures are analyzed through using play dough and sticks. In the third activity, the number of sides, corners and surfaces of prisms and pyramids are determined.

The purpose of this study is to introduce three different activities which are supported by concrete materials and developed for improving students' spatial abilities and to analyze the views of students regarding the practicability of these activities.

2. Method

The research is a qualitative study and case study was determined as the method of the study. The characteristic of case studies is to search a single or multiple cases profoundly. Case studies can be used in both qualitative and quantitative studies (Yıldırım & Şimşek, 2013, p. 83). In this study, 3 different activities which are supported by tangible materials were carried out with 8th grade students. The activity was carried out under the guidance of researcher and together with mathematics teacher. Mathematics cubes, play dough and sticks which were used as concrete materials were supplied by the researchers and distributed to the students. Each of the activities was carried out by using worksheets. Two activities were conducted as a group work and the other one is an individual study. After the activities had completed, the practicability of each activity was analyzed with the views of the students.

2.1. Research Group

The study group of the research is composed of 18 8th grade students who are studying in an elementary school from Esenyurt, Istanbul in 2015-2016. The features of the student are given Table 1.

Table 1. The features of the participating students

Gender	N	%
Female	8	44
Male	10	56
Total	18	100

2.2. Data collection tools

The interview form which is composed of 6 open-ended questions was prepared to take the views of the students regarding 3 different activities supported by concrete materials which were designed for improving spatial skills. The questions used in the form are as in the following; "How did you find activities supported by concrete materials?", "Do you think such activities help you to understand mathematics?", "In which part of the activity do you have difficulties most?", "What are the positive sides of the activity for you?", "What are the negative sides of the activity for you?", "What do you suggest to improve this activity?". After the views

of the students were taken in written, semi-structured interviews were conducted with 3 students on different levels according to their cases to participate in the activities actively. The interviews were audio recorded and then transformed into transcripts.

2.3. Data Analysis

Content analysis approach was used to analyze the data obtained in this study. The purpose of content analysis is to create themes by coding similar responses and in this way to be able to see correlations between themes more easily (Yıldırım & Şimşek, 2013, p. 260). In this study, after students' similar views regarding activities were expressed in percentage and frequency tables, themes were created and findings were visualized by using a model showing the correlation between themes. In order to sustain reliability, while creating themes in content analysis, it was paid attention for themes to involve all the related responses and not to exclude any answer. For the validity, the process of conducting the study was explained in details. The quotations from the students' views were directly cited without any intervention.

2.4. The Definition of the Activities

Activity 1: I am designing Geometric Objects with Toy Blocks

The class is divided into heterogenic groups of four people. Each group is supplied with enough mathematics cubes. Then, worksheets are distributed. Students are asked to do group work during all their tasks in the activities.

The purpose of the activity is to help them to understand the correlations between cube, tetragonal prism and rectangular prism. For example, the fact that cube is a special form of tetragonal and rectangular prisms is emphasized. In addition to this, the concept of volume is taught through the volumes of the geometric figures. The activity provides students to learn thinking ways and methods which they are using (using a formula, counting unit cubes, etc) while they are finding the volume of the objects. At this stage, the following steps are employed.

Also, they are asked to construct 2 different structures composed of different numbers of cubes by using mathematics cubes and complete it with the shape of a rectangular prism. A great number of geometric objects can be formed by using 36 unit cubes. Here, students will get different objects depending on their creativity as different figures can be obtained by using cubes, rectangular prism and tetragonal prism.

Activity 2: Wrapping a gift-box

This is an individual activity. Each student is supplied with enough mathematics cubes. The concept regarding the area of the surface is taught. The surface of the area of a rectangular prism is calculated. The same process is repeated for the cube, tetragonal prism and the correlation between these three figures is emphasized. At the 3rd step of the activity, two structures which are composed of different number of cubes are given and students are asked to construct them by using mathematics cubes. Then, they are asked to calculate the outer space areas of these structures. At the 4th step of the activity, students are asked to make calculations by thinking a gift-box in the shape of a cylinder. Finally, the views of the students are taken about how the surface areas of pyramids can be calculated by giving the shape of a square pyramid after prisms and it is emphasized that surface area concept is the two-dimensional value of a three-dimensional figure after it has expanded.

Activity 3: The three-dimensional things around us

Students work in twos during the whole activity. At the first step, students construct triangular prisms, rectangular prisms, tetragonal prisms and cube geometric figures by using play dough and sticks. Later on, they fill in the table in which the features of these figures are classified. The purpose here is to make students realize the correlation between geometric objects' number of sides at the base figure, number of corners of the objects and number of surface. At stage 2, triangular prisms, rectangular prisms, pentagon prisms are given visually without mentioning their names. They are asked to fill in a given table in which the features (the shape of the base, the shape of other surfaces, number of corners, number of sides and number of surface) of these figures are provided. Similarly, students are expected to discover the correlation between the number of sides at the base figure and number of corners of the objects and number surfaces and number of sides. At stage 3, students are asked to provide examples from the objects around them for right circular cylinder and right cone. Then, they are asked to construct them by using play dough.

3. Results

The views of the students regarding the question 'How did you find activities supported by concrete materials?' for the 3 different activities carried out by using concrete materials is shown as a percentage-frequency table in Table 2.

Table 2. The views of the students regarding the activities

No	Student views	f	%
1	It is a nice activity	8	44.3
2	We really had fun	4	22.2
3	Both fun and instructive	2	11.1
4	Difficult but enjoyable	1	5.6
5	Brilliant and make you love mathematics more	1	5.6
6	Enjoyable and let you think mathematics in three-dimensional	1	5.6
7	A nice activity for the new learners	1	5.6
Total			100

The views regarding the evaluation of activities in Table 2 are mostly focused on the fact that it is a nice activity (44.3%). Besides, students stated that they really had fun (22.2%) and they learnt while they are having fun (11.1%).

The views of the students were grouped under 4 themes as "a nice activity", "an enjoyable activity", "an instructive activity", and "a difficult activity". The model showing this correlation is presented in Figure 1.

Activities with Concrete Manipulatives

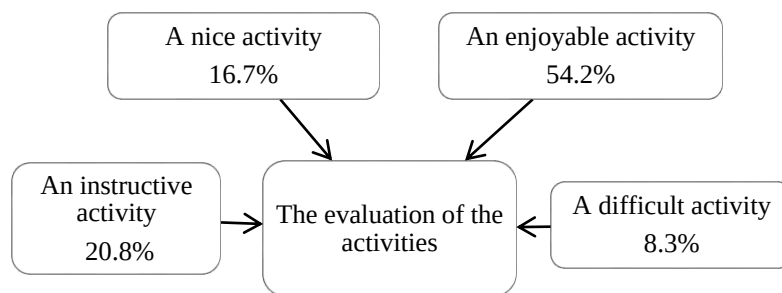


Figure 1. Themes regarding the evaluation of the activities

The sample statement from a student's interview regarding the evaluation of activities is as in the following:

Researcher: What do you think about these three activities?

Student 1: I think, these activities made the lessons more fun by removing the course from molds. After all, not just the formula we can learn the way which we wrote the formula.

Students' answers for the following interview question "Do you think such activities help you to understand mathematics?" are presented in Table 3.

Table 3. The views of students regarding the effect of the activity to their understanding

No	Student views	f	%
1	It helps us to understand	7	38.8
2	I do not think it helps	4	22.2
3	Our thinking is improving as it is really creative	2	11.1
4	The three-dimensional structure may be helpful	2	11.1
5	I think it is very reasonable	1	5.6
6	It may be helpful to ease your mind	1	5.6
7	I think it is improving our perception about mathematics	1	5.6
Total			100

8th grade students mostly answered that such activities supported by concrete materials really help their understanding (38.8%). However, 4 students stated in their sentences that activities did not help them to understand. Two students expressed that activities have improved their creative and three-dimensional thinking skills.

Students' views were combined under 4 themes as 'enables us to think three-dimensionally', 'enables us to think creatively', 'helps us to understand', and 'not helpful'. The model which is showing this correlation is presented in Figure 2.

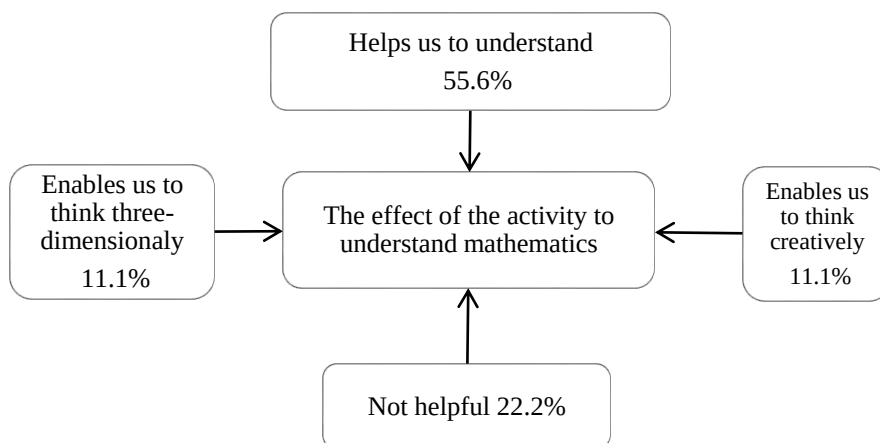


Figure 2. Themes about the effects of activities to the understanding of students

The sample statement from a student's interviews regarding the evaluation of the activity whether it helps students to understand mathematics subjects is as in the following:

Researcher: Do you think such activities help you to understand mathematics?

Student 2: It helped us learn how to occur the volume. In some issues such as surface area, lateral area; it helped us considerably.

Students' answers for the interview question "In which part of the activity do you have difficulties most?" are shown in Table 4.

Table 4. The views of students regarding the parts which students had difficulties most in the activities

No	Student views	f	%
1	I had difficulties in combining cubes	5	27.9
2	We had difficulties while we were trying to find which one we could do bigger	3	16.6
3	I had no difficulties at all	3	16.6
4	I did not have difficulty, just the units were transformed and it was difficult to discriminate them	2	11.1
5	Combining toy blocks	2	11.1
6	We had difficulty in the question in which the volume is the biggest	2	11.1
7	In calculating volume	1	5.6
Total			100

Students states that they had difficulties mostly in combining cubes (27.9%). Later on, they express that they had difficulties in the part which they need to design the cube which has the biggest volume (16.6 %). The number of the students who did not have any difficulties is 3.

Students' views regarding the third interview question were combined under 4 themes as “ in combining cubes”, “the question which the biggest volume was asked”, “I did not have any difficulties”, “not helpful”, “. The model which is showing this correlation is presented in Figure 3.

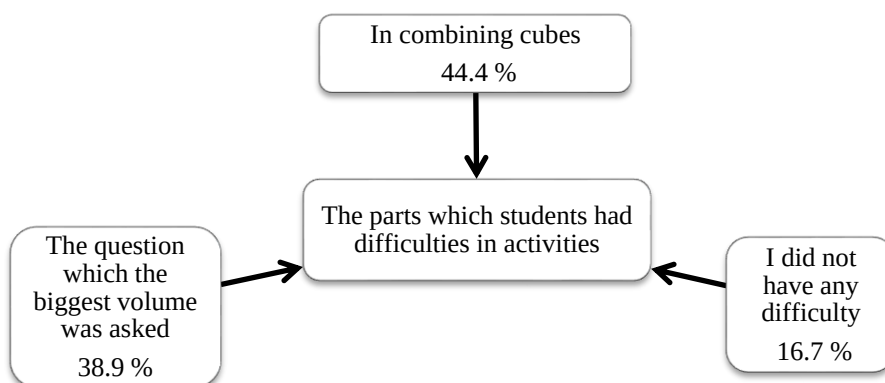


Figure 3. Themes about the parts which students had difficulties most in activities

From student interviews sample statement about the evaluation of the parts which students had difficulties most is as in the following:

Researcher: In which part of the activity do you have difficulties most?

Student 2: Actually, I had no difficulty in activities generally. However, it was difficult to combine the cubes and took time.

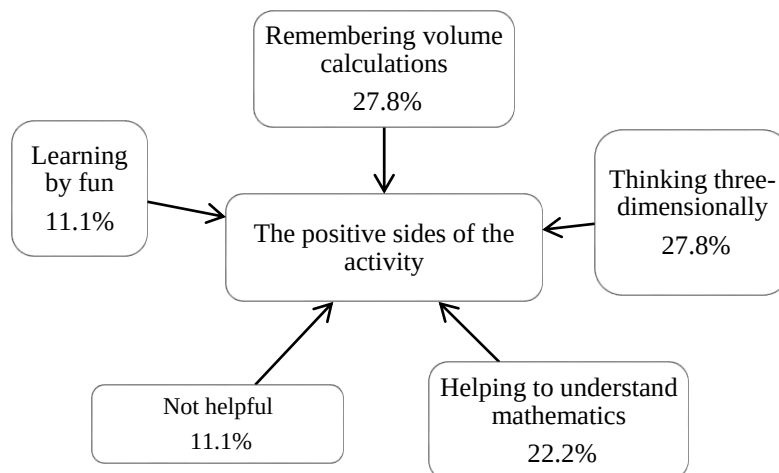
Students' answers for the interview question “What are the positive sides of the activity?” are given in Table 5.

Table 5. The views of students about the positive sides of the activities

No	Student views	f	%
1	It is helpful while calculating volume	3	16.5
2	It helps us to remember how to calculate volume easily	2	11.1
3	It enables us to think	2	11.1
4	We had a better understanding in volume calculations and remember them	2	11.1
5	It enables us to think three-dimensionally	2	11.1
6	It is not helpful	2	11.1
7	It improves our perception power	1	5.6
8	I think it improves our mathematics perception	1	5.6
9	It helps us to understand the subject	1	5.6
10	It makes mathematics more enjoyable	1	5.6
11	It helps us to visualize geometry	1	5.6
Total			100

Students expressed their opinions mostly about calculating volume (16.5%) and remembering how to calculate volume easily (11.1%). In addition to this, they also state that it enables us to think and to think in three-dimensionally (11.1%). There are two students who think that activities are not helpful.

Students' views were transformed into themes as “remembering volume calculations”, “learning by fun”, “thinking three-dimensionally”, “helping to understand mathematics”, and ‘not helpful’. Themes are presented in Figure 4.

**Figure 4.** Themes about the positive sides of the activity

Students' answers for the interview question "What are the negative sides of the activity?" are given in Table 6.

Table 6. The views of students about the negative sides of the activities

No	Student views	f	%
1	There is no negative side	11	61
2	It takes a lot of time	2	11,1
3	It was hard to nestle cubes	2	11,1
4	It was quite difficult	1	5,6
5	It will be better if we have more cubes	1	5,6
6	Cubes were falling immediately	1	5,6
Total			100

Most of the students (61%) stated that the activities did not have any negative sides. The other students talked about that it takes a lot of time (11.1%) and it is hard to nestle cubes (11.1%).

The views of the students were combined under 4 themes as "time consuming", "difficult to nestle cubes", "difficult activity", "nothing negative". Themes are given in Figure 5.

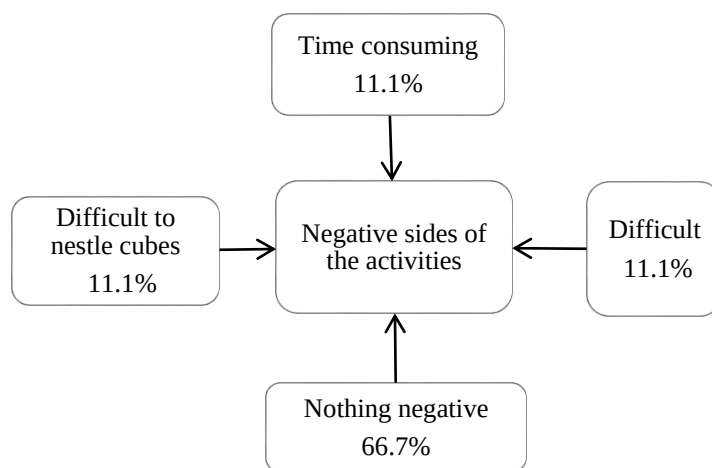


Figure 5. Themes about the negative sides of the activity

The quotation from the student interview about positive and negative sides of the activity is as in the following:

Researcher: What are the positive and negative sides of the activity for you?

Student 2: We memorizing formulas directly and it is really hard. Instead of memorizing long, we are using our mind, our logic. They really helped us.

Sample student answers for the interview question “What do you suggest to improve this activity?” are given in Table 7.

Table 7. The views of the students about improving the activities

No	Student views	f	%
1	Cubes can be from a kind which can be nestled easily	4	22.2
2	I think it is really good, nothing to say more	4	22.2
3	It will be better if you give more time	3	16.5
4	Cubes should be combined easily	2	11.1
5	Keep up doing such activities	1	5.6
6	I would like to have written more questions about absent cubes	1	5.6
7	Other figures should be added to design	1	5.6
8	It would have been better if the objects had been more difficult	1	5.6
9	Having easier activities	1	5.6
Total			100

Students suggest for improving the activities to have cubes which can be nested easily (22.2%), and to give students more time (16.5%).

All student views were grouped under 4 themes as “combining cubes more easily”, “giving more time”, “and making various additions to the activities”, “nothing to say”. Themes are given in Figure 6.

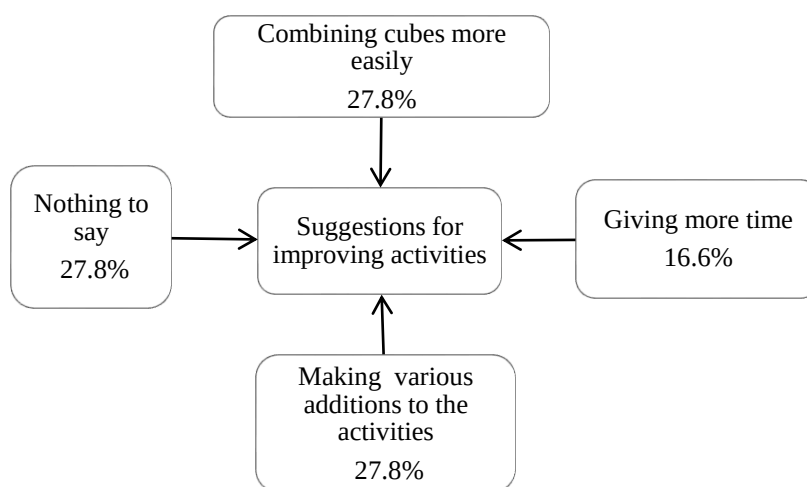


Figure 6. Themes about suggestions to improve activities

The quotation from a student's interview about suggestions for improving the activity is as in the following:

Researcher: What do you suggest to improve this activity?

Student 3: During the activities, the nets of the figures can be given. For example, the net of the rectangle prism helps me understand.

4. Discussion and Conclusion

Using materials in middle school mathematics lessons which have a really abstract structure allow students to have different learning experiences, to become active and to have more enjoyable lessons (Kutluca & Akin, 2013). In this study concrete materials are important in terms of visualizing the sight of the three-dimensional geometric objects and making concepts such as volume and surface are more meaningful. Thus, for objectives in the learning areas which require spatial thinking, there are studies which concluded that concrete materials are effective in increasing academic achievement and in improving different components of spatial abilities like mental rotating (Olkun, 2001; Yurt, 2011). This study is not an experimental study which is testing the effectiveness of the materials, but it was concluded after its evaluation with students' views that it is a practicable material that can be used in an experimental study. In addition to this, it makes understanding easier in understanding concepts such as volume and surface areas and determining the correlation between side, corner, surface elements of the geometric figures and numbers.

The positive views of students are not sufficient for using these activities as they are in the lessons. Activities can be made more efficient by considering the negative views of the students and their suggestions. For instance, more time can be allocated for the activities and different figures can be provided for students to design with mathematics cubes.

Teachers have most of the responsibilities in using these materials and carrying out such activities. Although the material is effective, eagerness and motivation of teacher will affect the usage of materials.

The following suggestions can be made in accordance with the results of this study:

This study can be carried out with more people and as a long-term study. The effect of a material which was prepared with an experimental study on the mathematics achievement and attitudes of students can be searched.

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Investigation of the Disadvantaged Student Performance of Turkey: An Evaluation of Light PISA Data

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1. Introduction

In 1980s the focus on mathematic literacy was first taken up in the U.S.A. As a response to these concerns, the National Council of Teachers of Mathematics (NCTM) developed “educational programs and assessment” standards for mathematics education (Martin, 2007). In the copies of NCTM, there are strong views indicating that to realize mathematical literacy, an individual should develop mathematical skills, a unique cognitive attitude towards mathematics and self-confidence in mathematics performance (Kaiser&Willander, 2005). Mathematical literacy was defined by the Organization for Economic Co-operation and Development (OECD) as students’ ability to apply their knowledge in the subject area and to apply their ability to reason, analyze and synthesize to the problems they encounter.

In PISA, the tests are designed to generate measures of the extent to which students can make effective use of what they have learned in school to deal with various problems and challenges they are likely to experience in everyday life (OECD, 2009). According to PISA 2012 mathematics framework, *mathematical literacy* is an individual’s capacity to formulate, employ, and interpret mathematics in a variety of contexts. It includes reasoning mathematically and using mathematical concepts, procedures, facts, and tools to describe, explain, and predict phenomena. It assists individuals to recognize the role that mathematics plays in the world and to make the well-founded judgments and decisions needed by constructive, engaged and reflective citizens (OECD, 2010).

According to PISA, mathematics literacy definition is based on three interrelated aspects:

- i) The mathematical processes that describe what individuals do to connect the context of the problem with mathematics and thus solve the problem and the fundamental mathematical competencies underlying those processes;
- ii) Mathematical content knowledge that is relevant to an assessment of 15-year-old students;
- iii) The contexts in which students will face mathematical challenges (Stacey, 2012).

As numerous countries give importance to mathematical literacy and are concerned about their place in various types of literacy, OECD initiated the implementation of tests measuring mathematical and science literacy every three years to 15-year-old students who have completed their compulsory education. This is an indication of the degree of importance attributed to literacy at the international level. The goal of PISA is to raise individuals who engage in and understand mathematics, who can make sound criticisms and who can use these skills in their future daily and work lives.

Education is one of the leading phenomena that is difficult to standardize. While the world is becoming more global, it is inevitable to think the nations are not affected from the other nations’ educational systems. This situation leads to necessity of international assessments. The most common assessment tool is PISA survey. In the year 2000, PISA was conducted in 32 different countries to 265,000 students, while it was raised to 65 countries and 510,000 students

by 2012 (OECD, 2013). When those countries are evaluated economically they have the 90% of the world economy (OECD, 2013). From this view PISA is a very rich data source for comparison of countries educational performance among other countries. The students tested by PISA are aged between 15 years are scale six levels and divided into three groups. Low performing students are located at the entrance of this six-digit level. The performance of Turkish students raised from 2003 to 2012 in PISA (OECD, 2013, p.60). However, this improvement is not meaningful according to expert researchers (OECD, 2013, p.122). When PISA's 6 level scale which is used to measure the mathematics literacy analyzed, Turkish students are successful at 1st and 2nd levels that consist simple and operation ability required questions, but they are unsuccessful at 5th and 6th levels that require high level creative thinking. Turkey's mean score is seen under the OECD's mean score (OECD, 2013, Annex-B1).

In this study, low-performing student's success in Turkey was investigated with risk factors and outcomes in the light of PISA 2012 mathematic literacy category data.

2. Finding and Discussion

According to Mayer (2003: 2-3) the "disadvantaged" was identified in various forms. Surprisingly, the concept of "disadvantaged" that we heard was not centered primarily on those causes traditionally cited: *Race, ethnic group, poverty, or sex*. Rather, the concept of "disadvantaged" was focused on "denied access to the tools needed for self-sufficiency." The term "disadvantaged" has been used traditionally as an adjective, as if to describe a quality inherent to the group. It is now also used as a verb, to describe a process in which mainstream society acts in a way that "disadvantages" a particular group. People see themselves as disadvantaged to the extent they are denied access to and use of the same tools found useful by the majority of society. These include autonomy, incentive, responsibility, self-respect, community support, health, education, information, employment, capital, and responsive support systems. A major feature of "disadvantage" is the presence of "barriers to self-sufficiency." These barriers are the ways in which people are denied access to needed tools, and include unavailability of resources, inaccessibility to resources, the society's regard for a group, government and corporate practices, and certain conditions of the group itself.

A disadvantaged group is defined by the particular pattern of denied resources and barriers it faces (rather than the fact of race, or poverty, or sex). A disadvantaged group may face more than one barrier. Some barriers may be more easily surmounted or moved than others. Each group presents its own pattern of disadvantage and barriers to self-sufficiency; the implied solutions would vary from group to group as well. Overcoming disadvantage, then, means overcoming or removing barriers to self-sufficiency. This can take many forms, depending on the pattern presented, but would include enabling or empowering the group's own efforts to develop the tools or resources needed for its own self-sufficiency. Noteworthy is what was not portrayed as central to the definition of "disadvantaged." No one said that "more cash" would solve their problems; and no one said that "more government assistance" would fix what was wrong. While these deficiencies may make up part of the picture, they are not perceived as elementary.

In the European and American, "the disadvantaged group" mainly refers to the people who lose the ability to work and live independently, and then have to live on the social welfare and government help. Losing or having no ability of working and lacking the necessary living income are the common characters of them. Different from Europe and America, the disadvantaged groups in China mainly states the unfair distribution structure of certain social

resources and interests. Chinese scholars tend to define the disadvantaged groups as "those social colonies who need the help and support from his nation and society because they cannot maintain the basic living standard for themselves and their family members with their own strength or ability." In other words, the main feature of disadvantaged groups is that those groups of people are in the disadvantaged position in society and poor in their material life due to some barriers or lack of economic, political and social opportunities (<http://chinesedisadvantagedgroups.weebly.com/who-are-disadvantaged-groups.html>, no date).

Disadvantaged students are those whose family, social, or economic circumstances hinder their ability to learn at school. Across OECD countries, almost one of every five students does not reach a basic minimum level of skills to function in today's societies (indicating lack of inclusion). Students from low socio-economic background are twice as likely to be low performers, implying that personal or social circumstances are obstacles to achieving their educational potential (indicating lack of fairness). Lack of inclusion and fairness fuels school failure, of which dropout is the most visible manifestation – with 20% of young adults on average dropping out before finalising upper secondary education. The economic and social costs of school failure and dropout are high, whereas successful secondary education completion gives individuals better employment and healthier lifestyle prospects resulting in greater contributions to public budgets and investment. More educated people contribute to more democratic societies and sustainable economies, and are less dependent on public aid and less vulnerable to economic downturns. Societies with skilled individuals are best prepared to respond to the current and future potential crises. Therefore, investing in early, primary and secondary education for all, and in particular for children from disadvantaged backgrounds, is both fair and economically efficient. In the path to economic recovery, education has become a central element of OECD countries' growth strategies. To be effective in the long run, improvements in education need to enable all students to have access to quality education early, to stay in the system until at least the end of upper secondary education, and to obtain the skills and knowledge they will need for effective social and labour market integration. One of the most efficient educational strategies for governments is to invest early and all the way up to upper secondary. Governments can prevent school failure and reduce dropout using two parallel approaches: eliminating system level practices that hinder equity; and targeting low performing disadvantaged schools. But education policies need to be aligned with other government policies, such as housing or welfare, to ensure student success. The way education systems are designed can exacerbate initial inequities and have a negative impact on student motivation and engagement, eventually leading to dropout. Eliminating system level obstacles to equity will improve equity and benefit disadvantaged students, without hindering other students' progress. Five (5) recommendations can contribute to prevent failure and promote completion of upper secondary education: 1. Eliminate grade repetition; 2. Avoid early tracking and defer student selection to upper secondary; 3. Manage school choice to avoid segregation and increased inequities; 4. Make funding strategies responsive to students' and schools' needs and finally 5. Design equivalent upper secondary education pathways to ensure completion (OECD, 2012).

In PISA, Status of disadvantaged students was gathered under three headings: Students, Schools, and Education systems. The risk factors of potential areas socio-economic status and demographic background are explained in Table 1.

Table 1.

Level of Analysis	Potential areas of risk	Risk/Protective factors
Students	Socio-economic status	Socio-economic disadvantage
	Demographic background	Gender, immigrant background, language spoken at home, geographic location, family structure
	Progress through education	Pre-primary education, grade repetition, curricular track in secondary school
	Attitudes and behaviors towards and at school	Truancy, time on learning activities, self-beliefs, perseverance
	School socio-economic composition	Concentration of disadvantaged students
Schools	School learning environment	School leadership, teaching practices, after-school opportunities, parents' involvement in school
	School resources and administration	Quality of school's educational resources and teacher shortages
	Resources	Physical infrastructure, educational resources, qualified teachers, class size, equity in resource allocation within the system
Education Systems	Selecting and grouping students	Vertical and horizontal stratification
	Governance	School autonomy, public/private management and funding

The causes of low performance of disadvantaged students were investigated in the report “Low Performing Students” OECD 2016.

Failure, it is often said, is a necessary step on the way towards success. But for far too many students around the world, failure at school is a dead end. These students get trapped in a vicious circle of poor performance that leads only to more bad marks and further disengagement from school. Worse, poor performance at school has long-term consequences, both for the individual and for society as a whole. Students who perform poorly at age 15 face a high risk of dropping out of school altogether. Low performing students are more often immigrants and minority language students also tend to be social economically disadvantages. According to OECD report, increased levels in the low performing students have a significant economic gain in the long term. When exceeded the critical threshold of students in OECD member countries, forecast in the coming years it means that the economy will contribute 200 billion USD. In addition, measures will be taken in the fight against low performance, it will ensure the success of the high-level triggered indirectly. If necessary measures are not taken in the low performance of disadvantaged students, it is a risk of dropping out of school and causes the level of education is falling. PISA assesses – reading, mathematics and science –, proficiency is measured on a continuous numerical scale in score points. On average across OECD countries, these scales have a mean of 500 score points and a standard deviation of 100 points. To allow for more nuanced interpretations of the assessment results, the proficiency scales are divided into six levels, ranging from lowest (Level 1) to highest (Level 6) proficiency. Low-performing students in mathematics are those who score under 420 points, low performers in reading are those who score under 407 points, and low performers in science are those who score below 410 points.

Table 2. Typical skills of students at PISA proficiency Levels 1 and 2 in mathematics, reading and science

What students can do in mathematics	
Level 2	Students can interpret and recognise situations in contexts that require no more than direct inference. They can extract relevant information from a single source and make use of a single representational mode. Students at this level can employ basic algorithms, formulae, procedures, or conventions to solve problems involving whole numbers. They are capable of making literal interpretations of the results
Level 1	Students can answer questions involving familiar contexts where all relevant information is present and the questions are clearly defined. They are able to identify information and to carry out routine procedures according to direct instructions in explicit situations. They can perform actions that are almost always obvious and follow immediately from the given stimuli.

(OECD, 2016)

PISA defines “low performers” as those students who score below Level 2 on the PISA mathematics scales defines and measures low performance. Level 2 is considered the baseline level of proficiency that is required to participate fully in society. Students who score at Level 1 can answer questions involving clear directions and requiring a single source of information and simple connections; but these students cannot engage in more complex reasoning to solve the kinds of problems that are routinely faced by today’s adults in modern societies. Description of the skills that students who perform just above or just below the baseline level of proficiency could be expected to demonstrate in each of the subjects assessed by PISA.

In the result of the study, the risk factors were investigated on student level bases was located in Table 2. Only student level risk factors were investigated because the situation in the other categories depend on the education policy. However, at student level, disadvantage situation is less affected by education policy. Socio-economic, gender, immigrant, language spoken at home factors are the clearest explanation of the existence of the state of disadvantage students. In this study, it was found appropriate to investigate the risk factors at student level time-cost limitation in mind.

Table 3. Patterns of success in reducing the share of low performers in mathematics in Turkey

Year	Below Level 1		Level 1		Level 2	
	%	S.E.	%	S.E.	%	S.E.
PISA 2012	15,5	(1,1)	26,5	(1,3)	25,5	(1,2)
PISA 2009	17,7	(1,3)	24,5	(1,1)	25,2	(1,2)
PISA 2006	24,0	(1,4)	28,1	(1,4)	24,3	(1,3)
PISA 2003	27,7	(2,0)	24,6	(1,3)	22,1	(1,1)

(OECD, 2016)

Turkey Germany, Italy, Mexico, Poland, Portugal, the Russian Federation and Tunisia, improved their performance in mathematics between 2003 and 2012 by reducing the share of low performers. Reducing the number of low-performing students is an effective way to improve an education system’s performance. In the following analysis same 9 countries are going to be taken as a basis.

Table 4. Socio-economic status and low performance in mathematics

Country	Bottom quarter		Second quarter		Third quarter		Top quarter		Top-bottom quarter	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	% dif	S.E.
<i>Poland</i>	26,5	(1,6)	16,4	(1,4)	10,7	(1,4)	3,8	(0,7)	-22,7	(1,7)
<i>Germany</i>	31,1	(2,4)	18,5	(1,4)	9,4	(1,2)	5,9	(0,8)	-25,2	(2,4)
<i>Italy</i>	38,4	(1,2)	27,4	(1,1)	19,4	(1,0)	12,5	(0,7)	-25,9	(1,3)
<i>Russian Federation</i>	37,9	(2,8)	28,2	(1,7)	17,3	(1,4)	11,7	(1,3)	-26,1	(3,2)
<i>OECD ave</i>	37,2	(0,3)	25,2	(0,3)	17,7	(0,2)	9,5	(0,2)	-27,7	(0,4)
<i>Mexico</i>	70,7	(1,1)	58,2	(1,1)	52,5	(1,2)	36,6	(1,1)	-34,1	(1,6)
<i>Tunisia</i>	80,9	(2,0)	77,1	(2,0)	64,9	(2,1)	46,6	(3,4)	-34,2	(3,8)
<i>Turkey</i>	56,9	(2,3)	45,8	(2,3)	41,7	(2,4)	22,7	(2,2)	-34,2	(2,6)
<i>Portugal</i>	42,2	(2,2)	27,0	(2,1)	19,5	(1,6)	7,1	(1,0)	-35,1	(2,4)
<i>Brazil</i>	85,0	(0,9)	76,2	(1,3)	66,0	(1,5)	44,9	(1,9)	-40,1	(2,0)

(OECD,2016)

According to The PISA index of economic, social and cultural status, Differences between the top and the bottom quarter are statistically significant in all countries and economies. In Turkey, %34 of disadvantages students are low performers in mathematics.

Table 5. Gender and the likelihood of low performance in mathematics

Country	Before accounting for other student characteristics		After accounting for other student characteristics		Before accounting for other student characteristics		After accounting for other student characteristics	
	Odds Ratio	S.E.	Odds Ratio	S.E.	Significant	Not significant	Significant	Not significant
<i>Poland</i>	0,91	(0,10)	1,13	(0,12)		0,91		1,13
<i>Germany</i>	1,14	(0,10)	1,53	(0,20)		1,14	1,53	
<i>Italy</i>	1,23	(0,08)	1,83	(0,14)	1,23		1,83	
<i>Russian Federation</i>	0,93	(0,07)	1,04	(0,08)		0,93		1,04
<i>OECD ave</i>	1,11	(0,02)	1,42	(0,03)	1,11		1,42	
<i>Mexico</i>	1,37	(0,05)	1,60	(0,07)	1,37		1,60	
<i>Tunisia</i>	1,42	(0,11)	2,14	(0,22)	1,42		2,14	
<i>Turkey</i>	1,11	(0,12)	1,70	(0,20)		1,11	1,70	
<i>Portugal</i>	1,11	(0,08)	2,16	(0,27)		1,11	2,16	
<i>Brazil</i>	1,43	(0,07)	1,86	(0,13)	1,43		1,86	

(OECD, 2016)

In the light of PISA Report, boys are significantly more likely than girls to be failed in class, have repeated grade and get lower marks.

Investigation of the Disadvantaged Student Performance of Turkey

Table 6. Immigrant background and low performance in mathematics

Country	Student does not have an immigrant background		Student has an immigrant background		Student has an immigrant background - Student does not have an immigrant background		Percentage of immigrant students	Significant		Not significant		Label
	%	S.E.	%	S.E.	%	S.E.		Without	With	Without	With	
<i>Canada</i>	12,2	(0,5)	14,0	(1,1)	1,8	(1,2)	29,6			12,2	14,0	
<i>Germany</i>	13,7	(1,1)	31,1	(2,8)	17,4	(3,0)	13,4	13,7	31,1			
<i>Italy</i>	22,6	(0,8)	42,3	(1,8)	19,7	(1,8)	7,5	22,6	42,3			
<i>Russian Federation</i>	22,7	(1,2)	29,6	(2,7)	6,9	(2,8)	10,9	22,7	29,6			
<i>OECD ave</i>	20,8	(0,2)	36,0	(0,8)	14,2	(0,8)	11,3	20,8	36,0			
<i>Mexico</i>	53,6	(0,8)	87,7	(2,7)	34,1	(2,6)	1,3	53,6	87,7			
<i>Tunisia</i>												
<i>Turkey</i>	41,5	(1,9)	49,1	(11,5)	7,6	(11,8)	0,9			41,5	49,1	Turkey 0,9
<i>Brazil</i>	67,3	(1,0)	83,2	(5,6)	15,9	(5,5)	0,7	67,3	83,2			

(OECD,2016)

Table 6 shows that the way in which an immigrant background is related to other student characteristics is not the same in all countries.

Table 7. Language spoken at home and the likelihood of low performance in mathematics

Country	Before accounting for other student characteristics		After accounting for other student characteristics		Before accounting for other student characteristics		After accounting for other student characteristics	
	Odds Ratio	S.E.	Odds Ratio	S.E.	Significant	Not significant	Significant	Not significant
<i>Poland</i>	1,59	(0,90)	2,01	(1,22)		1,59		2,01
<i>Germany</i>	2,60	(0,44)	1,54	(0,37)	2,60			1,54
<i>Italy</i>	2,30	(0,14)	1,39	(0,11)	2,30		1,39	
<i>Russian Federation</i>	1,50	(0,22)	1,28	(0,25)	1,50			1,28
<i>OECD ave</i>	2,32	(0,09)	1,35	(0,08)	2,32		1,35	
<i>Mexico</i>	3,36	(0,51)	1,86	(0,36)	3,36		1,86	
<i>Tunisia</i>	1,13	(0,43)	1,52	(0,64)		1,13		1,52
<i>Turkey</i>	2,48	(0,77)	2,46	(0,84)	2,48		2,46	
<i>Portugal</i>	1,39	(0,32)	0,61	(0,30)		1,39		0,61
<i>Brazil</i>	0,89	(0,21)	0,89	(0,30)		0,89		0,89

(OECD, 2016)

It is statistically significant that in Turkey, the gap related to language spoken at home is bigger than most of the other OECD countries.

3. Conclusion

Turkey improved their performance in mathematics between 2003 and 2012 by reducing the share of low performers in this subject. Not just Turkey, Nine countries reduced their share of low performers in mathematics between the 2003 and 2012 PISA assessments. Four of them

(Brazil, Mexico, Tunisia and Turkey) improved by reducing the share of students who perform below Level 1, while in five (Germany, below Level 1 shrank simultaneously. Italy, Poland, Portugal and the Russian Federation), the share of students at Level 1 and below Level 1 shrank simultaneously. Countries have had mixed results in trying to reduce the share of low-performing students; and reducing low performance in mathematics has been particularly difficult. The main reasons for this situation, Turkey improved their science performance between 2006 and 2012 largely because they reduced the share of poor performers in that subject (OECD, 2014a; OECD, 2015; OECD, 2011). Socio-economic gap decreases with higher risk for Turkey (OECD, 2016; p.95). Among PISA-participating countries and economies, only in Turkey do low performers in mathematics attend school more regularly than students who score at proficiency Level 2 or above on the PISA mathematics assessment, and viewed that they had skipped a day of school.

Turkey, the relationship between ability grouping and a greater likelihood of low performance is statistically significant even after accounting for socio-economic factors. Turkey has managed to reduce their shares of students who do not attain Level 1 proficiency in mathematics students above the baseline level of proficiency. For the continuation of this situation achieving this may require a change in strategy.

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Effects Of 4E, 5E And 7E Learning Methods On The Academic Success Levels Of Students: A Meta-Analysis Study

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1. Introduction

Science education is the education of attractive and surprising wealthiness around the child. It is the education that deals with the food, water, air, body, animal, car, electricity, light and sun that are used by the child. In this regard, science education is a simple and tangible education which needs to be provided with convenient methods and techniques by considering the interests and needs of the child, development level, desires of the child and environmental opportunities (Gürdal, 1988). Various models have so far been developed with the aim of enabling teachers to deliver a more accurate, effective and easier education for the matter of their use of the constructivist learning approach, which claims that students assimilate and attach meaning to the new situations they come across through making use of students' previous experiences and pre-knowledge, in science education (Demirezen and Yağbasan, 2013). Inquiry instruction models are based on the Karplus' learning cycle, designed to reflect important features of scientific inquiry. It involves three main phases: exploration, concept formation and application (Lawson, Abraham, and Renner 1989).

4E learning model which is one of these models is the learning cycle method that is based on Piaget's theory of development (Yılmaz and Huyugüzel Çavaş, 2006). High level thinking skills and motivation of the students are increased by means of 4E learning model. The model encourages the students to think about a concept or subject and enables them to learn by experience. 4E learning model is composed of 4 learning stages. These stages are explore, explain, expansion and evaluation. 5E model is one of the models that is mostly used in constructivist approach. 5E learning cycle (Enter, Explore, Explain, Elaborate) model which has been improved by Bybee (1997), takes its name from the number of stages and the first letters of each stage. These stages are: Engage-Enter, Explore, Explain, Elaborate and Evaluate. 7E model however, is the interpretation of 5E model by Eisenkraft (2003) by developing 5E model separately. According to Bybee, it is composed of seven stages as excite, explore, explain, elaborate, extend, exchange and evaluate (Kanlı, 2007). The difference of 5E model from 7E learning model is nonexistence of extend and exchange steps. The students improve their learning domains by sharing their knowledge with each other with 7E learning model, and they associate their knowledges with various disciplines and real life, and strengthen it.

Various studies in Turkey and around the world have been conducted about the implementation of these models in science education, and the results have been obtained which demonstrated that it has an effect upon the improvement of different skills of students (Demirci and Özmen, 2012; Erdoğan, 2011; Gürbüz, 2013; Meşeci and Karamustafaoğlu, 2015; Önder, 2011). Although the studies have been designed in a way that they will provide comprehensive generalisations, they are not able to provide a wide range of explanations with their constraints such as sample, subject, implementation time and number of implementers. By the nature of educational sciences, the events and cases are examined within their own environments in the researches. The researcher tries to explain and interpret the events and cases in detailed within their own environments (Yıldırım and Şimşek, 2011). This circumstances causes the acceptance rate to be lower. Because of these reasons, different results have been obtained with respect to the effect of learning methods, models or approaches at limited number that are used in the studies, upon dependent variable.

Considering the fact that the effect sizes of the method or approach used vary in between positive and negative ranges; the fact that research methodologies, population and sampling display differences; thus, the fact that all of these factors make it difficult to deliver a general interpretation, a meta-analysis study about this subject is believed to present beneficial knowledge both for implementers and theoreticians. The effect of 4E, 5E and 7E learning models upon the academic successes of the students have been examined in this study. Furthermore, the effectiveness of 4E, 5E and 7E learning models have been compared in terms of various variables.

2. Method

Meta-analysis method has been used in this study. Meta-analysis is an analysis in which the results of a previously conducted research are revised and the effect sizes of the data in these researches are unified by means of calculation. Effect size is the basic unit of meta-analysis studies. Various classifications are used in the interpretation of the importance of effect sizes that are obtained as a result of meta-analysis. Effect size classification is as follows according to Cohen, Manion and Morrison (2007). $0,00 \leq 0,20$ weak; $0,21 \leq 0,50$ small; $0,51 \leq 1,00$ medium, $1,01 \leq$ strong effect.

2.1. Literature Review: Wolf's (1986) criteria have been taken into consideration in the determination of the studies to be included in meta-analysis, and following actions have been taken:

1. Any time limitation has not been used for the studies.
2. The studies should be published before in master's thesis, doctoral thesis or peer-reviewed scientific journals that have been written in Turkish language.
3. They should be experimental studies.
4. In the science education of the study; physics, chemistry, biology and science education should be completed.
5. 4E, 5E and 7E learning approaches should be used for experimental group whereas teacher-centered methods should be used for control group.
6. Arithmetic average related to the academic successes of students in science lessons, standard deviation and the number of students in experimental and control groups should be given in the studies.

A search has been made via "Higher Education Council National Thesis Center" with the purpose of obtaining the data by using the key words such as "4E learning", "5E learning" and "7E learning", "science (science education, physics, chemistry, biology etc.) and a total of 47 studies have been reached. 27 of such studies have not been taken into consideration since they do not have the necessary conditions for this analysis. The researchers have been contacted for restricted theses and 1 study has been reached by this way. In this way, transactions have been carried out with a total of 21 studies. A search has been made via ULAKBİM (Turkish Academic Network and Information Center) for the scientific papers about the subject that have been printed and published in electronic magazines, and a total of 11 studies have been reached.

2.2. Codification of Study Characteristics In order to codify the study data, the codification form of the previously conducted meta-analysis studies (Acar (2011), Ayaz (2015), Tarım (2003)) and a similar codification form has been composed based on these studies. This codification form has been arranged as; study identity, name of the researcher, type and field of the study, class level, number of sample of experiment and experimental group, arithmetic average, standard deviation, t-test result and degree of freedom.

2.3. Meta-analysis statistics: There are two statistical models in the statistical unification of meta-analysis studies, named Fixed Effect Model and Random Effects Model. In fixed effect model, it is assumed that there is only one real effect size for each study (Borenstein, Hedges, Higgins and Rothstein, 2009). There are two alternative solutions when assumption in this model cannot be ensured. The first one is conducting meta-analysis method by separating the data into subgroups; the second is to prefer "Random Effects Model" that includes both inter-studies variance and within-studies variance (Akçıl, 1995).

Random effects model is the model that estimates the average of the effect sizes of the studies (Borenstein et al., 2009). It will be more appropriate to use random effects model if the factors affecting the study are important. It is more appropriate to prefer fixed effect model if it is supposed that the differences in the study results are based on sampling errors whose sources are completely known and which do not become different from study to study. Random effects model is used when it is expected that the source of differences can be different based on many study characteristics (Borenstein et al., 2009).

Transaction effect meta-analysis has been used in the analysis of the data in the study. These kinds of meta-analyses summarize the transaction effect and the relationship between such effects; nature of subject, quantity of the transaction made and in terms of factors of special transaction. For transaction effect meta-analysis standardized effect size parameters are used that are shown with "d" or "g" letters. This term is obtained by dividing the difference between experimental and control group averages into standard deviation (Şahin, 2005). The main purpose in this method is to calculate the difference between control and experimental group averages in the experimental study, which is shown with $d = (X_e - X_c) / SD$ formula. The number of studies that are necessary in order to change the meaningfulness of the findings belong to effect sizes of the studies that were included in meta-analysis, have been analyzed with Comprehensive Meta-Analysis method.

3. Findings

The findings are given below which include the comparison between the effect of 4E, 5E and 7E learning approaches upon the academic successes of students in science education with the effect of traditional learning methods upon the academic successes of students.

The effect sizes that are calculated by using the sampling numbers that were included in the study, arithmetic averages and standard deviation values, and with the unification of effect size involving variance values, are shown in Table 1. The researches that have been included in the study have been unified at effect size common metric with their standard errors and variance values. These values have been used as reference for the next calculations.

Table 1. Descriptive statistic results of the researches that have been examined within the scope of study

Study	Effect Size	Std. Error	Variance	Study	Effect Size	Std. Error	Variance
1	0.890	0.332	0.110	17	2.228	0.321	0.103
2	1.248	0.343	0.118	18	1.025	0.251	0.069
3	0.921	0.317	0.101	19	1.368	0.266	0.071
4	4.024	0.519	0.269	20	1.882	0.292	0.085
5	1.217	0.318	0.101	21	0.818	0.237	0.056
6	4.024	0.519	0.269	22	1.752	0.265	0.070
7	0.611	0.296	0.087	23	1.860	0.261	0.068
8	1.554	0.357	0.128	24	0.356	0.224	0.050
9	1.857	0.358	0.128	25	2.179	0.276	0.076
10	0.577	0.276	0.076	26	0.799	0.210	0.044
11	1.119	0.285	0.081	27	0.648	0.211	0.044
12	1.821	0.303	0.092	28	1.967	0.229	0.053
13	0.627	0.269	0.072	29	3.712	0.292	0.085

14	2.878	0.368	0.136	30	0.909	0.170	0.029
15	1.475	0.291	0.085	31	0.797	0.164	0.027
16	1.312	0.285	0.081	32	1.121	0.263	0.069

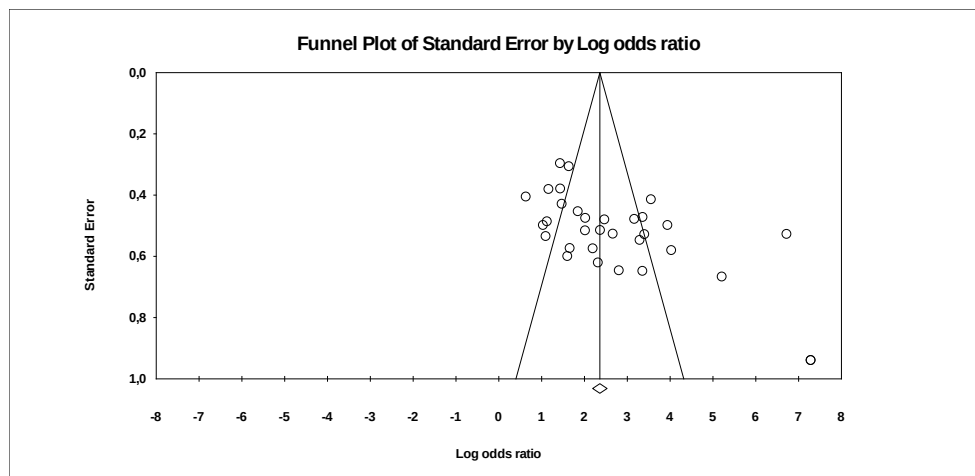


Figure 1. Funnel graphic of the studies whose meta-analysis have been conducted

Funnel graphic of the researches that have been included in the analysis can be seen in Figure 1. According to the graphic, the researches are seen on a symmetrical basis, in other words, they concentrate on one single side. It can be said that there is not any publication bias in the study because when publication bias exist, a skew and asymmetric range is observed in the graphic. (Üstün and Eryılmaz, 2014).

3.1. Findings of general effect size

Meta-analysis findings have been examined that involve the comparison between the effects of 4E, 5E and 7E learning model approaches with traditional learning methods upon the academic successes of students in science lessons.

Table 2. Findings depending on the effect sizes of the studies depending on fixed effect model

Average Effect Size	Degree of Freedom	I ²	Homogeneity Level (Q)	Standard Error	Average effect size	
					Lower limit	Upper limit
1.301	31	88.174	262.128	0.047	1.208	1.3093

As a result of the analyses that have been done according to fixed effect model, standard deviation was calculated as 0.047; upper limit of confidence interval was calculated as 1,393 and lower limit was calculated as 1.208 and average effect size was calculated as 1,301. As a result of homogeneity test that has been done with the purpose of researching the homogeneity of effect sizes of the researches that were included in the study, Q value has been found as 262.128. Based on this result, effect sizes of the researches that were examined in the study, displays a homogeneous structure. According to the results obtained, 4E, 5E and 7E learning models produce more efficient results in terms of academic success comparison with traditional learning method. This effect size that was calculated, has been regarded as the effect on a strong level according to the classification that was conducted by Cohen et al., (2000).

Table 3. Findings depending on the effect sizes of the studies depending on random effects model

Average Effect Size	Degree of Freedom	I ²	Homogeneity Level (Q)	Standard Error	Average effect size	
					Lower limit	Upper limit
1.500	31	88.174	262.128	0.140	1.226	1.774

As a result of the analyses that were done depending on random effects model, it has been revealed that Q value is 262.128 that was calculated with the purpose of researching the homogeneity of effect sizes of the researches. Based on this result, it has been determined that

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the effect sizes of the researches that were examined in the study are homogeneous according to random effects model. It has been identified that this effect size that which was calculated, has an effect at a strong level according to Cohen et al. (2000).

Findings that deals with whether the effect sizes upon academic success of different learning models become different or not, are given in Table 4.

Table 4. Findings regarding the effect sizes of learning approaches depending on learning models

Learning Model	Homogeneity Level (Q)	p	n	ES	Average effect size		Standard Error
					Lower limit	Upper limit	
4E	0.105	0.949	2	1.244	0.858	1.631	0.197
5E			23	1.308	1.199	1.416	0.055
7E			7	1.292	1.088	1.496	0.104

According to table 4, 5e learning model has the highest effect size which is 1.308 and 4E learning model has the lowest effect size which is 1.244. The critical value has been found as 7.814 in the chi-square distribution whose degree of freedom is 2, and homogeneity value (Q) has been found as 0.105 among the groups that were composed according to the learning model used. It has been identified that there is no difference on a significant level statistically in terms of the academic successes among the groups that have been composed depending on learning model, since homogeneity value among the groups is lower than critical value.

Findings are given in Table 5 which deals with whether the effect sizes of three different learning approaches upon the academic success become different depending on the types of publication or not.

Table 5. Findings regarding the effect sizes of learning approaches depending on the types of study

Type of Study	Homogeneity Level (Q)	p	n	ES	Average effect size		Standard Error
					Lower limit	Upper limit	
Paper	28,012	0,000	11	1,148	1,006	1,289	0,098
Post Graduate			12	1,649	1,489	1,808	0,081
Doctorate			9	1,077	0,889	1,269	0,098

According to table 5, the highest effect size has been found as 1.649 belong to master's theses and the lowest effect size has been found as 1.007 belong to doctoral theses. Meaningfulness degree has been found as 95% in chi-square distribution, and critical value has been found as 7.814 for two degree of freedom. Homogeneity degree (Q) has been found as 28.012 among the groups whose type of study have been composed. There is no meaningful difference statistically between the groups that were composed based on learning study type in terms of academic success, since inter-groups homogeneity degree is higher than the critical value.

Findings that deals with whether the effect sizes of three different learning approaches upon academic success become different or not depending on the education levels of students, are given in Table 6.

Table 6. Findings regarding the effect sizes of learning approaches depending on education level

Education Level	Homogeneity Level (Q)	p	n	ES	Average effect size		Standard Error
					Lower limit	Upper limit	
Primary School	15.950	0.001	5	1.261	1.046	1.475	0.109
Secondary School			12	1.357	1.200	1.513	0.080
High School			11	1.461	1.295	1.627	0.085
Undergraduate			4	0.881	0.641	1.121	0.047

According to table 6, the highest effect size has been found as 1.461 belong to high school level and the lowest effect size has been found as 0.881 belong to university level. The critical value has been found as 9.487 in chi-square distribution at 95% of significance level with three degree of freedom. The homogeneity level (Q) has been found as 15.950 between

the groups that have been composed. There is no meaningful difference statistically between the groups that were composed in terms of education success depending on the academic level, since inter-groups homogeneity degree is higher than the critical value.

4. Conclusion

In this study in which the effects of 4E, 5E and 7E learning models upon the academic success in the field of physics, chemistry and science education have been examined by means of meta-analysis method, the results have been analyzed separately depending on the type of publication, gender of the researcher, learning model and education level of target group. First of all, the effects of learning models upon academic success have been examined. It has been identified that the most preferred model is 5E and the least preferred model is 4E among the learning models. It has been revealed that 5E model has the highest effect level among these three learning approaches according to the analyses done. Bybee et al. (2006) also stated that 5E learning model yielded efficient results in developing many skills of the students. Ates (2005) indicated that 5E approach gets more efficient results in comparison with traditional learning approach in teaching continuous learning. Furthermore, it has been concluded that there is no substantial meaningful difference between the effect sizes of three learning models.

The learning models in the study have been examined depending on the type of the researches. According to such results, it has been identified that the studies regarding these learning models are mostly conducted on undergraduate level whereas they were observed as minimum in doctorate level. Comparing the chi-square value and homogeneity value that are obtained in the study, a meaningful difference has been identified in terms of academic success in the studies that are conducted depending on these study types.

The learning models have been observed in the study according to the target group. According to such results, it has been identified that the studies regarding these learning models are mostly conducted on secondary school level whereas they were observed as minimum in undergraduate level. Comparing the chi-square value and homogeneity value that are obtained in the study, a meaningful difference has been identified in terms of academic success in the studies that are conducted depending on these study types. The learning models have been preferred more in the studies that were conducted in high schools and secondary schools.

As a result of the fact that $Z=27.499$ value and $p=0.000$ value have been identified as meaningful, it has been decided that our researches are homogeneous and fixed effect model has been preferred. Accordingly, meta-analytical evaluations are made in accordance with this model. As a result of meta-analysis result, $p<0.01$ was found and the average effect size of 99% of confidence interval has been found as $E=+1.301$ at 1.208 lower limit and 1.393 upper limit. This numeric value demonstrates that 4E, 5E and 7E learning models changed the academic successes of students in the fields of physics, biology and science positively in comparison with traditional methods.

5. Recommendations

There are several scientific studies that have been conducted about the effect of 4E, 5E and 7E learning model upon the academic successes of students. According to the data that are obtained in this study, it has been inferred that 4E, 5E and 7E learning approaches are more efficient in developing the academic successes of students in general manner in comparison with traditional practices. Some difficulties have been encountered during the meta-analysis study. One of such difficulties is the problem of finding a source regarding the subject of meta-analysis study. Transmission of the scientific sources in Turkey into electronic environments and improved databases, will enable the meta-analysis study to be faster and to have a rich content. It is

thought that such an electronic database that can enable to reach the scientific sources of all students across Turkey, and that can include older studies as well, will be beneficial for the science of our country and the world.

Since the meta-analysis studies enable to reach the practical findings under a single roof systematically for individual studies in a specific field, it can be revealed that the meta-analysis studies can make contribution to science if they are encouraged and used more instead of normal literature review. In this meta-analysis study, it has been observed that 4E, 5E and 7E learning models took part at higher education level to a very small extent. Therefore, it can be concluded that the attention should be paid on attaching importance to higher education students as well as the continuation of the studies aiming at primary school and secondary school students as a target group in the postgraduate thesis studies regarding 4E, 5E and 7E learning models.

The coding part is the most important part of meta-analysis studies. Any wrong coding to be made during the coding phase causes to obtain wrong results and it leads to the repetition of the study. This circumstance means a negative impact for the researcher. Therefore, the researcher should always be careful during coding.

In this study, the effect of 4E, 5E and 7E learning models upon the academic successes of students in physics, chemistry, biology and science lessons have been researched. It has been concluded that 4E, 5E and 7E learning methods are effective in the academic success of the students according to the meta-analysis that was done. The factors such as attitude of students, genders of students, study area, study year and province of study conducted have been omitted. It is suggested also for other researchers to do meta-analysis study on these fields.

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* *This studies show that are examined in the meta-analysis.*

Modeling Natural Carbon Allotropes With Origami Technique: A Stem Study

Mevhibe Kobak Demir, Canan Nakiboğlu, Hülya Gür

1. Introduction

The need for thinking, producing, inquiring and creative individuals to keep up with the competitive society of today's world is increasing day by day. This need also led to major reforms in educational policies of the countries. One of these reforms is to adapt the STEM (Science-Technology-Engineering-Mathematics) approach to the education system, which enables individuals to demonstrate what they have produced by questioning, thinking and using their creativity, thus enabling them to easily adapt to the qualities of business life when they enter the business world.

STEM education as a bridge between the world of education (science, mathematics) and business (engineering, technology, career, economic growth) (Gomez & Albrecht, 2014, Gillies, 2015) is an educational approach which involves integrating science, technology, engineering and mathematics disciplines from pre-school to high school, starting from pre-school to high school (Yenilmez & Balbağ, 2016). Individuals need to be able to think about solving complex situations that are met in the 21st century and use science, mathematics, technology and engineering knowledge and skills together (NAE & NRC, 2009; Wang, 2012; Moore, Stohlmann, Wang, Glancy & Roehrig., 2014; Bozkurt Altan, Yamak & Buluş Kırıkkaya, 2016). This situation also shows the importance of STEM education in education systems. Educators, researchers and politician purpose to develop STEM skills of the students during the early ages (Robinson, Dailey, Hughes & Cotabish, 2014).

According to the Gülhan and Şahin (2016), the aims of STEM education can be summarized as followings:

- Increasing the number of university students studying in STEM fields
- Increasing the number of individuals in the STEM workforce
- Ensuring that the whole community is STEM literate

In order to achieve the stated objectives, the STEM education approach is one of the issues to be considered how to adapt to learning environments. The STEM approach involves many methods, techniques, and activities. One of them is the modeling. Modeling has an important role in the STEM approach, where mathematics and science knowledge and technology and engineering skills. Modeling is all that is done to explain an unfamiliar situation out of existing information. Model is a product resulting from modeling (Harrison, 2001; Treagust, 2002; Güneş, 2012). Models are used to create simple forms of objects and concepts, to visualize events and to explain scientific facts (Gilbert Boulter & Rutherford, 1998; Coll, 2006; Ünan, Aksan & Çelikler, 2016). There are various classifications in the literature such as scientific / non-scientific models, models in terms of appearance (concrete-abstract models), models in terms of their functions (descriptive-explanatory-descriptor models) (Gülçiçek & Güneş, 2004). The most detailed study of the classification of models belongs to Harrison and Treagust (2000):

Scale models: Scale models of animals, plants, cars, boats and buildings are used to depict colours, external shape and structure. Scale models carefully reflect external proportions, but rarely show internal structure, functions and use nor are they made of the same materials as the target.

Pedagogical analogical models: These models, which teacher crafted explanations that make non-observable entities like atoms and molecules accessible to students, is explained between analogue and target point by point. They are called ‘analogical’ because the model shares information with the target. Analogue attributes often are oversimplified or exaggerated to highlight conceptual attributes.

Iconic and symbolic models: Chemical formulas and equations are symbolic models of compound composition and chemical reactions for instance CO₂ (carbon dioxide).

Mathematical models: Physical properties and processes (e.g. $k=PV$, $F=ma$), can be represented as mathematical equations and graphs that elegantly depict conceptual relationships - e.g. Boyle’s Law, exponential decays etc. Mathematical models are the most abstract, accurate and predictive of all models.

Theoretical models: these models are human constructions describing well grounded theoretical entities. For instance electro-magnetic lines of force and photons, Oversimplifying kinetic theory particles as perfectly elastic space-filling spheres.

Maps, diagrams and tables: These models (e.g. periodic table, phylogenetic trees, weather maps, circuit diagrams, metabolic pathways, blood circulation, pedigrees, food chains and webs) represent patterns, pathways and relationships that are easily visualized by students.

Concept-process models: It is a model that contains process rather than object such as chemical equilibrium, acids and bases, redox.

Simulations: Simulations model is used for representing complex and sophisticated processes like aircraft flight, global warming, nuclear reactions, accidents and population fluctuations.

Mental models: It is a special kind of mental representation produced by the individual as a result of cognitive processes. These models are changing, highly personal, dynamic and difficult to access.

Synthetic models: Synthetic models generate syntheses of the development of alternative concepts of students as a result of a mixture of students' own intuitive models and models created by teachers.

The model used in this study is a pedagogical analogical model according to the classification of Harrison and Tregaust (2000).

Models, in other words, modeling, can be used to construct students' abstract and invisible concepts correctly. Because the chemistry which has an important place in science education includes abstract and complex subjects, the students have difficulties in understanding many subjects, cannot organize them in their minds and have misconceptions about these subjects (Koç, 2014). One of the subjects that have important problems is the concept of "allotrope" (Nakiboğlu & Yıldırım, 2006). Two or more forms of the same element that is formed by the different arrangement of atoms is called allotrope. Allotropes have generally different physical properties such as color and hardness and they may also differ in chemical activity. Carbon is an element that has different natural allotropes (diamond and graphite) and also synthetic allotrope (fullerene). The discovery fullerene that carbon could form stable, ordered structures other than graphite and diamond stimulated researchers worldwide to search for other new forms of carbon. This lead to the discovery of **carbon nanotubes**. They are quite different from

fullerene-type materials and they have rather different properties (URL1). The properties of *carbon nanotubes* have caused researchers and companies to consider using them in several fields such as Energy, Healthcare, Electronics and Environment (URL2). The occupations related to **carbon nanotubes** can be accepted as STEM jobs (Nakiboğlu, 2015).

The origami technique located in the modeling is a paper folding art that originated in China in 1st and 2nd century and emerged in Japan during the 6th century (Krier, 2007). Origami is divided into "classic origami", "modular origami" and "wet origami". Folding one piece of paper usually creates classic origami. In this type, the various belongings can be made as well as a horse and a bird. Combining pieces that resemble each other forms modular origami, also known as piece origami. It is used to make three-dimensional geometric figures. There are no restrictions on the number of parts used. It is possible to obtain more than one geometric shape by changing the same parts. Wet origami was found by Akira Yoshizawa. In this type, it is formed more natural shapes by wetting a paper. It is possible to obtain natural looking animal figures with wet origami. Nowadays, many different types of origami have emerged. For examples; architectural origami, pop-up origami, kirigami (paper cutting art). In this type of origami, also known as modern origami, gluing and cutting are released (Tuğrul & Kavici, 2002; Gür, 2005).

Origami can be used as a supporting material in many areas of education to enhance spatial intelligence, empower psychomotor skills and associative skills (Gür, 2015). Origami, which enables students to conceptualize spatial relations of three-dimensional objects, to embody the concepts of symmetry and angle, to develop analytical and critical thinking (Levenson, 2002), to develop proof skills (Georgeson, 2011) and to acquire mathematical problem-solving skills, it is an effective material in the teaching of mathematics and geometry. It has an important place in science education as well as teaching mathematical concepts (Han, Pal, Nangreave, Deng, Liu & Yan, 2011; Wang-Iverson, Jang & Yim, 2011).

Using the model to explain the difference of the bonding and structure of each carbon allotropes in the constructs will enable the learner to learn allotropy topic and to understand why allotropes have so different physical properties in a meaningful way. Carbon allotropes can be modeled in many ways. However, constructing of these models with origami will be advantageous in terms of being applied to all age groups independently of time and place, using a paper that the students familiar with and available everywhere without the need for too many tools and the results being seen in a short time (Gür, 2015). In this study, diamonds and graphite which are natural carbon allotropes were modeled with origami technique. Fullerene is the first artificial carbon allotrope and there are many artificial carbon allotropes synthesized such as carbon nanotubes in recent years. Since the origami is both convenient for modeling of the structure of fullerene and the best known artificial allotrope of carbon, fullerene was also modeled with origami technique as an example of artificial carbon allotrope in this study. Modular (piece) origami type was used to model the graphite and fullerene, the kirigami was used to model the diamond.

2. Modeling Activities

When the curriculum of the chemistry course in Turkey is examined, it can be seen that the theme of carbon allotrope is given by the acquisition of "associating the properties of carbon allotropes with structure" at 12th grade. In this acquisition there are descriptions that "a) There is a relationship between the ability of the carbon element to form a large number of compounds and the bonding property. b) Diamond and graphite are examined; Fullerene and nanotube

structures / importance are briefly introduced.” The activities of modeling diamond, graphite and fullerene are following:

Activity 1

Modeling Diamond

The structure of the diamond which is bound by every four carbon atoms surrounding it is presented in Figure 1. In diamond C-C-C bond angle is 109.5° . These basic tetrahedral units unite with one another and produce a cubic unit cell (Pierson, 1994).



Figure 1. The bonding of the diamond structure

The kirigami (paper cutting art) was used to model the diamond. The construction stages are as shown in Figure 2.

STAGE 1	STAGE 2	STAGE 3
		
Get four rectangles of 1 cm in height and 15 cm in width in two different colors.	Combine the two different rectangles as shown in the picture.	Knit the white stripe starting from the left.
STAGE 4	STAGE 5	STAGE 6
		
Pass the stripe one above the other at a top. Make the same operations for the other stripes.	Tighten the remaining pieces in the shape.	

Figure 2. Construction stages of the diamond model by using the kirigami.

Activity 2

Modeling Graphite

In graphite, carbon atoms form hexagonal rings and form a layered structure. Each carbon atom is linked to sigma ligands by sp^2 hybridization to the other 2 carbon atoms. Carbon atoms which are arranged in layers on top of each other to form regular hexagonal cages are presented in Figure 3. These atomic layers can easily shift over one another (Pierson, 1994).

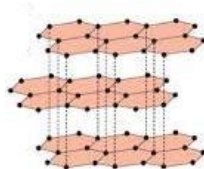
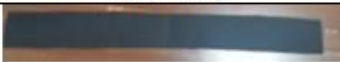


Figure 3. The bonding of the graphite structure

The modular (piece) origami type was used to model the graphite. The construction stages are shown in Figure 4.

STAGE 1	STAGE 2	STAGE 3
		
Get a rectangle of 4 cm in height and 30 cm in width.	Fold a corner outward to form a 30-60-90 triangle.	Turn the paper to the other side.
STAGE 4	STAGE 5	STAGE 6
		
Fold the paper to the right so it forms an equilateral triangle.	Continue processing until the rectangle is finished.	You will get the shape in the picture.

STAGE 7	STAGE 8	STAGE 9
		
When you open the shape, it will be a zigzag structure.		We are folding this zigzagged structure to form consecutive parallelograms.
STAGE 10	STAGE 11	STAGE 12
		
		You will obtain a hexagon. You need 16 hexagons for the graphite.
STAGE 13	STAGE 14	STAGE 15
		
Put in the remaining triangles to the pocket that remaining in the bottom of the other hexagonal as shown in the picture to combine the hexagons.	You complete first layer of the graphite with the combination of five hexagons.	

Figure 4. Construction stages of the graphite model by using the modular (piece) origami.

Activity 3

Modeling Fullerene

Fullerene, or Buckminster fullerene (other known as "buckyballs") which is a type of molecule that occurred with only 60 carbon atoms is presented in Figure 5. It is formed 20 hexagonal and 12 pentagonal 60 carbons (Pierson, 1994).

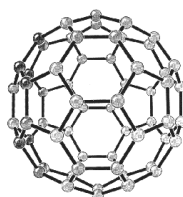


Figure 5. The bonding of the fullerene structure

Modeling Natural Carbon Allotropes With Origami Technique

The modular (piece) origami type was used to model the fullerene. The construction stages are shown in Figure 6.

STAGE 1 	STAGE 2 	STAGE 3 
Fold the square paper in half.	Fold the top piece of the obtained rectangle back into the fold inward.	Turn the paper upside down. Do the same operation to the other piece.
STAGE 4 	STAGE 5 	STAGE 6 
Obtain a triangle on the right by combining the corner as shown in the picture.	Do the same operation to the other piece on the left.	Fold the remaining part up from the bottom of the obtained triangle.
STAGE 7 	STAGE 8 	STAGE 9 
You will obtain a shape as shown in the picture.	Fold the remaining part to the left so that it merges under the triangle.	Obtain two equi-triangles by folding the paper outward from the corner of the second triangle obtained.
STAGE 10 	STAGE 11 	STAGE 12 
Open the shape you get. You need there pieces in different colors to create an edge.	Combine the two pieces by stinging the small triangle of one piece to the pocket of the other.	Do the same operation to the third piece.
STAGE 13 	STAGE 14 	STAGE 15 
Made of 90 identical pieces to create a fullerene.		

Figure 4. Construction stages of the fullerene model by using the modular (piece) origami.

3. Discussion

Origami is a defined field of engineering with many direct applications in the medical, mechanical, and structure disciplines. The use of art has been seen integrated into STEM subjects to enhance creativity of STEM students and broaden interest. Through the art of origami, students can be introduced to interdisciplinary concepts, while providing them with a better understanding of spatial relationships in geometry. This has a positive effect on their spatial thinking and cognitive skills (Kennedy, Lee & Fontecchio, 2016).

Visuospatial skills play an important role in many STEM disciplines. Origami and pop-up paper engineering, which require spatial thinking both in concept and in process, offer opportunities for enhancing visuospatial skills (Taylor & Hutton, 2013). Based on the studies, it can be said that activities of the modelling carbon allotropes with origami technique offer opportunity the interdisciplinary activities and design skills required for STEM education. Furthermore, the spatial thinking which has an important role in STEM Education can be improved by the interdisciplinary origami activities.

These activities of modeling carbon allotropes not only contribute to the development of students' psychomotor skills, but also allow them to understand the properties of square, rectangular, equilateral triangle, right triangle, symmetry, diagonal, hexagon, tetrahedral, angle and polyhedral, besides the providing spatial thinking in terms of mathematics and to understand the bond structure of carbon allotropes in terms of chemistry lessons. These activities, which also allows one to acquire modeling skill, one of the mathematical process skills show that the origami technique can be used in science education as much as it is in mathematics. When the curriculum of the chemistry course in Turkey is examined, we can see that the theme of carbon allotrope is given by the acquisition of “associating the properties of carbon allotropes with structure” at 12th grade. For these reason and considering the students' psychomotor skills it can be said that this modeling activities is appropriate for the students in the 12th grade.

This study focuses only modeling diamond, graphite and fullerene. It is possible to allow students to make design using mathematical and chemistry knowledge with the activities aimed at modeling of allotropes of carbon. It can be examined whether the modeling activities performed provide an understanding of the concept of carbon allotropes. Furthermore, examining the views of the teachers and students on the modeling of carbon allotropes with origami will contribute to the literature.

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A Study On The Relationship Between High School Students' Physical Education Course Sportsmanship Behaviors And Their Patience Levels

Yakup Koç

1. Introduction

Initially, physical education (PE) courses aimed only physical and muscular development, however, recently all aspects of development namely cognitive, emotional, psychomotor and physical development have been considered (Demirhan & et al 2002). Development of sportsmanship behavior is also another objective in terms of behavior development. In general, sportsmanship refers to virtues such as fairness, self-control, courage, and persistence (Shields & Bredemeier, 1995), and has been associated with interpersonal concepts of treating others and being treated fairly, maintaining self-control if dealing with others, and respect for both authority and opponents. Sportsmanship is also looked at as being the way one reacts to a sport/game/player (wikipedia.org). Some popular examples of good sportsmanship include shaking hands, help an opponent who may have fallen over, encourage everyone, cheer, clap or hi-fives, and be respectful to everyone including team mates, the opposition, parents and officials (Josephson, 2015).

Keating (2007) stated that sportsmanship also involve patience like other aforementioned traits. Patience is the state of endurance under difficult circumstances, which can mean persevering in the face of delay or provocation without acting on negative annoyance/anger; or exhibiting forbearance when under strain, especially when faced with longer-term difficulties. Patience is the level of endurance one can have before negativity (wikipedia.org). Given that patience, as a power of character, helps all sort of human development and contributes to the individual development by helping in gaining other strength aspects of character (Karaca, 2011), patience is also considered to have a positive effect on the sportsmanship behavior which is a defined character in sports field. Besides, Karşı (2011) emphasized that controlling anger and proper management of stress require patience, which is obviously a frequent case in sports environment.

Activities oriented to improving sportsmanship behaviors of students are expected be implemented by means of physical education courses in schools. Bringing in proper sportsmanship behaviors through PE courses would also contribute to nurturing a generation with ethical values. Indeed, Yıldırım (1992) underlined in his study on history of sportsmanship education that similar reasons triggered sportsmanship applications in England. At this point, which personality traits are related to sportsmanship behaviors is important. Within this context, patience levels of high school students are considered to be related to their sportsmanship behaviors. The purpose of this study is to investigate the relationship between high school students' physical education course sportsmanship behaviors and their patience levels.

2. Materials and Methods

The sample of study involves a total of 702 students (376 female, 326 male) from public high schools within the Erzincan province who were selected randomly in 2015-2016 academic year. A survey, the Physical Education Course Sportspersonship Behavior Scale (Koç, 2013) and the Patience Scale (Doğan & Gülmez, 2014) which originally developed by Schnitker (2012), (the original name is "3-Factor Patience Scale") were implemented and the students were also asked questions with regard to their grades, genders, the type of sports to which they interested in most during physical education courses and whether they took part in school teams. The validity and reliability of scales were re-studied. The students' scores based on the scales were analyzed

by independent variables. The data with normal distribution were analyzed using One Way ANOVA, Tukey Test and t-Test. Correlations (Pearson) were used for relationships among scales. Data were evaluated using SPSS 22 and LISREL 8.7 programs.

2. Results and Discussion

3.1. Physical Education Course Sportspersonship Behavior Scale

The results of confirmatory factor analysis (CFA) suggested the following values $\chi^2/df=3.40$, RMSEA= .062, CFI= .96, GFI= .91 and NNFI=.96. As a result of CFA in order to test factor structure, consistency values were found to be admissible. No items were excluded.

PECSBS consists of 22 items and two subscales. The first subscale consisting of 11 items is related to the “Realization of Positive Behavior (RPB)” while the second subscale composed of 11 items concerns “Avoidance from Negative Behavior (ANB)” PECSBS was scored on a 5-point Likert scale with “never” (1) and “always” (5) serving as end points. ANB subscale items were reverse scored. The total score obtained in the scale was assessed as “Total Sportsmanship Behavior (TSB)”. RPB subscale can be exemplified by the item “I apologize from my opponent when I get nervous and break the rules of the game during the physical education course” and ANB subscale can be exemplified by the item “I make fun of the members of the rival team whenever I win against them during the physical education course”. Reliability of Cronbach Alpha internal consistency of the scale (TSB) was .89. In terms of subscale ANB value was .83 and for RPB was .84. It was found that the scale was valid and reliable and could be used.

3.2. Patience Scale

The results of confirmatory factor analysis (CFA) of the Patience Scale suggested the following values $\chi^2/df = 3.48$, RMSEA = 0.063, GFI = 0.96, NNFI = 0.95 and CFI = .96. As a result of CFA in order to test factor structure, consistency values were found to be admissible.

Patience Scale consists of 11 items and three subscales. The first subscale consisting of 5 items is related to the “Interpersonal Patience (IP)” while the second subscale composed of 3 items concerns “Long- term patience /Life hardships (LP)” and third subscale composed of 3 items concerns “Short-term patience /Daily hassles (SP)” Patience Scale was scored on a 5-point Likert scale with “Strongly Disagree” (1) and “Strongly Agree” (5) serving as end points. 7th and 10th items were reverse scored. The total score obtained in the scale was assessed as “Total Patience (TP)”. Reliability of Cronbach Alpha internal consistency of the Patience Scale was .78. In terms of subscale IP value was .70, for LP was .64 and for SP was .42. The internal consistency coefficient of the whole scale was determined to be good, but the internal consistency coefficient of its sub-scales was determined to be low like the original study in which the scale was developed. .

3.3. Grades

Table 1. The Comparison of Students' Scores According to Their Grade Levels (One-way Anova)

SCALE	Grade Level	N	$\bar{X}$	SD	F	p
Realization of Positive Behavior	9	225	3.74	.79	1.29	.276
	10	282	3.64	.78		
	11	195	3.64	.77		
Avoidance from Negative Behavior	9	225	3.88	.95	1.18	.308
	10	282	3.93	.79		
	11	195	3.81	.77		
Total Sportsmanship Behavior	9	225	3.81	.77	.87	.422
	10	282	3.79	.70		
	11	195	3.72	.68		
Interpersonal Patience	9	225	16.75	4.39	.80	.451
	10	282	16.91	4.00		
	11	195	17.25	3.87		
Long- term patience /Life hardships	9	225	10.20	2.78	.77	.463
	10	282	10.32	2.71		
	11	195	10.53	2.70		
Short-term patience /Daily hassles	9	225	9.31	2.89	1.04	.360
	10	282	9.26	2.48		
	11	195	8.95	2.87		
Total Patience	9	225	36.26	8.35	.20	.819
	10	282	36.50	7.44		
	11	195	36.73	7.29		

Sportsmanship and patience levels of the students by their grades did not manifest a significant difference (Table 1).

A number of studies (Esentürk & et al., 2015; Koç & Tamer, 2014; Koç, 2015; Tsai & Fung, 2005) reported that the sportsmanship level reduced in higher grades whereas some studies (Hacıcaferoğlu & et al., 2015, Kayışoğlu & et al., 2015; Shields & et al., 2007) reported that the grade level did not display a significant difference. However, studies without significant differences drew attention to the fact that as class level increases sportsmanship level reduces. A study involving participants of 15 to 65+ years age concluded that age supports the level of patience positively. This was also supported by other studies (Doğan, 2014). When psychological studies on development periods are examined in terms of their topics, it is understood that under psychological and social conditions, individuals gain experience, mature their views of life and approach to happenings in a more calmly, patiently and broadly perspective. It is also understood that individuals approach to happenings maturely instead of behaving reactively, and they show effort to understand (Bahadır, 2011). It is concluded that the reason for lacking significant differences may be extended development process of behaviors and that a period of 3 years does not allow a significant change. Some external factors are considered to have an effect in study groups which display reduced sportsmanship as class levels increase. For example, some studies are present that reveal the negative effect of media on sportsmanship (Koç & Tamer, 2014; Young (2012).

3.4. Gender

Table 2: The Comparison of Students' Scores According to Their Gender (t-Test)

SCALE	Group	N	X	sd	T	p
Realization of Positive Behavior	Female	376	3.702	.771	1.063	.288
	Male	326	3.639	.792		
Avoidance from Negative Behavior	Female	376	4.028	.823	5.053	.000**
	Male	326	3.712	.832		
Total Sportsmanship Behavior	Female	376	3.865	.711	3.523	.000**
	Male	326	3.675	.710		
Interpersonal Patience	Female	376	16.34	4.223	-4.290	.000**
	Male	326	17.66	3.829		
Long- term patience /Life hardships	Female	376	10.15	2.789	-2.003	.046*
	Male	326	10.56	2.649		
Short-term patience /Daily hassles	Female	376	8.92	2.720	-2.839	.005**
	Male	326	9.50	2.706		
Total Patience	Female	376	35.41	7.768	-4.010	.000**
	Male	326	37.72	7.422		

* $p < .05$; ** $p < .01$,

Sportsmanship levels (ANB, TSB) were observed to be significantly higher for females and patience levels were significantly higher for males ($p < .05$ and $p < .01$) (Table 2).

In general, studies have shown that the level of ethical judgment and sportsmanship of females doing exercises is higher compared to males (Akandere & et al., 2009; Koç, 2015; Koç & Güllü, 2014; Esentürk & et al., 2015; Tsai & Fung 2005; Kavussanu & Roberts, 2001). Likewise, in the research of Topan (2011); in the cases of defeating and being defeated, females in comparison with males act more responsibly about realizing sportsmanship behaviours. Esentürk & et al., 2015 argue that female students' having more emotional structure than male students has an effect on this result.

Doğan (2014) determined that no significant difference in patience levels by gender is present, however, he also reported some studies which displayed significantly differentiated patience levels by gender.

3.5. The type of sports

Table 3. The Comparison of Students' Scores According to the type of sports (t-Test)

SCALE	Group ^a	N	X	sd	T	p
Realization of Positive Behavior	1	339	3.655	.797	-.569	.570
	2	363	3.689	.767		
Avoidance from Negative Behavior	1	339	3.794	.830	-2.660	.008**
	2	363	3.962	.846		
Total Sportsmanship Behavior	1	339	3.725	.712	-1.868	.062
	2	363	3.826	.719		
Interpersonal Patience	1	339	17.38	3.893	2.685	.007**
	2	363	16.55	4.242		
Long- term patience /Life hardships	1	339	10.64	2.534	2.827	.005**
	2	363	10.06	2.875		
Short-term patience /Daily hassles	1	339	9.58	2.713	3.726	.000**
	2	363	8.82	2.692		
Total Patience	1	339	37.61	7.413	3.765	.000**
	2	363	35.44	7.808		

* p<.05; ** p< .01, ^a1= Team sports played with balls , 2= Physically non-contact sports

Some dimensions of the scales were observed to significantly differentiate depending on the type of sports to which they interested in most during physical education courses. Students interested with physically non-contact sports (volleyball, badminton, table tennis, etc.) showed more sportsmanship and lever patience levels than students interested team sports played with Balls (football, basketball, handball, etc.) (Table 3).

Students interested with physically non-contact sports (volleyball, badminton, table tennis, etc.) showed more sportsmanship and lever patience levels than students interested team sports played with Balls (football, basketball, handball, etc.). Similarly, Esentürk et al. (2015) found that the sportsmanship level of students playing volleyball is higher than that of students playing football. Tsai and Fung (2005) reported that students playing basketball (limited contact sport) display a lower level of sportsmanship compared to those playing volleyball (non-contact sport). In their study involving high school students, Koç & Güllü (2014) found a higher level of sportsmanship during physical education courses for students who play sports without physical contact compared to those playing individual sports. There are some other studies reporting that the selected branch is related to personal characteristics such as sportsmanship, empathy and aggression (Koç, 2015; Balçıkanlı & Yıldırım, 2011; Koruç & Bayar, 1990). Based on obtained data and other studies, we can say that the preferred sports branch affects the level of sportsmanship. Particularly, playing sports involving physical contact is expected to result in reduced sportsmanship.

3.6. Take part in school teams

Table 4. The Comparison of Students' Scores According to Their Joining School Teams (t-Test)

SCALE	Group	N	X	sd	T	p
Realization of Positive Behavior	Yes	107	3.846	.774	2.482	.013*
	No	597	3.643	.779		
Avoidance from Negative Behavior	Yes	107	3.848	.791	-.458	.647
	No	597	3.888	.851		
Total Sportsmanship Behavior	Yes	107	3.847	.699	1.078	.281
	No	597	3.766	.720		
Interpersonal Patience	Yes	107	17.99	4.347	2.836	.005**
	No	597	16.78	4.014		
Long- term patience /Life hardships	Yes	107	11.07	2.950	2.986	.003**
	No	597	10.21	2.671		
Short-term patience /Daily hassles	Yes	107	9.61	2.916	1.701	.089
	No	597	9.12	2.686		
Total Patience	Yes	107	38.66	8.729	3.179	.002**
	No	597	36.11	7.422		

*p<.05; ** p< .01

Some scales or subscales (RPB, IP, LP, TP) were observed to significantly differentiate depending on whether they took part in school teams or not ($p<.05$). Sportsmanship levels and patience levels were higher for who took part in school teams (Table 4).

Table 4 shows that the effect of participating in school teams on sportsmanship behavior is significant only in terms of realization of positive behaviors. Similarly, given total sportsmanship points, students participating in school teams display higher average values. In their study involving female students in secondary and high schools, Koç & Tamer (2014) concluded that playing in school teams does not lead to a significant difference in terms of physical education course sportsmanship behaviors. Similarly, Esentürk et al. (2015) found that the sportsmanship level of students didn't change according to license situation. This results can be interpreted as points, belonging to physical education course sportsmanship behaviors, didn't change according to took part in school teams.

Participation in school teams is expected to improve behaviors related to sportsmanship. However, in a study involving female students, sportsmanship levels of students engaged in formal sports activities such as school teams and sport clubs were found to be significantly lower compared to students who are engaged in informal sports activities (playing in fields within the neighborhood etc.) (Koç & Tamer, 2014).

3.7. Relationship between Scales

Table 5: Relationships of the Physical Education Course Sportspersonship Behaviors with Patience Levels (Pearson)

SCALE	1	2	3	4	5	6	7
1. Realization of Positive Behavior	-						
2. Avoidance from Negative Behavior	.56**	-					
3. Total Sportsmanship Behavior	.87**	.89**	-				
4. Interpersonal Patience	.35**	.26**	.34**	-			
5. Long Patience	.31**	.24**	.31**	.61**	-		
6. Short Patience	.21**	.23**	.25**	.42**	.30**	-	
7. Total Patience	.37**	.30**	.38**	.90**	.79**	.68**	-

** $P < .01$

A positive significant relationship was observed between physical education course sportsmanship behaviors and patience levels of the students ($p < .01$) (Table 5).

A literature review did not return a study on the relationship between sportsmanship behaviors and patience levels. However, the study results were as expected. More supporting studies are required to reveal the degree of positive relationship between the findings more clearly. Keating (2007) has also included in the definition of sportsmanship, patience. Some studies that exhibit findings oriented to understanding the relationship between these two behaviors are present as well. For instance, Schindler (2012) reported that patient individuals are prone to being positive and prefer the negative to the positive in general. Indeed, the relationship of subscales of the patience scale (except for short patience) with sportsmanship indicates that its level of relationship level with subscale of realization of positive behavior is higher than its subscale of avoidance from negative behavior. Empirical studies have shown that patience can be improved (Doğan, 2014). Therefore, improvement of patience levels will affect sportsmanship behaviors.

4. Conclusion

As a result of research, it was seen that all scale values weren't affected in those with grade levels. Sportsmanship levels were observed to be higher for females and Patience levels were significantly higher for males. Other result of study that students interested with physically non-contact sports showed more sportsmanship and lever patience levels than students interested team sports played with balls. Furthermore sportsmanship levels and patience levels were generally higher for who took part in school teams.

It was found that physical education course sportsmanship behaviors are significantly related to patience level positively for high school students. We conclude that increasing the students' patience levels may provide a positive contribution to their sportsmanship. For this reason, implementation of activities by teachers to develop patience levels of students is important.

These results are recommended to be taken into consideration for sportsmanship applications to be planned for physical education courses and activities that improve patience are recommended to be adapted to physical education programs. Researchers are encouraged to test the results of the studies that they will conduct with greater study groups.

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Metaphors about academic staff

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Introduction

The word ‘metaphor’ itself seems to be one of the most favorable words by the researchers since a literature review online gathers a bulk of ‘metaphor-oriented’ empirical research. Some researchers focus on school metaphors, others cast a spotlight on some ‘virtually significant’ phenomena in terms of lessons, people or diverse everyday subjects and roles. Why are metaphors ‘in’? What makes them so popular in educational literature, as they are in psychology or psychiatry?

It seems that metaphors imply a practical way to understand the way our mind works. As Lakoff and Johnson (1980) suggest in their book that human thought processes metaphors and people perceive their outer world through metaphorical lenses their mind creates. In other words; we understand one concept in terms of other concepts that are more natural for us (Sztajn, 1992). We realize this by relating concepts and constructing common structures that we find more natural and familiar than the individual concepts themselves alone. This helps us to clarify and internalize of the less known concepts (Moss, Moss, Rubinstein, & Black, 2003). However, this is an inner process that we cannot observe or follow, we strive to find fingerprints in the language or phrases we use when writing about the concepts.

A metaphor can be defined as “*a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them* (Merriam-Webster Online Dictionary, 2016)” and considered a kind of figurative use of language. Goatly (1998:8), however, emphasizes the language of metaphors and defines a metaphor as “a unit of discourse used to refer unconventionally to an object, process or concept, or colligates in an unconventional way.” According to Arnett (1999:80), it is a medium to represent one’s perception.

Metaphorical use encompasses two parties, or tools. These two parties involved in figurative comparisons are named “the topic” and “the vehicle” (Chiappe et al., 2003). Briefly stated, “*A teacher is a compass.*” means ‘a teacher [the topic in this example]’ and ‘a compass [the vehicle in this example]’ may be regarded as similar and connoted to have similar function and references. When read between the lines, at an abstract level, this metaphor implies that “*both teachers and compasses provide or determine direction to find the ‘right way to go.’*”

Gunbayi (2011) proposes four reasons to use metaphors in research: (a) Metaphors present reduced data to develop themes for explicit analysis, (b) they assist in understanding a well-known process in a new light, (c) they can suggest suitable or acceptable interventions and (d) they can evoke emotions. Metaphors help researchers focus on more familiar concepts and provide references to subtler understanding by means of similarities, analogy or connotations; so, they help researchers to analyze reduced data sets. Gunbayi (2011) compares teacher metaphors before and after the educational reforms in Turkey and provides proving data that both teachers and students are perceived as more active participants in teaching – learning process. Metaphors have a crucial and prominent role to express and evoke emotions through the use of simple or familiar words. Those words used also depict the experience cycles, the receiving party may infer and understand that experience codified by metaphors.

Although once metaphors were strictly confined to the field of literature only (Goatly, 1998:1), they are also used by researchers to broadly understand and explore the very nature of educational organizations, as well as some other social disciplines. A literature review yielded that researchers focused on educational institutions (Hardcastle, Yamamoto, Parkay & Chan, 1985; Cerit, 2006; Saban, 2008; Nalcaci, & Bektas, 2012; Ozdemir & Akkaya 2013; Demirtas & Coban, 2014; Ogurlu, Opengin, & Hizli, 2015; Ozdemir & Erol, 2015), teachers and students (Saban, Kocbeker & Saban, 2006; Aydin & Pehlivan, 2010; Ogurlu, Opengin, & Hizli, 2015; Ozdemir & Erol, 2015; Arslan & Karatas, 2016), school administrators (Yalcin & Erginer, 2012; Cobanoglu & Gokalp, 2015), academic staff in higher education institutions (Polat, Apak & Akdag, 2013; Tortop, 2013; Basarir & Sari, 2015; Kosar, 2016; Yilmaz, Yilmaz & Gocen, 2015) and some other related concepts and equipment (Saban, Kocbeker & Saban, 2007; Kalyoncu, 2012; Korkut ve Keskin, 2015; Akinoglu, Tatik & Baykin, 2015; Cetin, Tatik, Cayak & Dogan, 2015; Gunay, Aydin & Koc Damgaci, 2015).

Higher education institutions are regarded as ‘academia’, which means a significantly critical stage in education. People here are provided with opportunities to strengthen their qualifications, competences and skills, as well as theoretical knowledge or potential. The faculties, namely academicians, seem to be the main contributors to mold this process and the future career of the learners. They provide guidance and support, teach classes and manage teaching – learning activities which create a very open medium to be interacted by the learners and colleagues. In such an atmosphere, they represent an institution and a career. Learners, as observers, tend to perceive them as ‘channels’ through which they construct their perceptions regarding higher education career paths. This subtle relationship and impact, along with their direct relationship with students in their classes, reveals the fact that how ‘being an academician’ is constructed in learners’ minds is of importance, especially considering that the academicians may be role-models for those who would like to pursue their academic life after their graduation.

Metaphors may indicate clues or bear inferences regarding subtle perceptions in mind. They reflect what people have in their subconscious, and provide opportunity for us to infer about things and phenomena in general. When considered within the educational sciences, they may be worth using in order to develop schools, educate the faculty better or strengthen the quality of education services the stakeholders demand. This study aims to reveal what/which metaphors the prospective teachers have in their mind about the academicians and to propose suggestions in terms of school development.

The overall objective of this study is to portray and reveal prospective teachers’ perception regarding the concept of ‘an academician’ through metaphors. The following questions were asked within the framework of the overall objective of the research:

1. How are the metaphors produced by prospective teachers regarding the concept of ‘an academician’ are distributed in terms of being 'positive' and 'negative'?
2. Under which themes and categories are the metaphors produced by prospective teachers regarding the concept of ‘an academician’ grouped and categorized in terms of their common characteristics and references?

Methodology

Research model

This study utilizes phenomenological design, a qualitative research design. Phenomenological pattern focuses on a phenomenon and creates practical medium for researchers to interpret how people internalize and make sense of their individual or collective experiences within the framework of their skills and semantic world, how they perceive and transfer into their minds, how they describe, recall and how they convey their perceptions to others they communicate (Patton, 2002: 104).

Participants

The working group is composed of 139 students studying in four departments in Ziya Gokalp Faculty of Education, Dicle University. '*Being a student at least in 3rd grade*' was taken as a criterion to make sure that participants have enough experience in the faculty and academicians during their education. 12 forms were found to be inappropriate and excluded prior to the analysis and 127 valid forms were analyzed.

Data collection instrument

A qualitative data collection technique was used in the research. Data collection tool was applied to the participants by the researchers in classes. The overall objective and the procedure of the research were explained and participants, who are willing to participate in the study, were distributed data collection tool. Data regarding participants' perception of the academicians were collected using a sentence: "*An academician is like , because*". The word '*like*' is used to refer to the relationship between the subject and the source while the background / subtle image representing 'an academician' in participants' mind is concretized by the adverbial '*because*'.

Data analysis

The analysis process followed a five-step procedure, namely (1) determination of metaphor, (2) classification of metaphors, (3) category development, (4) ensuring validity and reliability and (5) transfer the data SPSS for quantitative data analysis. The content analysis technique was utilized to analyze the qualitative data. Content analysis is a research approach to describe and quantify phenomena (Downe-Wamboldt, 1992). It allows researchers to reach categorical and valid inferences from a data set to their context, with a purpose of providing new insights, a representation of facts and a practical guide for action. In this approach, categories are developed to attain a broader understanding of the phenomena (Elo & Kyngas, 2008:108).

- (1) *Determination of metaphors.* 139 forms were read thoroughly and transcribed in Microsoft Excel. Frequency of each distinct metaphor was recorded. In this step, the responses were cautiously eliminated depending on whether they have a metaphor and some background explanation regarding that specific metaphor. It was observed that 12 forms were inappropriately filled, either the participants failed to develop a metaphor or they did not explain and provide clues / inferences about their metaphors. Those invalid forms were excluded and the remaining 127 forms were taken into consideration for analysis.
- (2) *Classification of metaphors.* In an Excel spreadsheet, all valid metaphors were filtered A to Z, and calculated frequency and percentages. There obtained 100 valid metaphors.

In order to identify by whom each metaphor was developed, each metaphor was coded by making use of M (Male), F (Female) and 3, 4 and 5, representing the grade variable. The department variable is represented by the first letter of the department after the grade variable in parentheses. Example: “*An academician is like a sun, because s/he rises to our life in higher education and enlightens our future* [M4M, indicating Male, 4th grade, Mathematics Teaching]”

- (3) *Category development.* Metaphors in data set were analyzed in terms of how they conceptualize the ‘academician’ phenomenon. The source of the metaphors and their explanations were taken into consideration and themes were developed. Next, metaphors in each theme were classified and grouped in categories. Each category included metaphors sharing some common perspectives and explanations.
- (4) *Ensuring validity and reliability.* In this step, expert opinion was sought in order to confirm that metaphors provided under 6 themes and 10 categories represent conceptual communality. In this study, the reliability was calculated by determining the numbers of agreements and disagreements; by utilizing Miles and Huberman’s (1994:64) formula ($\text{Reliability} = \frac{\text{number of agreements}}{(\text{total number of agreement} + \text{disagreement})} \times 100$); in the measuring reliability performed for this qualitative study. It was founded that $\text{Reliability} = 116/116 + 11 = 0.91$. This value indicates good reliability (Fraenkel, Wallen & Hyun, 2011) for coding and categorization.
- (5) *Descriptive statistics in SPSS.* Data regarding the demographic variables were transferred to SPSS.

Findings

Data were analyzed in accordance with the content analysis approach, and findings obtained were classified and presented to provide answers for research questions. Tables including metaphor distribution and sample responses for each category are provided below.

Overall findings regarding the concept of ‘an academician’

The research question “How are the metaphors produced by prospective teachers regarding the concept of ‘an academician’ are distributed in terms of being ‘positive’ and ‘negative’?” suggests that all valid metaphors will be categorized in terms of their emphasis on positive or negative reflections of the concept of ‘an academician’. All valid forms were scrutinized and focused on the explanation phrase after the word ‘because’. Positive and negative inferences were categorized separately. Under each category, the numbers in parentheses indicate frequencies (Table 1).

As Table 1 suggests, the participants developed 127 valid metaphors, 76 positive (59,84%) and 51 negative ones (40,16%). Metaphors ‘a father (2)’, ‘a book (5)’, ‘a candle’ (2), ‘the sun (3)’, ‘a computer (4)’, ‘a tour guide (2)’, ‘a shepherd (2)’, ‘a tree (2)’ and ‘a smart phone (2)’ are positive metaphors which mainly highlight ‘giving direction’, ‘information’ and ‘closeness between learners and the academicians’. However; the metaphors ‘a rake (2)’, ‘a blank page (2)’, ‘a parrot (3)’, ‘a chameleon (3)’, ‘a wall (2)’, ‘a sheep (2)’ and ‘an arrogant person (2)’, the most common negative metaphors, imply unwanted and relatively adverse characteristics. These negative metaphors also signify that academicians seem to be repeating themselves in every class they teach, or changing their approach, behaviours and teaching styles in different contexts. However; considering the percentages here, it may be interpreted that prospective teachers have mostly positive imaginations and conceptualization about the concept of ‘an academician’.

Metaphors About Academic Staff

Table 1. Positive and Negative metaphors

	Metaphors	f	%
Positive metaphors	Marko Pasha, a father (2), a book (5), a coconut, a candle (2), a gardener, the sun (3), a guide, a computer (4), a statesman, a carpenter, a pitcher, an encyclopaedia, a car, a pen, a sculptor, a leader, a painter, a brother, a tour guide (2), a cook, a conductor [orchestra], a library, a watch, a friend, a shepherd (2), a stone, a tree (2), the sea, rain, a pilot, a Swiss army knife, a photographer, tulip fields, a navigation , a street lamp, headstone, a smart phone (2), human, a fruit-bearing tree, nettle, a river, a cow giving milk, a knowledge base, an ant, water, Marco Polo, a refrigerator, a box of chocolates, a wise monk, a dove, a stainless iron, a robot, a flashlight, a molasses, a shark, an ocean (2), a democrat, a knowledgeable person, a factory, a highway	76	59,84
Negative metaphors	Hakan Akkaya, Nur Yerlitaş, a rake(2), a food processor, opposition parties, a blank page (2), a parrot(3), a puppet, a cat, an actor, a sledgehammer, Mount Everest, a robot, a mountain, a useless object, an artist, a brazen-faced man, a man whose joke wasn't laughed at, a chameleon (3), a psychologically-disordered man, a voice recorder, a cassette player, a wall (2), a lion, an imam, a hangman, an engine with gears broken, an uncouth man, a non-precision scales, a pencil sharpeners, emotionless creatures, a pine trees, a cactus, a Buddha icon, a sheep (2), a rabbit, a proud man, a bee which does not make honey, an idol, a donkey, a sculpture, an arrogant person (2) nettle	51	40,16
	Total	127	100

Themes and categories regarding the concept of ‘an academician’

The metaphors produced by prospective teachers regarding the concept of ‘an academician’ grouped and categorized in terms of their common characteristics and references under six themes [*Closeness, Supportiveness, Versatility, Monotony/Repetition, Negativity and Unproductiveness*] and ten categories [*‘Academics as a part of the family’, ‘Academics as a source of information’, ‘Academics as directive figures’, ‘Academics as Nurturers’, ‘Academics as versatile figures’, ‘Academics as monotonous figures’, ‘Academics as criticizers’, ‘Academics as rude / disliked figures’, ‘Academics as unknown figures’ and ‘Academics as unproductive figures’*] (Table 2).

The theme ‘Closeness’ encompasses only one category which emphasizes close relationship. The metaphors in this category (f=5; 3,94%) allow us to infer about the background of the participants. These metaphors reflect traditional role of teachers/academicians in Turkish culture; namely those who teach are regarded as a part of the family. Sample responses are “*An academician is like a father because he shares his own experiences with us in classes, listens to our problems and provides guidance (M3E)*”, “*An academician is like a father because I am allowed to enter his room whenever I would like to. I can talk about my problems. He helps and guides me just like a friend does (M5M)*” and “*An academician is like Marko Pasha because he listens to us and we feel relaxed (M4M).*”

The theme ‘Supportiveness’ encompasses three categories which indicate support in terms of information, knowledge, experience and guidance. These categories include 48,82%

of total metaphors. First, academicians are perceived as ‘sources of information/knowledge’ most. The participants use ‘a book’, ‘an encyclopedia’, ‘a library’, ‘a computer’, ‘the sun’ and ‘a cow giving milk’ metaphors to refer to this characteristic of the academicians. Sample responses are “*An academician is like books because they have all information we need and seek for (M4G)*”, “*An academician is like an encyclopedia because they are full of knowledge, information and experience, and we apply to them only when we need information (M4M)*” and “*An academician is like books because they have all information we need (F3E)*.” Secondly, metaphors under the second category, ‘Academics as directive figures’, focus on guidance and counselling services provided by the academicians, either in classes or office hours. The participants developed metaphors such as ‘a leader’, ‘a tour guide (2)’, ‘a conductor [orchestra]’, ‘a shepherd (2)’, ‘a navigation [device]’ and ‘a highway’ to emphasize moving on and walking to the future. Sample responses are “*An academician is like a leader because s/he knows where to direct us, organizes us to do some tasks or works. S/he persuades and leads us, as learners (F5M)*”, “*An academician is like a tour guide because they lead you in history and nature; our teachers/professors also lead us in the sea of information and help us find and get what we need or would like to learn (F5M)*” and “*An academician is like a shepherd because our teachers watch us in the pasture of information and direct us to what we need to know (F4G)*.” Thirdly, academicians are perceived to be nurturers and supporters (f=23). Here, the participants assert that academicians are, or should be, people who self-sacrifice and strive to do their best to nurture their learners as better as they have potentials. The metaphors ‘a candle (2)’, ‘an ant (2)’ and ‘an ocean (2)’ seem to be the most common metaphors in this category. Sample responses are “*An academician is like a candle because they are burnt to enlighten us, even if they give up themselves just like how our saying mean ‘A candle’s bottom is always dark.’ (M5M)*” and “*An academician is like a gardener because our teachers will be the ones to water and grow us, when we think that we are here ‘the seeds’ for future teachers (F4M)*.”

The theme ‘Versatility’ reflects and encompasses the academicians’ different skills and expertise. Eight participants regard academicians as versatile figures, which means they are multi-skill teachers. ‘A smart phone (f=2)’ is developed by two participants. Sample responses are “*An academician is like a pilot because using knowledge and information may be a very complex and challenging process, just like flying a plane (F4M)*”, “*An academician is like a Swiss army knife, because we have teachers having more than one skills. I myself hope to be like them one day (F4G)*.” and “*An academician is like a smart phone because it is a highly practical tool. You can find what you seek instantly, and they are useful. Academicians are also available to access and evaluate information (F3E)*.”

The theme ‘Monotony / Repetition’ highlights teaching styles and the course contents are monotonously repeated by academicians. Ten participants (7,87%) perceive academicians as monotonous figures and concretize this image by ‘a voice recorder, a cassette player, a robot (2), a watch (2), a parrot (3), a rabbit’ metaphors. Sample responses are “*An academician is like a cassette player because they can only play what is recorded, nothing but the recorded content. They are only played by the system itself, not themselves (M4S)*”, “*An academician is like a parrot because everything is always the same. There is no change, no difference. Only memorization, repetition and criticism... But, there is no development or improvement (F5S)*” and “*An academician is like a robot because they do not reflect their feelings or emotions while teaching, and they only follow the program they are provided (M3E)*.”

Metaphors About Academic Staff

Table 2. Themes and categories regarding metaphors about academicians

Theme	Category	Metaphors	f		%
Closeness	Academics as a part of the family	a brother, a friend, a father (2), Marko Pasha	5	5	3,94
Supportiveness	Academics as a source of information	a book (5), a pitcher, an encyclopaedia, a pencil, a library, a computer (4), a tree (2), a travel guide, a fruit-bearing tree, the sun (3) a human, a cow giving milk (2), a knowledge base, a wise monk, a flashlight, Atlantic ocean, a sea	27		
	Academics as directive figures	a car, a leader, a tour guide (2), a conductor [orchestra], a shepherd (2), a navigation, a street lamp, a statesman, a stone, a highway	12	62	48,82
	Academics as Nurturers	a candle (2), a gardener, the sun, a guide, a carpenter, a sculptor, a painter, a cook, rain, a river, an ant (2), water, a dove, a stainless iron, a molasses, a democrat, an ocean (2), a shark, a headstone, a factory	23		
Versatility	Academics as versatile figures	a pilot, a Swiss army knife, a photographer, tulip fields, Marco Polo, a smart phone (2), a tree	8	8	6,30
Monotony / Repetition	Academics as monotonous figures	a voice recorder, a cassette player, a robot (2), a watch (2), a parrot (3), a rabbit	10	10	7,87
Negativity	Academics as criticsers	Nur Yerlitaş, Hakan Akkaya, opposition parties, a food processor, a lion, a hangman, a nettle	7		
	Academics as rude / disliked figures	a brazen-faced man, an uncouth man, a wall, a cat, a psychologically-disordered man, a non-precision scales, a Buddha idol, a chameleon (3), an arrogant person (2), emotionless creatures, an artist, a proud man, Mount Everest, a rake	17	27	21,26
	Academics as unknown figures	a box of chocolates, a sculpture, a coconut	3		
Unproductiveness	Academics as unproductive figures	a bee which does not make honey, an idol, a donkey, a pine tree, a useless object, a puppet, an engine with gears broken, an imam, a cactus, a pencil sharpener, an actor, a sheep (2), a blank page (2)	15	15	11,81
Total			127		100,00

Under the theme ‘Negativity’ are metaphors (f=27, 21,26%) indicating academicians as critics, disliked and unknown figures. Seven participants emphasize criticism, three participants regard academicians as ‘unknown or unidentifiable objects’ while seventeen participants seem to be unhappy with the academicians, depending mostly on their observable behaviors and attitudes in classes. Three metaphors [a box of chocolates, a sculpture, a coconut] signify that academicians may have failed to build rapport with learners. Sample responses are “*An academician is like a cassette player because.....*”

The next theme, ‘Unproductiveness’, includes fifteen metaphors (11,81%). The ‘a bee which does not make honey’, ‘a blank page (2)’, ‘an actor’, ‘a useless object’ and ‘a sheep (2)’ metaphors mean that academicians are not productive in classes or research. Participants cautiously and intentionally prefer to use specific words to emphasize this point. Sample responses are “*An academician is like a cassette player because.....*”

Discussion

This study strived to reveal metaphorical perceptions regarding ‘being an academician’ and sought answers for research questions. The first question was about the nature of the metaphors, negativity and positivity. It was found that 59,84% of the metaphors were positive and 40,16% was negative. Polat, Apak and Akdag (2013) also presented similar findings. In their research, they revealed that 134 students in Primary Teaching Department, Kocaeli University, developed both positive (70, 79%) and negative (29, 50%) metaphors. Findings of this study prove that prospective teachers mostly have positive conceptualizations in mind, which can be regarded as a very optimistic indicator for higher educations.

In terms of categories, the literature has similar findings. Polat, Apak and Akdag (2013) categorized metaphors in five groups as ‘academician as a guide, critic, researcher, information producer and source of information’. Tortop (2013) provided five categories, namely university teachers ‘as the source and passer one of the knowledge’, ‘as a guide one’, ‘as a changing one’, ‘as a scary-repelling one’, and ‘as a versatile one’. Kosar (2016) uses eleven categories such as ‘source of information’, ‘nurturer’, ‘director’ and ‘threatening/scaring’ academicians. Basarir & Sari (2015), however, developed nine categories for metaphors regarding ‘women academicians’; namely categories such as women academicians ‘as people having too many tasks’, ‘as self-sacrifiers’ and ‘as nameless figures.’ Yilmaz, Yilmaz and Gocen (2015) asked prospective teachers about their metaphors regarding research assistants and categorized responses in six categories, mostly negative ones. Considering the findings obtained in this study seem to be consistent with the prior research. Categories developed in this study mainly focus on positive characteristics like ‘being nurturers’, ‘guiding’, ‘versatility’ and ‘being a part of a family’, which all indicate close and caring relationship between the academicians and learners.

Conclusion

This study revealed a total of 127 metaphors, 76 positive and 51 negative. Metaphors ‘a father (2)’, ‘a book (5)’, ‘a candle’ (2), ‘the sun (3)’, ‘a computer (4)’, ‘a tour guide (2)’, ‘a shepherd (2)’, ‘a tree (2)’ and ‘a smart phone (2)’ are the most frequent positive metaphors while the metaphors ‘a rake (2)’, ‘a blank page (2)’, ‘a parrot (3)’, ‘a chameleon (3)’, ‘a wall (2)’, ‘a sheep (2)’ and ‘an arrogant person (2)’ were found to be the most common negative metaphors. The metaphors produced by prospective teachers were grouped under ten categories [*Academics*

as a part of the family', 'Academics as a source of information', 'Academics as directive figures', 'Academics as Nurturers', 'Academics as versatile figures', 'Academics as monotonous figures', 'Academics as criticizers', 'Academics as rude / disliked figures', 'Academics as unknown figures' and 'Academics as unproductive figures'].

It is revealed that, this study presented more negative metaphors when compared to earlier research. This may be owing to the high stress levels on both the academicians and the students in the region. However, the rate of the positive metaphors may be considered as a proof to mean that academic staff strive to be as beneficial as they can and achieve their responsibilities in university. Metaphors can be used to supervise the efficiency and provide feedback to develop higher education institutions. When the perceptions of the learners are known, necessary measures may be taken in advance and a more appropriate atmosphere for teaching – learning process.

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The Perceived Effectiveness of Curricular Activities on University Students' Course Contentment

Ahu Ozturk

1. Introduction

Universities are our foundations that were funded with the expectation to meet the society's needs. Especially disciplines in applied and behavioral fields seem somewhat responsible and thorough for this goal. In Turkey ever-growing demands of over twelve million young people, challenges higher education (Özoğlu, Gür, & Gümüş, 2016). Universities have two apparent objectives: providing educational attainment and a possible work status for youth. As Johnes and Taylor (1990) define the purpose of university "the central provider of in-depth knowledge; educate students and academic development", they also point out meeting the needs of youth of by merging science and the national development demands. We as scientists participate disciplinary knowledge by merging faculty and the practice of psychology so that it could answer questions of societal importance.

Based on empirical evidence with undergraduate students, social psychologists Fishbein and Ajzen (1975) suggested that a person's behavior is determined by its intention to perform it (Ajzen & Fishbein, 2005). Our general attitudes can have a strong impact on behavior, but that this is to be expected only under certain conditions or for certain types of relationships. Being a blueprint for many generations, classrooms are perfect emotional, cognitive and social environments that students engage in an inclusion of a multidimensional behavioral construct. Having opinions of university students' about learning may expand our knowledge about to the complexity of both their attitudes and the beliefs.

1.1. Contentment

Having positive mood and perhaps acceptance of ourselves in a situation of ease, defines the state of contentment. As being a mental or emotional state of satisfaction, contentment is a fundamental attitude. Usually equating with personal life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985), contentment influences present behaviors and motivation (Shell & Husman, 2008). It is also documented that the capacities to express a positive emotion like contentment; broaden our thought-action options and hinder negative emotions (Fredrickson, 2001).

It is also crucial for students that contentment as expressions of feelings and cognitive evaluations, plays as an important source of study motivation. Current research generally suggests a variety of student outcomes demonstrating the attitudes about learning in the social realm relates to achievement, learning and educational effectiveness. In arguing for school contentment, rather than its psychological meaning, researchers simply compromise on its transcendental academic and social productivity; as a subject of criticism (Cano & Cardella-Elawar, 2004; Vlăsceanu, Grinberg, & Pârlea, 2004; Keiser, Lawrenz, & Appleton, 2004). Nearly one out of five of two million students in Turkey take a two-stage university entrance exam to choose programs each year, are already attending a program in a university (ÖSYM, 2016). These unsatisfied and unhappy bachelor students who had enrolled in university had not completed their degree; spend time and money to find another program. Contentment, as a remedy to this problem, also facilitates the long term motivation to learn and even buffers school drop-outs (Turner & Schallert, 2001; Levy, 2007) and has a transitive potential.

1.2. Effectiveness beliefs and course contentment

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), effectiveness is a measure of quality which is expected to achieve by higher education institutions (Vlăsceanu, Grinberg, & Pârlea, 2004). One of the contemporary areas of developmental inquiry is the study of how do youth think and feel about academic work and curriculum. Evaluating effectiveness of education from the perspectives of students' includes comparisons between goals and outcomes of all kinds of curriculum activities including assignments. For example, experiences like assignments not only facilitate learning per se but also expedite the interactions between professors and students, so that academics can help their students' academic advancement as well as their more efficient development by their role model behavior, mentoring and reassuring activities (see Buskist, & Saville, 2001). Institutions developed adapted and modified several assessment techniques of self effectiveness, to better undertake curriculum assessment according to the specific need of their programs.

Although the jury is still out in terms of what may be the underlying developmental mechanisms, speculation is plausible. According to Cooper and McIntyre (1996), among others, students' attitudes toward teaching in science become more distinguishing with regard to their notions about academy in progressive years (Biggs & Tang, 2011). Other researchers have also proposed that attitudes like course contentment or beliefs about effectiveness progress, although emphasis has been placed on somewhat different underlying constructs. For example, beginning with 1990's in the U.S. there was a debate that the key to course contentment in university years is whether a direct result of academic success or perceptions about it (see Killen, 1994). What students may require and desire in academic effectiveness develops as a function of their growing understanding of the real world and in conjunction with their expanding expectations like finding a job.

1.3. Evaluation of effectiveness

Given the attitudes of young people, there are controversial findings. It has reported attitudes of young people are more open to be driven by immediate social context and are based on what is emerging at the present time (Ajzen & Fishbein, 2005). It is also found that, young people's conceptions and beliefs about learning being more stable and continuous, even has lifelong effects, regardless of specific academic activity (Cano & Cardella-Elawar, 2004). Maybe these controversial findings, among other things, are results of (a) variations in operational definitions of the specific concept and also (b) using standard questions that are ineffective accounting beliefs and attitudes in real life. An open style of questioning perhaps might allow openly stating or raising issues that are relevant to the general concept introduced by the researcher (Minichiello, Aroni, Timewell, & Alexander, 1995).

In fact effectiveness of learning as a term can be defined and evaluated in various ways by different shareholders, in and out of its own context and consequences. According to Keiser and colleagues, the curriculum has to be oriented and justified not only by its immediate learning experiences (process within the school setting) but also by job opportunities (consequential product of school experiences) (Keiser, Lawrenz, & Appleton, 2004). An important part of the literature therefore simply seeks to be clear about students' perceptions, because teaching professionals' opinions about education related route and content alone might be misleading or incomplete (Fraser & Killen, 2005).

1.4. The aim of the study

Although the research on academic staff in higher education in Turkey is quite rich (see Toker, 2011), little is known about the curriculum evaluations and perceptions of undergraduates. Thus, (a) specifying the impact of immediate learning experiences like academic success (CGPA) and effectiveness beliefs on students' overall course contentment, and (b) elaborating the immediate and consequential underlying mechanisms of students own beliefs of effectiveness can both promote our understanding and thus can be a coherent subject of investigation as well.

This study had three fundamental aims that targeted the university students' beliefs and attitudes about learning. Within this frame, this study specifically try to shed light on (1) how effectiveness beliefs of undergraduates are related to course contentment, and (2) how effectiveness beliefs and the meaning of assignment justifications related to conceptions of identity, self-expression, personal well-being and so, and moreover. We also wanted to enable (3) students of different departments and grades participate in this effort to "enhance" teaching psychological science.

2. Materials and Method

2.1. Sample and data collection

A total of 246 student enrolled psychology courses from a university campus in Bursa, Turkey participated in the study at 2016. Criterion for the participation to this study is that, student completed an assignment required for the course. So the students asked to report that unique assignment.

A stratified random sample of students across three grade levels (freshmen-sophomores-seniors) and social sciences majors (psychology, sociology and archeology) was recruited. Demographic data (age; major; grade; assignment type; gender and CGPA) were also collected. The age range for the participants was 18-36 years, with a mean of 21. By major: 6 percent of archeology, 76 percent of psychology and 31 percent of sociology. By gender, 76 percent were female. By grade: 58 percent grade 1 (freshmen), 37 percent grade 2 (sophomores), and 5 percent grade 4 (seniors). Listwise deletion of participants was employed to provide 243 complete data sets for analysis.

2.2. Materials design

The instrument was developed to assist the lecturers in obtaining base-line data on the students' perceptions of the course and requirements. Three questions asked: how content students about the course, what do students think about the effectiveness of the homework that they've done, and how effective do they find to do this homework on learning. Course contentment and effectiveness on learning response were 1 (not at all), 2 (not much), 3 (in between), 4 (so much), and 4 (very) ($M = 4.15$, $SD = 0.62$; $M = 4.19$, $SD = 0.72$, respectively).

Responses to suggested reasons of the effectiveness of the homework were further grouped into emerging themes. This very question allowed investigation of what participants expected to achieve by doing homework and related thoughts and feelings of outcome effectiveness.

2.3. Plan of Data Analysis

The main purpose of this study is to detect the propounding empirical evidence about the predictors of student's contentment about course design and implementation. Linked closely with the first, second aim is to specify definition of effectiveness from the students' viewpoint in universities. For this purpose, the research was designed as semi-qualitative study which facilitates the perceptions of undergraduates is an issue worthy of further investigation.

In this research, the data collection included an open-ended question and two likert type questions about effectiveness and course contentment. Data analyses about curricular activities and course contentment in universities is limited to four courses given in Uludağ University.

Qualitative data analysis proceeded in three successive phases. The researcher used the coding methodology described by Strauss and Corbin (1998). As a first step, the researcher trimmed of the main themes in the open-ended answers by using some keywords like: believe, wish, think, realize, learn, acknowledge, love, enjoy, dislike, group work, personally, class climate, communication and organization and so. In next phase, the keyword review was expanded by emerging superordinate themes: effectiveness, meaningfulness, positive feelings, hardness and time consuming for the whole sample. After the coding scheme was developed, analysis of the data was reinitiated. To increase the validity of the study results, the researcher took a break about a month and then cross-checked the statements (meaningful phrases) in the third phase by four superordinate themes. During this blinded and deductive kind of analysis, the researcher read through over a thousand statements and determined further statements for deletion. At this point, the elimination of the statements was made based on their congruency between two classification evaluations and only highly valid ($r = .86$ and above) re-nominees were included in the sample of the research. After this elimination step, a selected number of themes and rich number of statements about effectiveness of undergraduate students' were accessed, which are explicated in the next part of the research.

3. Results and Discussion

A mixed method approach provided for predicting course contentment and describing the students' perceptions of effectiveness. Thus, two sets of data analyses conducted for these aims of this study. One is a set of correlation and a regression and the other is a discovery-oriented qualitative methodology.

3.1. The predictors of course contentment

A stepwise regression analysis was done in order to examine the relations between course contentment and perceived effectiveness on learning. Pre-analyzing the data (a) by gender reveals differences between females and males both in their perception of course contentment and effectiveness on learning, and also (b) significant bivariate correlations between CGPA and contentment is found. Therefore in this regression analysis, effectiveness included after controlling for gender and CGPA in the first two steps. Statistically significant regression coefficients for gender and perceived effectiveness as predictors and course contentment as dependent variable are given in Table 1. After controlling for gender and CGPA, perceived effectiveness still predicted contentment positively. Gender was a positive predictor of contentment, females reported contentment more.

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Table 1. Regression coefficients for gender, CGPA and effectiveness as predictors of course contentment

PREDICTORS	Course contentment			
	ΔR^2	B (S)	β	F
Gender	.07**	.26 (.09)	.19*	16.63**
CGPA	.07	.02 (.02)	.08	8.89
Effectiveness on learning	.17**	.28 (.05)	.33**	16.95**
Adjusted Model R^2	.17**			

* $p < .01$. ** $p < .001$.

For Gender: 1 coded for male, 2 coded for female

3.2. Qualitative Data Analyses: Superordinate Themes for Effectiveness

The discovery-oriented analyses provide final conceptual factors of how undergraduates perceive course assignments by their effectiveness. Prior to that analysis it was a set of analysis was conducted, and there found no significant differences across majors and classes with regard to effectiveness beliefs. Through the process of qualitative data analyses for effectiveness beliefs, the categories emerged were representative of the real life experiences was ensured. These results are organized along four underlying dimensions of students' beliefs about the effectiveness of the homework, namely: Knowledge building, Study effort, Personal meaning, and Positive feelings. Table 2 provides the frequencies and percentages of the statements. It should be noted that undergraduates could mention more than one superordinate theme within an answer, thus the frequencies sum of more than the total sample size.

Table 2. Frequencies, percentages and example subthemes of superordinate themes for perceived effectiveness of the homework

EFFECTIVENESS OF THE HOMEWORK	Superordinate themes (N = 244)			
	Knowledge building n (%)	Study effort n (%)	Personal meaning n (%)	Positive feelings n (%)

“Literature review”

“Acknowledging the current scientific and technologic issues”

“Preparing a report/ building academic writing skills”

202
(82.79%)

“Receiving effective feedback”

“Transferring knowledge”

“Negative affect, anxiety and stress”	
“Lack of technical skills”	
“Hardness of multitask performance”	160 (65.57%)
“Injustice in distribution of responsibilities”	
“Personal development”	
“Discovering self, connection with past”	
“Building meaning for science and society”	82 (33.61%)
“Finding study as inspirational”	
“Feelings of joy and enthusiasm”	
“Motivating feelings”	
“Optimism for next project to be done”	72
“Perceived connectedness”	(29,51%)
“Networking with other people”	

Before going any further, we must remind that students differed in the type of homework. There are four categories of homework reported, namely: conducting an interviewing with a professional working on a problem regarding society (Sociology major 1st year), describing a scientific concept by an animation (Psychology major 1st and 4th year), writing a letter to past self (Psychology major 2nd year), and giving a lecture by a virtual presentation (Archeology major 1st year). As with the different styles of homework, undergraduates' reasons of effectiveness contained the details of the style specific applications. For example, students reported to provide opportunities related interpersonal competence mostly for “interview” and intrapersonal competence for “letter to myself” homework. Besides, each assignment is scored differently and related course contains a variance in a combination of coursework, midterm exams, and activities. Of being assignments different in nature (for example interactive/teamwork or individual studies), effectiveness perceptions subthemes varied but superordinate themes stayed valid. So, we will also report and give further examples about each superordinate effectiveness subthemes to enrich focusing specific aims of this study.

3.2.1. Goal for knowledge-building

Approximately eight out of ten undergraduates ($n = 202$) had indicated at least one goal for knowledge-building when conducting the requirement of the course. For these knowledge builders, homework seemed to have many premises. Generally the goals for homework about knowledge- building, students reported to provide opportunities to:

- ✓ Acknowledge the current scientific and technological issues and literature review;
- ✓ Prepare a report/ building academic writing skills;
- ✓ Learn how recent research and theory can be applied in practice/transferring knowledge;
- ✓ Effective pacing, building positive professor-student and student-student relationships, and receiving favorable/positive verbal feedback;
- ✓ Acquire new skills when working with others;
- ✓ Apply new methods, tools and approaches in the field.

Participant 4 (Psychology major): Visualizing a concept was instrumental in a better understanding of that concept... The feedback given afterwards was more effective and useful than the task itself. We would have not learned our misconception if we had delivered the homework without such feedback. (Coded as *practice/transferring knowledge* and *receiving favorable/positive verbal feedback*).

Participant 21 (Sociology major): Literature review helped me to learn more about the specific subject that we're working on. But the presentations made last week of the semester all stand for a summary of all subjects. (Coded as *literature review*)

Participant 26 (Psychology major): We have learned to transfer information. Besides of expressing ourselves just by what are written or oral methods, we also learned a more preferred and an eye-catching method. Making an animation for homework is much more useful in my opinion. (Coded as *acknowledging the current technologic issues, preparing a report/ building academic writing skills* and *transferring knowledge*)

Participant 237 (Archeology major): By different sources, books and articles; doing in dept research improved my knowledge eventually. I gathered this knowledge... and made a structured presentation. I learned doing research, talking in front of a specific group and sharing knowledge. (Coded as *acknowledging the current scientific issues* and *literature review*)

3.2.2. Study Effort

Another big set of justification about homework effectiveness was named study effort ($n = 160$, 65.57%). Whether self or forcefully formed, study practices may benefit or hinder student learning. For example, ill structured homework that is unrealistic in length might minimize the potential for student motivation, success and achievement (Cooper, Robinson, & Patall, 2006). Exceeding intent these assignments might have drawbacks like loss of interest in course, exhaustion, limited socialization time with friends, and unethical behaviors like plagiarism.

The association between assignment and achievement is a little more blur by the way. In their comprehensive meta-analysis Cooper and colleagues (2006) also reported positive correlations between amount of homework and academic performance. Besides, the amount and type of homework seem to be more important factors for older students than the younger ones, at least for high school years (Marzano & Pickering, 2007). However, postsecondary education mostly requires autonomous learning outside of class and, thus, facilitating self-

regulation, responsibility, comprehensive thinking and time management skills (McCombs, 2007). Addressing increased social cognitive and metacognitive abilities and thinking strategies, university students also can master to see how effectiveness of ineffectiveness beliefs about assignments are related to their expectations, feelings, motivation and performance. Given these students easily detect discrepancy between unfit handling efforts and achievement expectations; it might also hinder their efficacy beliefs.

In this study undergraduates focused and reported extensively on their unfit study efforts. So in this paper by “study effort” we meant; difficulty with homework, taking assignment as a life burdening event (negative affect, stress, anxiety), time consuming study efforts, unease with functioning well, and passive self-regulation. Within the main themes of ineffectiveness addressing psychological challenges and workload, four study effort tracks became visible as:

- ✓ Organizing ineffective/ time consuming study practices;
- ✓ Discomfort with of responsibilities and disturbing overload;
- ✓ Hardship with technology such as internet and computer based applications;
- ✓ Avoidance from stimulating and practical studying practices.

Participant 41 (Psychology Major): by a being technically difficult task, making an animation forced us to work harder ... happens somewhat in all group assignments, some of us overloaded and thus the task became more compelling. (Coded as *lack of technical skills* and *injustice in distribution of responsibilities*)

Participant 95 (Sociology Major): Of course, reaching and arranging an appointment with the professional was hard... we had some difficulties with the professional allowing us time. (Coded as *organizing time consuming study practices*)

Participant 143 (Psychology Major): However, the requirement of explaining theories of psychology to clarify my developmental milestone for the paper made me a bit strained because I already had some difficulties to implement them. ... When the time came to place theories into the proper places of the text, I can tell you that I found it far more difficult. (Coded as *organizing ineffective study practices*)

3.2.3. Personal Meaning

More than one third of students (n = 82) centered on the meaning and the importance of assignment in their lives. Effectiveness themes for personal meaning focus on; (a) students own reflections on personal history and life experiences, (b) the importance of assignment in their daily lives, (c) perceived personal benefits and feelings of connection concerning the topic, (d) collecting personal data (like diaries) to identify issues for further clarification, and (e) providing a new and groundbreaking perspective for thoughts and emotions. Assignments were perceived as a way of expressing autobiography or one's own life, which could be as:

- ✓ Cultivating person's perspective on life, and sense of connectedness with science and society;
- ✓ Discovering inner self, reassessing the past;
- ✓ Self enhancement, vocational development and positive self-presentation;
- ✓ Self assessment, seen as worthwhile and competent, receiving effective feedback;
- ✓ Inspiring, challenging and authentic work assignment;
- ✓ Acknowledging future professional life and its dynamics better.

All kinds of homework are related to learning. Irrelevant of its nature, assignment helps students to master the individual skills advancing thinking and learning. But only certain qualities of an assignment appear to be reasonable. Customization the learning and assignments is one method that helps establish a positive context and climate for learning (Öztürk, 2014).

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As far as a homework that directs students to a study that is differentiated, connected and meaningful; it might promise conducive environment for learning.

Homework assigned for personal development enhances student motivation to learn. For example, challenging assignments provides students application of acquired skills and knowledge and enhances positive self-presentation. Amongst a number of benefits; students also feel cared, capable of making own choices and control, free to express their voice and feelings of competence (Deci & Ryan, 2002). Besides, feelings of connection also enhance higher levels of student awareness of their own progress and personal achievement and increases sensitivity to the learning context (Zimmerman, 1994).

Participant 137 (Psychology Major): I guess I misunderstood the homework a little. I got a low grade, lower than my expectations. But whatever; I have gained a precious awareness about myself by this assignment (Coded as *self assessment*)

Participant 209 (Psychology Major): The contribution of the assignment personally, that it allowed remembrance of my adolescence and brought a pleasant feeling as if I was talking to him (my adolescence). (Coded as *discovering self* and *connection with past*)

Participant 236 (Archeology Major): By searching the topic (Archaeometry) fully, I realized that it was unlike anything that I've heard before. It suddenly made me realize the necessity of research on a topic instead of hearsay for our profession. (Coded as *self assessment* and *acknowledging future professional life*).

Participant 141 (Psychology Major): I hope to do better future work inspired by this assignment. (Coded as *inspired*)

3.2.4. Positive Feelings

Approximately 30% of students indicate a positive affect toward course requirements. Amongst extremely positives, sociology majors were more likely to believe that skills learned by their assignment would be used in their future career. Groups comprised of sociology students, working on a problem regarding society reported; a) to have an interest in applying/learning more about teamwork, b) high motivation and well-being; and c) inspiration and enthusiasm about being a practitioner one day. Within the main themes of effectiveness addressing positive feelings and well being, four subthemes emerged as:

- ✓ Expressions of positive demeanor, demonstrating intensity and enjoyment;
- ✓ Expressions of engagement in learning by interest, motivation and enthusiasm;
- ✓ Feelings of satisfaction, well-being and pride about the outcomes;
- ✓ Building positive professor-student and student-student relationships, help and guidance from the instructor.

Enjoyment of learning experience is an affective behavior emerging in literature (Klopfer, 1971; Osborne, 2003). The role of affect in our perceptions and learning processes comes from work on socio-emotional cognition (see for example McCombs, 2008). In essence, the attitudes towards learning link with both behavioral and emotional contents. However, for a long period, it is behavior rather than affect that has become a locus of interest for researchers. According to the American Psychological Association, motivation is also related to whether or not students have self-governing learning opportunities and to make autonomous academic choices (McCombs, 2008). As soon as, models of social cognition have been immensely applied, research has shown that emotional and social support and attitudes of social agents (lecturers, friends and peers) may determine students' motivation about learning (see Osborne, 2003). So, our results with the previous research put forward that, both individual and social aspects of learning and effectiveness may determine whether or not students' academic related feelings.

Participant 48 (Psychology Major): Ideas specified with the video was like giving them a kind of soul. And the fact that there will be other undergraduates watching our homework to study this topic in the future is an honor for me! (Coded as *satisfaction and pride about the outcomes*)

Participant 79 (Sociology Major): Preparation of the questions for the interview was very exciting. We surely liked the questions we asked. We were wondering the answers to be given. The answers satisfied us also. It was a delightful interview. (Coded as *joy and enthusiasm*)

Participant 242 (Archeology Major): The course might surely be frustrating without our suspiciously elaborated presentations ☺ (Coded as *engagement in learning by interest*)

4. Conclusion

The main purpose of this study was to explore whether undergraduate students' contentment of course requirements was related with their behavioral efforts. Also we aimed to question the underlying intrapersonal and interpersonal attributions and justifications of the effectiveness of an assignment. Using mixed-method data, the results provide evidence for associations between intensity of course contentment and beliefs of assignment as effective on learning. As expected, course contentment is associated to effectiveness perceptions. Homework if seen effective for learning was likely to be considered as "useful", "beneficial", "popular" and "fun" parts of the course.

A major contribution of this study lies in the identification of underlying dimensions of "assignment effectiveness". The open-ended question of effectiveness, which was developed for this purpose, was given a wealth of information in this study. It yielded to elicit students' responses for their attitudes toward, beliefs about and feelings for the assignments. We also noted that students' ideas about course requirements and extracurricular activities become increasingly abstract and emotional with involvement. Students' perceptions of their responsibilities and what they were capable of accomplishing inside and outside the classroom were mostly involved self-related issues. The students also mostly suggested positive thoughts about their assignments. Although, respectable numbers of statements were about study effort, relatively a small number of them mentioned negative affect and anxiety while carrying out the assignment. Students' perceptions of difficulty are a determinant for attitudes toward many, such as studying science, learning, and education (see Osborne, 2003). Given links between these underlying dimensions, current study integrates "mostly positive" beliefs about homework into various effort attributions, motivation and emotion.

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Are Spiral Programs Integrative and Hierarchic?

Ayfer Sahin

1. Introduction

The quality of curriculums plays a crucial role in guiding the education process and enhancing the quality and level of education. Curriculums are to be developed, assessed and improved according to contemporary educational theories, the changing features of children and teenagers over time and evolving science and technology. This is the only way to raise a qualified work force which is also suited to socio-cultural dynamism (Gürkan, 2012, p. 38).

The continuity between preschool and primary school education is an important factor in children's educational life, as the transition between the two is a significant process. The healthier and adaptive this transition is, the more successful children will be during their primary education years. To ensure this, there must be continuity between these two institutions. Both institutions should have similar services and conditions. The first year of primary school should be far from the difficulties of higher levels of education and be in more in line with preschool training. If both institutions are not connected with each other, it would be harmful for children's education lives (Bekman, 1990). Considering this fact, the practices during preschool are of great importance in order to support children's adaptation to school (Ogelman Gulay and Ertem, 2013). A successful transition to primary school education is possible with preparation which is only achieved when the child is emotionally, physically and mentally ready for primary school education.

"A healthy and successful transition to primary school education is related with children's success and development during early childhood. It's highly probable that children who experience a successful early childhood and whose progress is supported during this period, maintain this success and progress during primary school education" (Yeboah, 2002).

Additionally, there is a strong relationship between an individual's literacy skills and academic abilities during his education life (Whitehurst and Lonigan 1998, p. 858). Thus, children's readiness for literacy plays a determining role in their literacy success in the following years. Children who gained specific literacy skills at an early age have positive outcomes in later years (Ege, 2007, p. 173).

Recent research shows that when preschool children are supported with literacy programs according to their developmental levels, it contributes to their literacy development (Simsek, 2011). Also, many studies on children who attended preschool and those who did not, reveal that preparatory literacy programs at preschools help children improve their literacy skills.

Considering these facts, preschool and primary school education programs should be established and based on each other under the context of "basic education" with spiral and thematic educational approaches. However, in Turkey, the related commissions prepare programs without working in cooperation among themselves. It is common knowledge that they neglect the principles mentioned above. Because of this, there may be problems during the implementation of both programs because they were developed independent of each other. In such independent programs, the system of education is not accepted as a whole, which in turn causes disconnections between the educational benefits of both programs. Skills taught at a higher level are not supported at the lower level. This delays children in attaining their goals. As a requirement of spiral and thematic standards, this study aims to reveal to what extent these two programs (2015 Primary Education Program and 2013 Preschool Education Program) adhere to the principles of integrativity and progress.

1.1. Preschool Education and Its Importance

Preschool education covers the years between a child's birth and the day s/he starts basic education. It is a training process provided by both his/her family and the institutions in which physical, psychomotor, social, emotional, intellectual and language developments are largely completed and the personality is formed. In the preschool period, most of the intellectual and language development as well as the formation of personality in children are completed (Aral, Kandır and Can Yasar, 2011).

This is also the most intense and rapid time period for the development of brain and synaptic receptors. A healthy brain development provides children with a strong base for cognitive, language, motor, social and emotional developments. Thus, children grow very fast in the first six years of their lives, which is also known as the preschool period, and gain a surprising competency in such developmental domains. This enables children to realize their potential and become a productive individual of society. Since brain development is very fast during the preschool period, it is also vulnerable to the surrounding environment, which in turn, also affects children's development and learning motivation. What and how fast a child can discover and learn is closely related to how much support is present in the child's immediate surroundings and what kind of opportunities are provided (MNE, 2013: 12).

Preschool education is the first formal school experience of children. Children's experience during this period can substantially affect their point of view towards school and their learning motivation in the following years. These years are of great importance in terms of information and skill development. The outcomes of this time period determine school success in the following years (Nancy, 2011). Also, between the ages of 0 and 6 is the time period in which a child's development and learning are fastest. This period is of vital importance in terms of developing cognitive, social, psychomotor, language and self-care abilities as well as preparing for primary education (Haktanır, 2008). It has been observed that children who are given a preschool education have more adaptive skills than other children and that their level of development is parallel with their quality of life (Atay, 2012, p. 55).

The underlying habits and skills that children will retain into adulthood are formed during preschool education (Berklin, 1969). Many study findings suggest that children's social development and early relationships have a positive effect on their ability to succeed in later years of schooling (Cooper and Farran, 1988). The preschool phase, which covers the first six years from birth, is one of the most critical phases in life. These years have a direct impact on children's ability to learn basic information, develop skills and habits as well as shape their character. These factors will also shape children's social and emotional lives. A vast majority of the behaviors learned during childhood years structures an individual's personality traits, attitudes, habits, beliefs and values in adulthood (Ari, 2003). In this sense, preschool education not only has a direct effect on positive personality traits of children, but it also enhances their adaptation to primary school education and decreases the negative effects of an environment (Oguzkan and Oral, 1997; Yavuzer, 1998).

Events and stimuli in a daily preschool environment provide children with opportunities for literacy development. If these opportunities are properly seized, children will develop a strong base of literacy that will be with them for a lifetime. Additionally, preschool education institutions support and guide parents in the case that any problems arise in their children's developmental domains.

1.2. Preschool Education Programs

One of the basic principles of a qualified preschool education is its programming. Preschool education programming considers children's developmental features and includes many factors like objectives, content, educational status and evaluation. Objectives stand for the behaviors children are expected to adopt; content is the behavior to be taught to children; education status stands for arrangement of the educational setting according to the children's level; and lastly the evaluation process assesses the success of the program in terms of what the children learned. The coherence and support among those factors are of great importance. The evaluation of a program and identifying its strengths and weaknesses results in a qualified education. In this context, programs should be revised regularly and improved if necessary to determine a program's functionality. One of the key factors in education programs, evaluation, is a requirement for showing the benefits and efficiency of the program and for determining whether the program attains its goals.

Preschool education programs are different from primary and secondary education programs in the sense that the psychological, social, cognitive and emotional development features of preschoolers are quite different from those studying at primary, secondary and high schools. These differences require preschool programs "to be detailed, closely connected to each other, contemporary, integrative, mutually complementary, spiral and to advance children to higher level," (Essa, 2003, p. 221).

In Preschool Education Program-2002, units were replaced with goals, which made the program more flexible (Yazar, 2007; Düsek and Dönmez, 2012; Sapsaglam, 2013). This program was implemented until the publishing of Preschool Education Program-2006, which was also called "Preschool Education Program for 36-72 Month-Old Children." This program included all the competencies found in primary school education (MNE, 2006). With the feedback following the implementation of the *Preschool Education Enhancement Project*, this program was revised by all related institutions and republished in 2013.

Preschool Education Program-2013 was a "*developmental*" program based on children's developmental levels and features and included all of the developmental domains. It was "spiral" in its approach and used an "eclectic" model (MNE, 2013, p. 14-15). The program dealt with children's social, emotional, motor, cognitive and language development all together with self care abilities in an integrative manner. The foundation of the program was based on children's developmental features. While planning the learning processes, firstly children's developmental levels were determined, and then their needs interests, and environmental conditions were considered. By composing various learning processes based on objectives and indicators, the program aimed to support children and advance them to a higher level more efficiently.

The *spiral* program involved revision of program objectives and indicators through different activities when it seemed necessary to do so. Hence, it became quite possible to realize and reinforce the program objectives. As children underwent rapid development during their preschool years and learning was a cumulative process, the program adopted the spiral approach. Additionally, other preschool programs around the world were examined and resulted in a child-centered and eclectic program which synthesized different learning theories and models in order to meet the demands of the twenty-first century.

By providing children with rich learning experiences, the preschool program contributed to different processes like children's growth and the advancement of their motor, social, emotional, language and cognitive development to higher levels, the attainment of self care abilities and adaptation to primary school education. Besides supporting all of children's developmental domains, the program is also supportive and multidimensional in terms of prevention of deficiencies in such domains (MNE, 2013).

1.3.Literacy Teaching and Its Importance

Although the schooling age differs from country to country and from time to time, and there have been different practices in this matter in Turkey, in general terms, primary school education covers the training of 7-14 year old children, which is also a compulsory process. In this sense, primary school education tries to enhance children's skills, knowledge, positive behaviors and attitudes. At these schools, students become prepared for life according to their interests and skills (Sahin, 2011). Starting a primary school is one of the critical points in a child's life. It is a new and different environment for children where they spend time with new friends and adults. It is generally the first time children are able to attend activities and to obey the rules and their teacher's instructions in disciplinary way. And most importantly, it is the first time children learn about literacy, arithmetic etc. (Polat, 2007).

First literacy teaching is a language process which starts in early childhood and is maintained with the cooperation of parents and the school in order to advance students literacy skills (Bas, 2006, p. 215). In addition to advancing students literacy skills, the first literacy teaching not only contributes to important changes in mental, emotional and social skills, but also aims at improving intellectual skills such as thinking, understanding, organizing, questioning, categorizing, linking, analyzing, synthesizing and evaluating. This process is also expected to improve fluency in Turkish, communication, problem-solving, decision making and lifelong learning. Thus, by maintaining effective literacy teaching, generations will have the ability to think, understand, question, learn how to learn, use the knowledge they have and solve problems (MNE, 2009, p. 232).

We can say that the foundations of such skills are gained by first literacy training. Just as primary school education is the determinant of children's academic success, first literacy training is the base of primary school education (Kavcar, Oguzhan and Sever, 1998; Yigit, 2009, p. 13). Individuals who fail to develop such skills at appropriate levels may tend to have problems like reading slowly, inability to understand what they read and inability to express themselves etc. To use effective methods, to love their profession, to be quiet and patient and follow the developments in the education field are the characteristics of teachers in literacy training, which in turn will decrease problems in the process (Aba, 2011, p. 14).

1.4. First Literacy Training Program

In Turkey, first literacy teaching process has never been accepted as a course in itself, and thus a stand-alone program has never been prepared. It has always been acknowledged as a sub-branch of Turkish lessons and placed under Turkish programs. Even in these Turkish programs, there have been limited explanations on literacy training methods and application. In this study, we include these method-based approaches in Turkish programs concerning literacy training.

In 1924 in Turkey, with the Alphabet Reform and literacy campaigns, there were various meetings in Istanbul concerning the methods to be included in the first literacy trainings. Of those meetings, the most important was the Elifba Congress. Including long discussions about methods, this congress placed heavy emphasis on word-based methods and found many supporters. As a result of long discussions, it was decided that teachers would be free to choose between the "phonetic-based method (usul-i savti)" and the "word-based method" in the first literacy training. This decision was accepted in the First Schooling Curriculum Program-1926 (Gücel, 1993, pp. 63-64; Bay, 2008, p. 10; Sahin, 2011).

In the 1936, 1948 and 1968 program, the sentence-based program was adopted again but on the condition that capital and lower-case letters would be taught together (MNE, 1968: 114). The programs of 1981 and 1997 saw no significant changes and they continued to apply sentence-based teaching (Bay, 2008, p. 10). In 1981, the Turkish Schooling Program was

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revised. However, there were again no important changes in first literacy teaching. The 1981 program included the same statements about teaching methods from the programs of 1948 and 1968, which meant only the use of the analysis method (MNE, 1981, p. 11).

With the implementation of this program in the 2005-2006 education term, the sentence-based method, which was the only method in Turkey since 1948, has been abolished. Instead, a phoneme-based approach which aims to produce meaningful contexts within the shortest possible time, has been adopted. In addition to the adoption of a phoneme-based approach, radical changes have been made in writing education. Before the Turkish Course Program for 1st-5th Grades - 2005, writing was taught with separate letters. However, under the new program, cursive script began being used in the first years of primary school education (MNE, 2005).

This program was revised in 2009 in order to compensate for the problems in the program. In this revision process, the *constructivist approach* as well as the *multiple intelligence theory*, *brain-based learning*, *student centered learning*, *education considering individual differences*, *spiral*, *thematic* and *skill-based approaches* were integrated into the curriculum (MNE, 2015, p. 10).

In 2015, another radical change was made to the national education system called 4+4+4. Now, the updated Turkish Program (1st-8th Grades) will be applied gradually beginning from the 2016-2017 educational term. In this program, there has been significant importance placed on first literacy teaching and a *phoneme-based sentence method* has been adopted. In the program, first literacy teaching was integrated with three learning domains in Turkish (reading, writing and verbal communication) and included limited information concerning content, method and practice. Also, it is stated that "...in raising future generations, first literacy teaching is not limited to only basic literacy skills. It also embraces the duty of improving mental skills like thinking, organizing, questioning, categorizing, making connections, analyzing, synthesizing and assessing. Through this process, the program aims to deliver a literacy program including skills like appropriate, effective and correct usage of Turkish," (MNE, 2015, p. 10).

1.5. The Importance of First Literacy Teaching in Preschool Education Programs

Yeboah (2002) stated that it is necessary to reach emotional, psychological, physical and mental readiness for a successful transition to primary school education. Thus, practices and programs developed for literacy preparedness are of vital importance. Especially following the changes of the schooling age in Turkey, concepts like school preparedness and literacy issues have become of great interest for researchers recently because children's experiences, gains and school preparedness comprise the base of a child's educational life (Kutluca Canbulat and Tuncel, 2012). It is universally accepted that a qualified preschool education program which considers the developmental needs of children, their physical environment, materials and interactions between parents and children have a positive effect on supporting literacy in preschool education. According to teachers, some attributes like eagerness, cooperation and following instructions, which are referred to as "positive attributes," are more important than skills like spelling or counting (Lewit and Baker, 1995).

Both programs in 2006 and in 2013 aimed to develop the psychomotor, social-emotional, language and cognitive domains of 36-72 month children. These programs also aimed to develop children's self-care abilities and prepare them for primary school education. They were integrative programs which had a spiral approach (MNE, 2006; MNE, 2013).

Although it differs from country to country, there is a generally accepted schooling age. Besides this schooling age, children are expected to have psychological and physical maturity.

For example, children are expected to have fine motor skills for holding pencils, writing, sitting at the desk etc., as well as intellectual maturity for literacy. Thus, all preschool programs are to include practices and activities which help students develop such intellectual and physical maturity.

This study aims to determine whether the objectives of Preschool Education Program (MNE, 2013) and Turkish Education Program (MNE, 2015) are in agreement with holistic and progressive principles that are in accordance with spiral programming approach. Besides, the programs are compared to investigate objectives that are in agreement with holistic and progressive principles.

2. Method and Materials

Qualitative approach was used to compare Preschool Education Program (MNE, 2013) and Turkish Education Program (MNE, 2015). Qualitative data derived from document analysis was analyzed with descriptive content analysis. Documents are important sources of qualitative studies (Creswell, 2013). Document analysis covers investigating written materials that include information about objectives of a study (Yıldırım and Şimşek, 2008, p. 187).

3. Conclusion and Discussion

Knowledge and skills gained in preschool education are to be parallel with those in primary school education in order to enable children make use of strategies they learn in early childhood (Timperley, Mcnaughton, Lin and Robinson, 2003). Psychological research findings suggest that initially formed habits in any field are quite strong, and thus very difficult to eliminate later in life. Thus, the activities in the first literacy teaching process are to be planned and applied with attention to forming good habits. With this aim, the use of accurate and effective models and approaches is of critical significance.

Being prepared for literacy means that children have all the necessary knowledge and skills to start reading and writing. Literacy also requires functioning senses, motivational maturity, self-control and muscle control. Learning how to read and write is a complex process composed of many interwoven and equally important skills none of which should be neglected. Preschool education has direct effects on alphabet knowledge, phonological awareness, vocabulary, grammar and the ability to differentiate between visual and auditory materials (Kandır, Uyanık and Yazıcı, 2012, p. 11).

Preschool teachers have various responsibilities and duties according to the goals of national education. For instance, they are expected to have adequate knowledge about what qualifies as school readiness, create lessons based on educational goals, design and plan activities related to necessary competencies children should have for the first year of preschool education like holding a pencil (MNE, 2006).

Literacy is not just a factor in academic success, but it's a lifelong process and an indicator of a country's level of development (MNE, 2012). The role of literacy skills in an individual's life is obvious. School readiness is of vital in the attainment of such skills. Similarly, readiness for literacy reflects a general level of maturity as it relates to necessary skills and it helps children benefit from teaching programs. Readiness for literacy programs involves practices focused on visual and auditory awareness, coordination of physical abilities and concept development (Akyol, 2007, p. 12).

All educational programs, including the 2013 and 2006 programs are opportunities for preschoolers to develop new skills improve on those they already possess. Especially in the 2006 program, the previous program was taken into consideration. Following the adoption of

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cursive script and phoneme-based literacy in primary education, the Preschool Education Program for 36-72 month Old Children was revised considering these changes. To this end, a new Preparation Program for Primary Education was developed (Polat, 2007).

In the Turkish Course Program - 2015 (1st-8th grades), there were three learning domains - verbal communication, reading and writing. In the first year of primary school education, verbal communication consists of 14 overall objectives; reading has 18 and writing has 9 (MNE, 2015, pp. 16-17). In Preschool Education Program - 2013, the learning domains were categorized as *cognitive development*, *language development*, *socio-emotional development*, *motor development* and *self-care*. There were 21 objectives in *cognitive development*, 12 in *language development*, 17 in *socio-emotional development*, 5 in *motor development* and 8 in *self-care*.

The following table outlines the objectives in the First Grade Turkish Course Program - 2015 compared to the Preschool Education Program - 2013 in terms of integrity and progress. There are no corresponding objectives between cognitive, motor and self-care and first literacy teaching programs.

Table 1. Objectives in the First Grade Turkish Course Program - 2015 Compared to the Preschool Education Program-2013 in Terms of Integrity and Progress

Objectives in Preschool Education Program-2013*	Objectives in First Grade Turkish Course Program-2015 **
LD 3: Forms sentences in according to syntax rules LD 4: Uses correct grammatical structures while speaking	VC1. Forms sentences according to level VC2. Is able to discuss a topic with peers and adults
LD 2: Uses appropriate tone of voice	VC2.1. Makes eye contact and speaks audibly
LD1: Distinguishes between phonics LD 9: Shows sonic awareness	VC2.2. Pronounces the words correctly while speaking VC6. Recognizes the emphasis in speech while listening and matches phonics with letters, syllables, words and visuals R1. Realizes and differentiates between phonics. R2. Recognizes and pronounces phonics correctly
SLD 4: Expresses emotions about a situation to others	VC2.3. Remains on topic when speaking
SLD1: Recognizes his/her own characteristics SLD 2: Recognizes family characteristics SLD 3: Engages in creative expression	VC 1. 3. Talks about people, places and events they know and expresses feelings and thoughts
LD 5: Uses language as a means of communication	VC1.4. Able to speak in public
LD 10: Reads visual materials	VC5. Makes use of drawings and images to express feelings and thoughts more effectively VC14. Recognizes non-verbal messages (mimics and body language etc.) R6. Reads according to level and topic R12. Relates with contextual visual materials
LD 7: Understands the meaning of audio or visual messages LD 8: Expresses what they listen to/watch in various ways	VC7. Determines the topic of what they listen/watch VC8. Differentiates between virtual and actual elements in what they listen to and watch VC9. Follows the context by listening VC10. Follows and applies instructions given in audio or visual form VC11. Differentiates between a poem and prose VC12. Gives daily life examples about what they listen and watch VC13. Able to dramatize a short story, fairytale, event or situation
LD 6: Actively improves vocabulary	R18. Learns the meaning of unknown words R10. Determines unknown words in context and asks questions to learn their meanings

LD 12: Shows writing awareness	W2. Writes letters, numbers and mathematical symbols correctly W3. Writes legible syllables and words by using cursive script W3.8. Revises what they write and corrects any letter or punctuation error W4. Uses capital letters, full stops, hyphens and apostrophes correctly W5. Spaces letters, words and sentences properly
LD 11: Shows reading awareness	R15. Pronounces words correctly and reads according to spelling rules and punctuation

*SED: Social Emotional Development; LD: Language Development

**VC: Verbal Communication; R: Reading; W: Writing

Starting primary school education too is a critical point in children's lives. For primary school students, concepts previously learned are important in comprehending newly learned concepts. Knowledge, skills, gains and behaviors attained during preschool compose the base of future learning and experiences. Children who have benefitted from various stimuli and increased their learning potential to higher levels tend to maintain this attitude even when they start primary school (Oktay and Polat Unutkan, 2005). The role of preschool is to provide children with the necessary qualifications for primary school education, which reflects the progress principle of education (Polat, 2007).

Education programs are dynamic by nature. They are to be revised in terms of current developments and changes so as to keep up with contemporary civilization. Additionally, the functionality of these programs should be checked continuously for errors (Erden, 2011, p. 19). With the aim to contribute to programs' improvements and revisions, this study assessed the preschool and first literacy teaching programs in terms of integrity and progress.

Although it is stated in the national program that "...preschool objectives also cover the entirety of primary education," and that "...it is expected that children would gain skills such as problem solving, communication, reasoning, making connections and decisions, assigning responsibility, questioning, being entrepreneurial, creativity, being a conscious consumer and being environmentally conscious, through game and child-centered activities, active participation and self-construction of knowledge," (MNE, 2006) it has been observed that both programs are not integrative based on the goals of education. Among the goals of first literacy teaching, especially the skill of writing is very limited in preschool program objectives whereas it's commonly known that preschools would heavily contribute to the school readiness of children with activities such as holding a pencil, writing a letter, producing phonemes and various other writing activities.

Similarly, there have been less objectives in the program in terms of readiness for literacy, spiral programming understanding and the principles of integrity and progress. Literacy skills are the foundation of academic success. Children who develop positive attitudes and abilities in reading maintain them throughout their whole lives. "Many students have a negative experience in the initial reading process, which causes them to have problems with reading throughout their adulthood and academic lives (Lyon and Moats, 1997). Thus, it is only possible that children have an adaptive and supportive transition to primary school education through careful planning of preschool programs, considering students' needs, abilities and skills.

This study which aims to compare the Turkish Course Program - 2015 and the Preschool Education Program - 2013 in terms of the principles of integrity and progress showed that the cognitive, motor, and self-care skills in the preschool program did not match with any of the objectives in the first literacy program. However, it should be noted that only Turkish course goals in the first literacy teaching program were included in this study, which causes its findings

to be limited in scope. Thus, future studies can assess the relationship of the objectives of other courses like first grade Mathematics, Social Studies and preschool education in terms of the principles of integrity and progress.

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Too Many Words but Which Words?

Ebru Senyigit

1. Introduction

During the process of language learning, one widespread issue is that the most common complaint or “obstacle” among the learners of FL, is the lack of adequate vocabulary for text comprehension (Levine & Reves, 1990). As a matter of fact, that is completely true as English is known to have the largest vocabulary items in all languages. It occurs very often that small number of unknown words might have a power to make a sentence or a whole paragraph difficult to comprehend. (Ulijn, 1981; Alderson, 1984; Koda 1989; Barnett, 1988; Coady 1991; Huckin et al., 1993). Learners almost certainly have to tackle with vocabulary items varying from a few to too many depending on either their proficiency level or textual properties and therefore reading comprehension will suffer. Besides, in addition to a group of unknown items, learners also may encounter problems with the words they have already known. Bensoussan and Laufer (1984) support this case that it is possible to see the familiar words used in uncommon ways.

Reading is known to be the most pre-eminent skill to increase the capacity of vocabulary and an opportunity to expand our lexical competence. Vocabulary development is considered as one of the important strategies in reading comprehension (Nagy, Herman, & Anderson, 1985; Nation & Coady, 1988; Stoller & Grabe, 1993; Wang, 2011). Many research studies search for the clarification the relationship between reading comprehension and vocabulary development. For instance Laufer (2010) admits that vocabulary is the inseparable part reading comprehension of that the general reading skills include inferring the meaning of unknown words from context, awareness of text and argument structure, distinguishing between main and peripheral information, between explicit and implicit material, etc. L2 knowledge includes lexical and grammatical knowledge. So, the language learning process regarding vocabulary growth does not only involve how to learn new words and how to acquire the strategies enabling learners to gather new items but also how to not to give up and to keep intrinsic motivation in case of encountering large numbers of new words while reading.

It is a quite common thing to encounter many new vocabulary items in the text and nearly impossible to master all the words if it belongs to an advanced level. “The higher the academic level, the greater the vocabulary mastery needed” (Paribakht, & Wesche, 1999, p. 196). To become a successful, advanced reader, a learner will need to learn to use different strategies to deal with unknown words encountered in reading. Generally, a good reader has appropriate strategies to deal with unknown words in reading such as guessing or inferring the meaning of unknown words in a text. (Wang, 2011) These strategies include ignoring unknown words, consulting a dictionary for the meanings of these words, writing them down for further consultation with a teacher, or attempting to infer their meaning from context (Harley & Hart, 2000).

Another common limitation for learners is the failure to gather enough contextual clues for the meaning of the word in question, as Johns (1980) says the deprivation of enough context for successful guessing the perception will be blocked. Some studies (e.g. Laufer, 1997 cited in Nassaji, 2003; Paribakht, 2004; Qian, 2004) have shown that the most commonly used strategy among them is to infer the meaning of unknown words in order to compensate for the lack of comprehension. Lexical inference is defined by Oxford (1990, 47) as “using a variety of linguistic and nonlinguistic clues to guess the meanings of all the words when the learner does not know them”. It can be regarded as an important strategy since it involves a deeper processing of information available in the text itself and that is likely to contribute to better

comprehension of the text as a whole (Read, 2000). Although learners are capable of using context for the new item, the context may not provide them satisfying clues for at least clarifying its meaning. While reading this occurs not only once but many times, so learners have to make a indispensable decision for choosing which new item can be skipped or is worth for an effort of looking up its meaning considering its place in the text. Repetition of the unknown word could be assumed as a factor for guessing, as it becomes a reason of attention. Sternberg (1987:91) says, "Multiple occurrences of an unknown word would increase the number of available cues...it is also detrimental if the reader has difficulty integrating the information gained from cues surrounding separate appearances of the word."

The reason why lexical inference has been investigated widely by so many scholars (e.g. Haastrup, 1991; Hulstijn, 1992; Na & Nation, 1985; Mondria & Wit-de Boer, 1991) is the assumption that the greater the mental effort in processing a word, the more likely it is to be remembered. Most of these studies focus mainly on the positive effect of lexical inference strategies on reading comprehension (Mondria & Wit-de Boer, 1991; Paribakht, 2004; Qian, 2004). Overall success is also seen another point of investigation in the field and learners who are successful in meaning-inference use a wide variety of strategies and use them more frequently than those who are less successful (Haynes, 1993; Morrison, 1996).

As it is seen clearly, in the field of study on the connection between the reading comprehension and vocabulary growth, one frequent point of investigation is to research how learners act in the effort of searching the meaning of unknown words. On the hand, these studies could not give satisfying answers for what the learners attitudes when they encounter too many unknown words and what makes them to decide which unknown items are worth to put some effort. The primary objective of this study was to reduce this gap by providing a quantitative way of analysis. However we shed light on the issue with not an ordinary way, but a reverse viewpoint is mainly put forward throughout the study. That is, what points the learners need but could not find in the text for learning the new item's meaning instead of what they use as a strategy in the text. Hence, this study specifically aims to find out the reasons and opinions why Turkish FL learners think they should need to know the meaning of the words from the text and the factors that are affected them to decide to make selections among the new ones. While requiring from the participants to write a self-report and classify the unknown words regarding the differences of need, it is inspired from the study of Levine & Reves (1990) which investigates global text comprehension. To sum up, in order to make a contribution to the field, this study tries to answer the following questions as research.

- How do the learners treat many unknown words while reading a comprehension text?
- If they are asked to classify the unknown words into three groups, what are the points they consider to categorize them?
- Which word-treatment strategies do they prefer when they encounter these new items?

2. Method

In order to provide a developmental inquiry into L2 unknown word-meaning inference while reading, this study is conducted on 36 female and 14 male, totally 60 first year ELT students who attended the Advanced Reading and Vocabulary Knowledge course during two semesters. Out of 54 Turkish learners, 6 foreign students are also participated in this investigation. They additionally attended various skill courses such as writing, speaking and listening etc. to develop their language proficiency. The participants have similar language proficiency level as they passed a proficiency exam before enrolling the department.

The learners were engaged in three hours weekly reading course in which they read

academic texts for comprehension, identified unknown words in the text, and inferred the meanings of the unknown words and in addition to these, they were given some fundamental issues about lexical knowledge to widen their scope on words. The study is particularly conducted to the group at the end of the spring academic term as they are well-informed about reading strategies such as scanning, skimming, guessing unknown words from the context, inferencing etc. The learners are appropriately equipped with the strategies which help them to develop their vocabulary knowledge as word parts, collocation, meaning aspects of words, formal- informal forms of words and register. It is assumed that learners have enough knowledge to handle with any kind of reading text involving many unknown words.

During the course, they get acquainted with different texts presenting different topics involving more than one reading comprehension texts. The reading text which is used for conducting research presents the topic “crime”. As Schmitt, Jiang and Grabe support it is one such factor that affects reading ability; “greater knowledge greater expertise” (2011), to assure that the participants don’t lack for background knowledge on the subject, it is particularly preferred that the learners should be acquainted the topic before by examining the similar texts and informed about key issues in the previous weeks with two similar texts which are previously discussed and analyzed in class.

They are asked to prepare a list only including the unknown words that they encounter while reading a text “Auto Theft Turns Pro” taken from the coursebook named “Beyond Words” studied during the spring term. The properties of the reading text that is used for conducting the study are analyzed using a computer program “Compleat Lexical Tutor, V.8 ” by Tom Cobb and vocabulary profile of the text is obtained. Consequently, in this text 1411 words tokens and 616 different words are found. The words comprise such percentages as %72 K1 (first 1000 frequent) words, %9 K2 (second 1000 most frequent) words,%5,2 (Academic word list) AWL items ,%13,3 off-list words, which may include proper nouns, unusual words, specialist vocabulary, acronyms, abbreviations, and misspellings. According to General Service List (GSL) (West, 1953) all these terms represent the categories of words regarding their range and frequency in use in English.

After having submitted their lists, knowing that they have reached expected reading habits and problem solving abilities and besides more alert to inferencing and also more self-confident with the unknown words in the text (Levine&Reves,1998), they are required to report their reasons why they classify their unknown words into three groups. The distinctions of the categories in their self-reports depicting their reflections can be seen in the following:

*Category 1 (*** stars):* The words they really need to know

*Category 2 (** stars):* The ones they need to know but they can cope with the text without them

Category 3 (star):* New items the participants think they are new to them but they don’t need to learn them at all.

Their reflections and opinions on the new items are gathered and evaluated with percentages (Tables 2,3 and 4).

3. Findings

As it is mentioned in the previous section, data were analysed in a quantitative manner as well and frequencies of words selected as unknown were calculated using simple count of the number of times and ranked in the table. As it is seen in Table 1, the unknown words are not only ordered regarding the frequency of selection but also in which need category they belong to could also be revealed. The group with 3 stars presents the words they really need to know,

2 starred column is for the ones they need to know but they can cope with the text without them, and the third group having a star includes again new items the participants think they are new to them but they don't need to learn them at all. How many participants choose the word as a new item could be seen in total frequency section in the table. For example, the most common word selected as unknown is "salvage" by the participants and "hoodlum" and "lucrative" are the next items that they are mostly in need of knowing. Regarding the categories that are described above, although total frequency of "crook" is 41, that is 4th in rank, it is surprising to see that the word "crook" is the most common needed item for the first category.

Table 1. The results of unknown words in terms of frequency, category and word level

WORDS	#	TOTAL FREQUENCY	#	Category 1 ***	#	Category 2 **	#	Category 3 *	WORD LEVEL
CROOK	4	41	1	30	8	11		-	OFF-LIST WORD
SALVAGE	1	52	2	28	6	12	9	12	OFF-LIST WORD
LUCRATIVE	4	41	3	25		-	2	16	OFF-LIST WORD
GOBBLE UP	9	21	4	21		-		-	OFF-LIST WORD
UNSCRUPULOUS	3	42	5	20	9	11	11	11	OFF-LIST WORD
GAMBIT	5	39	6	17	12	10	8	12	OFF-LIST WORD
HOODLUM	2	45	7	17	3	13	4	15	OFF- LIST WORD
CURB	6	33	8	16		-	1	17	OFF- LIST WORD
FENDER	4	41	9	15	10	11	5	15	OFF- LIST WORD
RACKET	11	15	10	15		-		-	OFF- LIST WORD
LEGITIMATE	11	15	11	15		-		-	OFF- LIST WORD
FRAUDULENTLY	7	26	12	14	5	12		-	OFF- LIST WORD
IGNITION	12	14	13	14		-		-	OFF- LIST WORD
REVOKE	7	26	14	13	4	13		-	OFF- LIST WORD
SCREWDRIVER	14	12	15	12		-		-	OFF- LIST WORD
INTACT	14	12	16	12		-		-	OFF- LIST WORD
ENGRAVE	15	11	17	11		-		-	OFF- LIST WORD
HEAP	15	11	18	11		-		-	K2 WORD
POACHER	8	23	19	11	7	12		-	OFF- LIST WORD
STRIP	7	26	20	11		-	3	15	K2 WORD
CROWBAR	7	26	21	11		-	6	15	OFF-LIST WORD
ETCH	15	11	22	11		-		-	OFF- LIST WORD
COMPLACENT	10	20	23	10		-	13	10	OFF-LIST WORD
SCRAP	13	13	24	-	1	13		-	OFF- LIST WORD
TOW AWAY	13	13	25	-	2	13		-	OFF- LIST WORD
TRACEABLE	15	11	26	-	11	11		-	AWL WORD
INGENUITY	14	12	27	-		-	7	12	OFF- LIST WORD
RACKETEER	15	11	28	-		-	10	11	OFF- LIST WORD
ACETYLENE	15	11	29	-		-	12	11	OFF- LIST WORD

Another point of the results reveals that the items may not be seen in a single category but these words could be in different ranks, for instance the word "crook" that is marked as unknown 41 times is not the item belonging to only the first category but also it is the most eighth frequent word in the second category. Also such words as "unscrupulous", "gambit" and "fender" are marked as unknown in all categories. This situation can put forward that there are differences in the preferences of the participants while choosing the items in which category they belong to as well.

In the table, one crucial point that takes attention is all of the words checked as unknown belong to the off-list category that is representative of unusual words, specialist vocabulary. However, this cannot be assumed as the exceptional case since Hirsch and Nation's study (1992) it was found that between 35 % and 45% of the vocabulary of text consists of words that are not in the most frequent 2000 words in English.

The second section of the this research as it is mention in the methodology part covers the reflections of the participants through the self-reports they prepared after having decided which words are new to them. They set forth the reasons why the unknown items are worth to be guessed by classifying them.

In the first category, various reasons are put forward to show how crucial the new items are for comprehending the passage thoroughly. The first, the second and the fifth items reveal that the participants' view reflect a point that they gained a strategy of looking for the clues in the text as a whole. So this indicates they put some effort to use discourse context but could not find available guessing properties and confirms the use of the constraint-seeking strategy found as a critical component of the relationship between the unknown word and the surrounding context (McKeown et al, 1985). The fourth item represents the learners see these words not only for understanding the passage thoroughly but also for expanding their vocabulary capacity.

Table 2. The reasons of the participants for Category 1

I didn't understand the text without it/ It is one of the main word in the text	%29.2
Couldn't be guessed	%17.9
Haven't seen this word before/ totally unknown	%17.9
Useful to know in daily life/ for other courses	%14.6
Repeated so much	%10.1
Could be formal or technical words	%3.3
It has multiple meaning or functions (verb-or- noun etc.)	%3.3
Strongly prefer to learn since it is a synonym of the word I know	%3.3

The last two reasons in the table could be the indication that they have become aware of different semantic aspects of words and therefore they could not guess them properly.

As Wang (2011) states that lexical inferencing strategies was the most common used strategies and they could affect the inference of a word's meaning, the second category supports his study when we look at Table 3, as guessing again, with %42,8 percentage, plays an important role in assigning the meaning of words.

Table 3. The reasons of the participants for Category 2

Could be guessed easily	%42.8
Repeated so much	%20
I have seen this word before	%11.4
Hard to guess but not important	%8.5
Even if you don't know the exact meaning it is understood	%8.5
I don't know the meaning of it but I think it is useful	%5.7
Partly understand its meaning	%2.8

Repetition again plays a role for the second group as we see in the first, the second, the fifth and the seventh items. The third item says they are acquainted with the word they put in the second category but couldn't remember them enough to interpret its meaning clearly. The fourth one could be the support of the purpose of the classification of importance. %8,5 of the participant are able to separate the most important ones from the less. While underlining the words the participants select them not only for the textual benefit but also they take them as a possible increase opportunity for their vocabulary capacity.

Table 4. The reasons of the participants for Category 3

Could be guessed very easily	%38.1
I don't have to know its meaning	%14.5
I have seen this word but not very important comprehending the text	%14.5
Not repeated so much in the text	%12.7
I heard this word but I forgot	%7.2
Too technical	%7.2
I won't use them in daily life	%5.4

When we analyze the items depicting the reasons why these unfamiliar words are important, it is surprising to see the similar reasons are given in each group but the participants may think it is the way to compare or order the words regarding the importance within the passage. Therefore the first, the second and the fourth reasons are restated in all lists. In the following items, it is indicated that the learners could make a decision of recalling the meaning of words and state they forgot them. The last item could take attention as it shows a clear opinion about further use of words and they are aware if they would use the items out of the context in question.

To sum up, the findings of this study could be the indication that the learners considerably put some effort to use guessing strategies. Besides the repetition of the word in question is the next factor they think it is worth to know. Beyond these two most common issues for need of knowing words, the participants exhibit somewhat different attitudes towards the unknown items in question. That is, they see the words as not only the units of a reading comprehension text but also the elements they would take use of for the further aims such as for daily conversations or in other courses (as seen in Table 2, item 4; Table 3, item 6 and Table 4, last item).

4. Discussion and Conclusion

The study enables us to shed more light on how the learners of English as a foreign language deal with unfamiliar words in the text and clarify which ways they assign while handling with them. As it is mentioned earlier, although they are equipped with respectively enough knowledge to study with words, it is seen that they mainly look for contextual clues found or not found in the text, secondly repetition could also play preeminent function in making a decision of choosing the word as a worth to know. It is also drawn for the data that they can choose to disregard the unknown word if they do not feel any breakdown in text comprehension. But, unfortunately, whereas most of the words don't have available morphological properties for deeper analysis, none of the participants do not mention that they seek for the clues or even attempt a try to see the inner structure of word, such as its affixes, root etc. or collocation properties of them. Thus, it is strongly advised that more training on looking inside the word and providing more opportunities to recognize the roots of words could be added to the syllabus of such courses.

After the conduction of this research, the next point deserving attention is that most of the learners have problems in comprehending the authentic materials even though they substantially take the support of inferencing strategies. One distinctive example of that is some of the participants marked the words "Detroit" and "Chevrolet" as an unknown item. This shows that the learners in one respect display lack of general knowledge of the world. Therefore more opportunities are better provided for reading more authentic texts.

To think about further implication of this research, as the set of this study is conducted in the first year students of ELT department, their progress in reading comprehension skills and vocabulary building strategies within the four years could be investigated to learn their

development in the field.

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Examination of Presentation of Ionization Energy in Turkish Secondary School Chemistry Textbooks

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1. Introduction

Since there is an interaction between the students' new knowledge thought in class and their existing knowledge, what the students have learned in their previous lesson and how this knowledge in their cognitive structure have constructed are very important to subsequent learning. Researchers have elicited that students bring with them to science classrooms certain ideas and explanations of natural phenomena that are inconsistent with the ideas accepted by the scientific community (Taber, 1998a). Such concepts are termed as alternative frameworks or alternative conceptions or students' misconceptions (Nakiboglu, 2003; Taber, 1998a and 2002; Tsaparlis & Papaphotis, 2009) and some of them have been used interchangeably. Taber (2001) has asserted that much of the literature about learners' ideas in chemistry refers to 'misconceptions', but this term was considered to imply a minor misunderstanding of the teacher's words that is readily put right, whereas many learners' ideas have been found to be persistent and stable over long periods. In this study, the term alternative conception is preferred and used to describe students' conceptions which are inconsistent with the ideas accepted by the scientific community.

The students' conceptions and alternative conceptions are being studied by science education researchers for a long while. Most of the concepts and topics concerning chemistry are difficult for all level students since the chemistry includes abstract concepts and explanations of invisible interactions between invisible entities. The topic of ionization energy places in the secondary school curriculum of many countries and the students' conceptions concerning ionization energy have been examined by the researchers (Taber 1999; Tan, Goh, Chia, & Taber, 2005). Ionization energy is also pre-requisite knowledge for much of the concept such as the formation of ionic compound and crystal lattice energy. While learning ionization energy basic electrostatic principles must be understood and applied (Taber, 2003). On the other hand, studies show that students have alternative conceptions in ionization energy topic (Taber 1999; Tan, et al., 2005).

Taber (2002) has claimed that understanding pattern in ionization energy depends upon explanations that apply ideas about force and electrical charge which are drawn from the domain of physics. He administered his 'Truth about Ionization Energy diagnostic instrument' to first-year A-level students in the UK to determine their understanding of ionization energy. He found that a significant proportion of the students based their explanations of ionization energies on the full outer shells explanatory principle and/or the conservation of force conception rather than on Coulomb electrostatics (Taber, 1999). The full outer shells explanatory principle is a common alternative conceptual framework (Taber, 1998b) where students tend to judge a natural atom such as sodium atom as less stable than a separated electron and sodium cation, Na^+ . These students think the ionization of sodium atom would be spontaneous because the resulting sodium cation would have an octet of electrons in its outer shell. Taber (1999) argued that the students did not or could not apply basic electrostatic principles that they learned in physics to explain the interactions between the nucleus and electrons in an atom. He concluded that pre-university students have considered that an atomic nucleus gives rise to a certain amount of attractive force which is shared equally among the electrons. This was an alternative explanatory principle that is the 'conservation of force' conception.

Tan, Goh, Chia and Treagust (2002) have also studied Singaporean students' conception about ionization energy. The UK-based studies were their starting point for the development of a two-tier diagnostic instrument. They developed a 10-item instrument, the Ionization Energy Diagnostic Instrument (IEDI) and administered to both the students from A-level institutions and the graduate pre-service chemistry teachers enrolled in a chemistry pedagogy course in a teacher education institution in Singapore. They concluded that high levels of alternative conceptions commonly found among high school students and certain alternative conceptions were found to be more common among the graduates. They found that understanding of ionization energy was poor among both A-level chemistry students and graduate pre-service chemistry teachers. Additionally they reached that the popularity of responses based on two common alternative conceptions reported in the previous studies (Taber, 1998b and 1999), *conservation of force* and *the octet rule explanatory principle*, was similar among the pre-service teachers and the A-level students (Tan et al., 2005). They also cited that the curriculum sets out inappropriate target knowledge for senior high school students, given the nature of the subject matter and the prior learning of the students. The Ionization Energy Diagnostic Instrument (IEDI) also administered to high school students in the USA, first year university students in China, New Zealand, and Spain to determine whether the students from different countries and educational systems had similar conceptions and difficulties as the students in Singapore with the concepts assessed in the IEDI (Tan et al., 2008). It was found that, in general, the students in all six samples had similar alternative conceptions.

The textbooks are used in the classrooms

Several authors cited that textbooks are a valuable source of information when analyzing how concepts and theories of chemistry are presented (Furio-Mas, Calatayud, Guisasola, & Furio-Gomez, 2005). The critical analysis of textbooks is also essential since it could provide valuable information for the factors affecting students' construction of knowledge and the whole teaching and learning procedure (Souza & Porto, 2012). Too few studies have related students' misconceptions to textbook treatments in chemistry (de Pesoda, 1999) or other areas of science (Bryce and MacMillan, 2009; Dall'alba et al., 1993; Martinez-Gracia, Gil-Quilez, & Osada, 2006; Stern & Roseman, 2004).

There are several sources that can account for the students' alternative conceptions, the presentation of topic or content of topic and the language used in the textbooks can be one of the source of alternative conceptions (Boo, 1998; de Posada, 1999; Ogude & Bradley, 1994; Sanger & Greenbowe, 1999) and some have cited that some textbooks can lead to memorization instead of understanding (Gabel, 1983). Dall'Alba et al. (1993) have examined the textbook treatments and students' understanding of acceleration and they have found that some students' understandings have been shown to be incomplete in ways that parallel misleading or inaccurate textbook treatments of the concept. Several researchers have analyzed the models (Drechsler & Schmidt, 2005; Gericke & Hagberg, 2010; Harison, 2001; Justi & Gilbert, 1999), representations (Van Eijck & Roth, 2008) and questions placed in the different level chemistry textbooks.

Han and Roth (2006) cited that two kinds of inscriptions typically are used in textbooks, denoting macroscopic phenomena and microscopic descriptions (models), respectively in chemistry. They also pointed to that science textbooks have many kinds of inscriptions that are different signs to be interpreted by students. Besides reading inscriptions and thereby learning from them requires the interpretation of each inscription as well as the text (Han & Roth, 2006).

Although the students' conception concerning ionization energy has been examined by researchers, there is no work that analyses the presentations in chemistry textbooks in terms of the differences between the scientific model and common alternative conceptions elicited from students. For this reason, the departure point of this study comes from this point of view and the following four research questions were addressed in this study.

1. How do secondary school chemistry textbooks explain the nature of ionization energy?
2. To what extent do the presentations of a pattern of ionization energy in the textbooks reflect the common alternative frameworks (full shells or octet rule thinking and conservation of force thinking) for conceptualizing ionization energy?
3. Which inscriptions such as models, symbolic representations, graphs, and tables are used in chemistry textbooks to explain the ionization energy topic?
4. How do distribute the questions related to ionization energy according to Bloom's Taxonomy in the secondary school chemistry textbooks?

2. Method

2.1. Context of study

In many countries' secondary school curriculum contains the periodicity of atomic properties such as ionization energy, electronegativity, electron affinity and atomic radius. All of them are essential to interpret many chemical phenomena and concepts.

Turkey uses a strict National curriculum for every course in elementary and secondary education. The formal chemistry courses, which go on for four years, start with secondary education, which is also called high school or Lycée. The topic of ionization energy is placed in both 9th and 11th grade secondary chemistry curriculum in Turkey. The 9th grade students are expected to describe ionization energy as a periodic property and to explain the trends of periodic properties according to the learning objectives of 9th-grade secondary chemistry curriculum. In 12th grade secondary chemistry curriculum, in addition to learning objectives concerning ionization energy of 9th grade the students are expected to explain patterns of the ionisation energies across a period and down a group of the Periodic Table with the reasons, to describe how to measure the periodic properties such as; ionization energy, electron affinity, electronegative briefly, and to show the connection between the sequential ionization energy of atoms and group numbers of atoms with giving examples.

2.2. The sample

In Turkey, all textbooks are written to match the requirements of the national curriculum by textbook authors who work for independent publishers or for the Ministry of National Education. All textbooks are certificated for use by the Board of Education and Training, Ministry of National Education, Republic of Turkey. Six textbooks of secondary chemistry which have been written according to the year 2013 curriculum were studied and their presentation of ionization energy was analyzed. In the study, four of them have been textbooks of the 9th grade and two of them have been textbooks of the 11th grade. The textbooks were coded as CT (Chemistry Textbook) and given a number from 1 to 6.

2.3. Analysis of the textbooks

Three aspects were considered for textbook analysis. In the *textual analysis*, presentation of ionization energy topic was analysed by using content analysis. This analysis involves the use of a check list and requires the development of a new check list because of the specific nature of each topic. To develop the check list the literature about students' conceptions concerning ionization energy (Taber, 1998b, 1999; Tan & Taber, 2009) were reviewed firstly. A draft check list was formed. The authors were analysed all textbooks independently and final check list was formed. The final checklist contains five items and specific objectives related to each item which is presented in Table 1. All textbooks were analysed by using the final check list.

Table 1. The research questions and related objectives used in the textual analysis.

Items	Objectives
1. How do textbooks define ionization energy?	1. To verify whether the definition involves removing an electron from a gaseous atom or ion.
2. Do textbooks explain that gaseous atoms are specified in the definition of ionization energy?	2. To verify whether the explanation why the gaseous atoms are specified in the definition of ionization energy.
3. Do textbooks use octet rule/full shell or spherically symmetric orbitals stability to explain the magnitude of ionization energy?	3. To verify whether the textbooks' explanations cause octet rule thinking.
4. Do textbooks use explanations about the conservation of force?	4. To verify whether the textbooks' explanations cause the conservation of force thinking.
5. Do textbooks involve explanations of the relation-based reasoning?	5. To verify whether the textbooks' explanations are the relation-based reasoning.

Secondly, inscriptions such as graph, table, and model used textbooks were analysed according to the presence of inscriptions. Various kinds of inscriptions are used in Turkish textbooks. In this study, the kind of inscription was analysed by using categories developed in the previous research (Pozzer & Roth, 2003).

Lastly, the questions concerning ionization energy placed in the chemistry textbooks were analysed. The analysis method of classification of questions used in this study is Bloom's taxonomy based on the cognitive levels of questions. Bloom's taxonomy of learning domains, originated by Benjamin Bloom and collaborators in the 1950's, describes three levels of learning (Armstrong, 2017). These are Cognitive, Psychomotor and Affective Domains. Bloom's taxonomy of educational objectives is a hierarchical representation of six cognitive processes: knowledge, comprehension, application, analysis, synthesis, and evaluation.

All questions placed in the textbooks concerning ionization energy were analysed in terms of the categories in the Bloom's Taxonomy of the Cognitive Domain. This analysis process consists of identifying questions' phrases and key words representation of each type of cognitive domain.

2.4. The reliability of the analysis

To obtain intra-judge reliability of the analysis, all the textbooks in the sample were analysed by the two authors of the study together firstly. The differences were reanalysed and after providing consensus between authors, all textbooks were analysed twice by the first author of the study again. This "intra-judge reliability" (Gay & Airasion, 2000, 175) check gave a 100% consistency rating.

3. Findings

The findings were presented in three sub-sections. These subsections are about the textual analysis of textbooks, the analysis of textbooks' inscriptions, and the analysis of the questions placed in textbooks.

3.1. The findings of the textual analysis of textbooks

Ionization energy is described as “the minimum energy required to remove an electron from a gaseous atom in its ground state (Chang, 2010, 337). On the other hand, several definitions are placed in the textbooks like this “the first ionization energy is the amount of energy required to remove the first electron from the atom in its ground state” and “the second ionization energy is the amount of energy required to remove the second electron from the ion with 1+ charge”. From these definitions, the students could think that ionization energy and first and second ionization energy differ from each other. For this reason, the description of ionization energy should involve both atom and ion terms together and the usage of the following definition seems more convenient: “*The minimum energy required to remove an electron from a gaseous atom or ion*”. To verify whether the definition involves removing an electron from a gaseous atom or ion, firstly how the textbooks define the ionization energy was investigated according to the first item of the checklist. The findings concerning the definition of ionization energy were shown in Table 2.

Table 2. The findings about definition of ionization energy

Grade Level of Textbook	Code of Textbook	Removing an electron from a gaseous atom	Removing an electron from a gaseous atom or ion
9	CT1		+
9	CT2	+	
9	CT3	+	
9	CT4		+
11	CT5	+	
11	CT6	+	

From Table 2, we can see that while the definitions of the ionization energy in CT1 and CT4 involve the term “a gaseous atom or ion”, only the term of atom is taken into account in the other textbooks' definitions.

Gaseous atoms are specified in the definition of the ionization energy. Since an atom in the gas phase is virtually uninfluenced by its neighbours and so there are no intermolecular forces to take into account when measuring ionization energy (Chang, 2010). It is important to explain why the term of gaseous atom used in the definition for the better understanding of ionization energy. For this reason secondly, it was investigated whether textbooks explain why the term of gaseous atom used in the definition (second item of checklist). The Table 3 shows that the findings concerning the explanations of why gaseous atoms specified and also whether the explanation is convenient.

Table 3. The findings about explanation of gaseous atoms

Grade Level of Textbook	Code of Textbook	The explanation of why gaseous atoms are specified	The explanation is convenient *
9	CT1	-	-
9	CT2	-	-
9	CT3	+	PC

9	CT4	+	NC
11	CT5	+	PC
11	CT6	+	PC

*C means convenient, PC means partly convenient, and NC means not convenient

When the findings of explanation concerning why the gaseous atoms are specified are examined, it is seen that there are not any explanations about this matter in the textbooks CT1 and CT2 from Table 3. The rest of the textbooks, from CT3 to CT6, involve an explanation about why the gaseous atoms are specified. On the other hand, it was found that none of these explanations were convenient.

It was identified two alternative frameworks about ionization energy which one was *full shells* or *octet rule thinking* (Taber et al., 2007). It was investigated whether the textbooks contain the statements which could cause this kind of thinking to answer the third item of check list. The results of this analysis are presented in Table 4.

Table 4. The findings about the explanation causes full shells or octet rule thinking

Grade Level of Textbook	Code of Textbook	The explanation contains full shells have special stability	The explanation contains spherically symmetric orbitals have special stability
9	CT1	-	-
9	CT2	+	-
9	CT3	-	-
9	CT4	+	-
11	CT5	-	+
11	CT6	+	+

From the Table 4, it is seen that most of the textbooks (CT2, CT4, CT5, and CT6) containing the statements can cause the octet rule thinking. One remarkable finding is about octet rule framework. While the explanations placed in 9th grade textbooks contain full shells stability, the explanations placed in 11th grade textbooks involve spherically symmetric orbital stability. The 9th grade curriculum does not contain the concept of orbital and for this reason, the explanations which cause the octet rule thinking do not contain the concept of orbital. An example quotation taken from a textbook is given below:

After being removed valence electrons of an atom, the stable noble gas structure will occur. For this reason, to be removed an electron from this structure is too difficult and this process is needed higher energy. (CT4, 64)

Another alternative framework of ionization energy identified by Taber (1998b, 1999) is *conservation of force thinking*. It was investigated whether the textbooks contain the statements which could cause this kind of thinking to answer the fourth question of check list. It was found that there were not statements or explanations which caused conservation of force thinking.

Taber et al. (2007) cited that textbooks contain relation-based reasoning while explaining the patterns of periodic table. The textbooks were analysed whether they involve this kind of explanations (the last item of checklist) and it was found that all textbooks were given place to this kind of explanations.

3.2. The findings about the inscriptions placed in the textbooks

The findings of kind of inscriptions (graph, table, and model) placed in the textbooks were analysed according to the presence of inscriptions. The findings are shown in Table 5.

Table 5. The findings about inscriptions

Grade Level of Textbook	Code of Textbook	Graph	Table	Model
9	CT1	+	-	-
9	CT2	+	+	+
9	CT3	+	+	-
9	CT4	+	+	+
11	CT5	+	+	-
11	CT6	+	+	-

It can be seen from Table 5, while the graphs are placed in all textbooks, 5 of textbooks use tables to explain the topic of ionization energy. The graphs and tables were also analysed by using content analysis and the findings of this analysis was presented in Table 6 and Table 7.

Table 6. The findings about content analysis of graphs

Content of graph	Textbooks
The variation of first ionization energies of the first 20 elements with atomic number	CT1, CT3
The variation of ionization energies of the first 20 elements with nucleus charge	CT4
The variation of the first ionization energy of some elements with group number	CT2
The variation of the ionization energy with atomic number	CT5
The variation of the ionization energy of main group elements with atomic number	CT6

From Table 6, it is seen that while the graph contains the variation of first ionization energy in three textbooks (CT1, CT2, and CT3), the others focus the variation of ionization energies.

Table 7. The findings about content analysis of tables

Content of table	Textbooks
The first ionization energies of the elements of group 1A and atomic radii of them.	CT2, CT4
All ionization energies of the first 20 elements and the atomic number of them.	CT3, CT6
The first ionization energies of several elements of Group 1A and 2A and the atomic number of them.	CT5

From Table 7, it is seen that while the table contains the first ionization energy and atomic radii in two textbooks (CT2, and CT4), CT5 focus the first ionization energy and the atomic numbers. The table placed in CT3 and CT6 involves all ionisation energies and the atomic numbers.

It was found that the models were used in the two textbooks (CT2 and CT4) and an example model is presented in Figure 1.

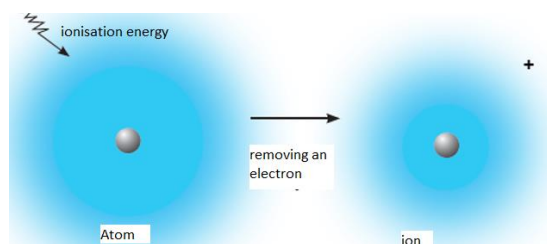


Figure 1. Model used to explain the ionization process in sub-atomic level.

3.3. The findings about questions placed in the textbooks

The questions placed in the textbooks were analysed according to Bloom's Taxonomy. The findings of the distribution of chemistry textbook question according to Bloom's Taxonomy are given in Table 6.

Table 6. Distribution of chemistry textbook questions in terms of Bloom's Taxonomy

Textbooks Code	Categories					
	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
CT1	-	1	-	-	-	-
CT2	-	1	-	-	-	-
CT3	-	1	1	-	1	-
CT4	-	3	-	-	2	-
CT5	-	2	1	-	-	-
CT6	-	-	1	-	-	-
Total	-	8	3	-	3	-

When Table 6 is examined, it is seen that out of 14 questions available in the six chemistry textbooks, eight of them are *comprehension*, one question is *application* level, and three of them are *synthesis* level questions.

4. Discussion and conclusion

At the end of the study, it was concluded that most of the Turkish textbooks analysed could lead students to common alternative conceptions that is octet rule thinking. Textbooks could be effective on students' scientific thinking and conceptions. On the other hand the textbooks alone do not guarantee desired outcomes of teaching sequences because the personal and social relationships between the teacher and students have a major influence on teaching and learning (Ahtineva, 2005). For this reason Ahtineva (2005) cited that it is important that scientific concepts are made accessible to the students in a number of different ways both in teaching and in textbooks so that each student can discover his or her own optimal approach to studying and learning. Tesfaye and White (2010) has also cited that during the development of teaching materials, students' misconceptions should be taken into consideration, instead of producing sources of misconception in the textbooks (cited in Zajkov, Gegovska-Zajkova & Mitrevski, 2016). We can also recommended that the textbooks writers should take into account common alternative conceptions and students difficulties placed in literature while preparing their textbooks.

In this study it was also found that all textbooks used the explanations concerning trends of periodic patterns based on relation-based reasoning. Taber et al. (2007) found that students did not consider all the relevant factors to answer about the trend of the first ionization energy

across periods and so other possible influential factors are over-looked. This type of thinking was described as relation-based reasoning where students' explanations based on only one or two factors. Besides explanations, some of the questions placed in the textbooks were also based on relation-based reasoning. This is an important factor to understand ionization energy meaningfully. For this reason, textbook writers should avoid using these kind of statements.

Another result of this is about graphs. It was concluded that all textbooks analysed included a graph about variation of the ionization energies. The graphs are used widely by the students and teachers for learning and teaching science. Since the graphs can help students to comprehend the topic during the chemistry learning process, the usage of graphs in the chemistry textbook is very essential.

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Appendix

Textbooks used in the study

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A Review For Designing Action With “Problem Solving” Methods In Landscape Architecture Education

Aysel Yavuz, Duygu Akyol

1.Introduction

The act of design could be considered as a process that includes various phases of change and development. Design process is quite complex and so requires creative solutions. In this process, designers draw their own path, reflect their own thoughts and each obtained product becomes a kind of personal creativity product (Kuloğlu and Yavuz,2015). In this process, to produce design products that respond to functional and aesthetic demands depends on observation, perception and analysis of design problems.

Design education students are trained to produce functional and creative solutions to design problems they encounter during their education. It could be argued that creativity can be learned, taught, and improved when it is considered as "solving design problems from individuals' perspectives". Therefore, design education should include a comprehensive program for the students to acquire the skills to create innovative and unique design products using professional knowledge and skills. Without doubt, knowledge (Kuloğlu and Asasoğlu, 2011) and past experiences promote creativity. To conduct design activities, it is necessary to produce original and innovative products that fulfill functional and aesthetic requirements and utilize creative thinking.

The unique nature of the design, which does not allow a single solution or a single fact to be effective in design problems, the design process that requires the activation of intellectual mechanisms and its solution-oriented structure increase the need for a learner-based education (Hatırnaz, 2010).

The necessity for perceptual, cognitive and sensory skills to work together throughout the design process reveals the possibility of utilizing visual and theoretical information perpetually. Thus, the main objective of design education is not to provide students pure theoretical knowledge. It is the experience of creating and experiencing a different phenomenon after the student intellectually processes the learned knowledge and associates it with other achievements in her or his memory. To produce original ideas in design education, it is necessary to utilize approaches that would lead the students to think originally and to present original design problems. To be able to teach how to perceive and interpret a problem in an unusual manner, would render the students unique and creative.

The point here is to direct the complexity of mind to creativity during the creation of this phenomenon. This could only be achieved through applied studies throughout the education process. The acts of problem solving and design, which constitute the main scope of the present study, are beneficial in this respect. However, if the problem definition is solved only in the theoretical sense, it would not provide a benefit for design. The chaos of the intellectual information in the mind relies initially in a clear definition of the problem, and then its transfer into a draft fearlessly and without hesitation. The present study aimed to develop creativity and to put it into practice by rendering the retention of theoretical knowledge in the mind using a different method in Karadeniz Technical University, Landscape Architecture Department, sophomore Landscape Material and Structures course. Thus, initially the landscape material and structures were instructed theoretically, then the students were allowed to use these material and structures in a functional space or a problem definition and to use the material and structures together by drawing and demonstrate their suitability for use. In the context of this topic, the design education content will be emphasized first, and then the material use practice in the act

of design will be discussed and the results of the work conducted by the students in the course will be interpreted.

2. Design Education in Landscape Architecture

In architecture schools, design / project courses that include a significant part of the education process and a field of discipline in professional practice are continued to be questioned and developed in all aspects. Especially identification of the problem, development of design and the final product and evaluation steps in this process accompany an increasingly multimedia environment.

Despite the existence of these multimedia environments, the designs are blocked in education process and the student is forced to think analytically, thus the creative perception of the student could be shut. This is observed in landscape architecture design education as well. The fact that Landscape Architecture hosts several disciplines requires the landscape architects to possess multidirectional thinking.

Another significant phenomenon in Landscape Architecture professional discipline design process is the selection of material and structure and the use of this selection in the space based on design principles. Only theoretical explanation of the material during the education process do not contribute much to the students. With this type of education, the student might experience practical problems and since the definition of material and structure is insufficient, several urban spaces become dysfunctional. As a result, the use of material and accessories in creating a space is also of great importance. Thus, the main theme of the present study is this topic. Study content emphasized to conduct problem solving method along with material and structure use and the act of design and thus, a retained learning style was attempted to be provided.

3. Material Use Practice in The Design Process

The landscape material used in landscape architecture are very diverse and used in different details for different constructional purposes. This diversity in use, for example the fact that a stone could be used for both a pavement and masonry, requires significant knowledge on material. This knowledge is not limited to the physical structure of the building material itself but should also include its qualities. In addition to being good quality, the material and structure should also be suitable for the purpose and environment for which it was used.

Other significant issues are the selection of adequate material for the purpose, weather and climate conditions of the location and its ease of use (Uzun, 1999).

The material used in landscape design influences the form and articulation of the design. The materials used in the design could be natural material such as stone, sand, gravel and wood, as well as material such as brick, concrete, glass, etc. In the scope of the present study, areas with different functions were identified each week and it was aimed to improve the practical skills of the students on the use of material that are instructed in the class.

4. Problem Solving Oriented Design Process, A Design Education Method

Studies on a systematic construct of problem solving as a design methodology or that formed the initial steps towards this construct became popular in early 1960's and formulated based on the previously introduced human problem solving theory.

There is a need for knowledge that would facilitate a solution within the required context in order for the designer (the student) to create a conscious alternative. As emphasized in the first

section of the present study, the student needs the knowledge acquired in previous courses and needs to use this knowledge in a complex way during the problem solving phase. This might cause the designer (student) to conduct roll-backs and redefine the problem at hand. Then, the designer (student) attempts to define the new situations that emerge in her / his mind and imagination based on the context of the problem, and defines subconscious ideas, and as a result, begins to identify solutions (Cooper and Press, 1995).

Thus, we attempt to obtain concrete or abstract products in design. A design process typically begins by analyzing the context of the product that would be designed. This analysis helps to detail the disconnections between the associations of groups of different types and to come up with potential solutions. The act of design can be simplified as the transformation of a problem derived from this dense and extensible form.

In the design process, the definition of the problem and the solution include certain stages. These are the identification of the problem, solution of the identified problem and implementation of the solution.

Based on Dewey's ideas, problem-solving based learning was inspired by the idea that it is necessary for the students to acquire skills such as introduction to real-life problems, awareness for the significance of these efforts, and resolving problems proactively and emerged from the view that full and competence-based learning should be provided for students (Elçin, 2000). In this perspective, problem-solving based learning, also considered as a learning discipline, generally includes the following features (Johnstone and Biggs, 1998; Taner and Keedy, 1995):

- Problem (real life problem) is the baseline of the study.
- The aim is to teach the technical information within the real-life events.
- Concentrating on the problem is important, however there is no strict discipline.
- General problem solving skills are taught regularly.
- Student-centered learning is fundamental.
- Student takes the individual responsibility of learning.
- Learning takes place in small groups.

Thus, a problem is defined and a solution is expected in "Landscape material and structures" course, which is an undergraduate course in the Department of Landscape Architecture at Karadeniz Technical University Faculty of Forestry. The aim is that the student (designer) could use the material in the space arrangements in areas that display functional differences. With the new solutions proposed for each problem, the student is being prepared for the professional life and conduct the act of design by considering the previous knowledge during information collection stages. Furthermore, the student also acquires the ability to perceive material and structure use characteristics in spaces from different perspectives. Thus, in the problem solving process, the student (designer) is allowed to act like a landscape architect to allow the student to develop cognitive skills.

5. Study Methodology

The aim of the present study is to scrutinize the transfer of theoretical knowledge from the static environment to the visual medium and to address this method in the first experimental study on the 'Landscape material and structures' course. This course is considered extremely important in landscape architecture education since it has a fundamental position in landscape architecture education and it contains studies to acquire knowledge, perception and enforcement of application about material and structure, which is the main goal of this education.

Design problems have a different solution process and infinite number of solutions when compared to other problems that follow an algorithmic path. Although design problems are

clear, the solutions to these problems, from the baseline to the final stage are not defined-clear. Thus, these kinds of problems do not have definite solutions.

The basic principles determined in the developed model are;

- Removal of knowledge on material from the theoretical level, its visualization in an interactive and dynamic environment,
- Ensuring that theoretical knowledge is matched to the knowledge and images in students' minds, and ensuring retention of achievements,
- Facilities provided by the model in the transfer of theoretical knowledge into practice,
- Creation of the model in a system that utilizes design elements and principles,
- Openness of the model to development.

This approach was conducted with 78 students attending the Landscape Material and Structures course given as 2 + 2 at KTU Landscape Architecture Department in the fall semester in 2016-2017 academic year. The present study is the product of the applications conducted within the scope of the 11-week course. In two-hour long theoretical section of the course, students are instructed landscape materials and their basic features, functions, factors that are effective in material selection, areas of use and landscape structures. In the two-hour practice section of the course, a design problem is given to reinforce the topic and applications are implemented with two-dimensional drawing techniques. It is expected from the students to submit their projects within the time allotted in the course. Delivered applications are assessed and related problems are explained in the next class and examples of good practice are introduced. This method offers landscape architect candidates the opportunity to improve themselves by demonstrating their ability to solve an existing design problem. The design problem is defined by providing details of scale, work field, function, and material, and the students were asked to create solutions within this context. At the end of the semester, 10 design questions were provided to the students at the end of the first 11 weeks and several products were obtained based on the creativity of each student.

Table 1: Administrative flowchart

6. Interpretation Of The Sketches Drawn By The Student

In this section, selected student work are evaluated based the solutions provided for given problems, and different perspectives introduced to the act of design with the problem solving method are assessed. Theoretical instructions were provided prior to all problem solving processes and the landscape materials and structures that are expected to be used by the students during the application sessions were introduced. In the application stage, the material and structures that would be required during problem solving, the scale of work, function and problem topic are explained to the students in detail.

Table 2; Detailed description of the problems presented to the students in the context of the problem solving method

In the final class, the students were asked to draw the section of the space by completing material and structure solutions for the problem area. It was considered that the student could criticize the use of the landscape material and structures she or he designed with a different perspective both in terms of function, scale and suitability for the space.

Table3; Examples of the activities that students have done every week

Table4; Examples of the activities that students have done every week

7. Result

The results of this unique study, which was the first related study conducted in KTU Landscape Architecture Department, demonstrated that the theoretical knowledge instructed with problem solving method in Landscape Material and Structure course could be interpreted within the act of design. Purpose of the present study is to allow the students to learn material and structure knowledge that is instructed in theoretical classes by implementing this knowledge on real-life problems that they might encounter in the future. This method reinforces the theoretical knowledge of the student in the application field and demonstrated which material can be used together and in which utilizations of space. Furthermore, the method also ensures that a material or structure selected for the area of application is an active factor in determination of the relationship between the user and the natural environment, the identity that the application of a material or a structure assigns to the space, and conduction of material and structure selection that is functional. When we assess the achievements of this approach, it could be observed that it is quite important that the instructional or applied sections of the courses are conducted in steps that support each other in design training courses. The achievements of the students in Graphic Expression and Basic Design courses that they have taken in the previous semester were significant in developing the initial ideas based on the problem and design approaches to solution proposals. Students reinforced their comprehension of the topic by reinterpreting design elements and principles such as line, direction, form, scale, range, balance, color, harmony or contrast. These achievements were considered very important for a qualified landscape architecture student.

Another important achievement in the present study was the experience that each student perceived the design problem for the same space quite differently from each other and one beginning could lead to several results. This application clearly demonstrated to the students that there could be multiple solutions to a design problem. It did not only aim the student to focus on solving the problem, but the planning steps that should be taken when reaching the solution were emphasized as well. However, it has been stated to the students that there is not only one correct answer in the solution process, but different designs and material should also be used. The purpose of providing different functional spaces in the study is to ensure that the students could reflect their inquiry about the method that should be used when the problem situations, their content, and the requests change in their sketch work.

Products that were produced in the implementation stages were added in the study process and it was demonstrated that there were significant differences between the initial and final problem solving proposals based on both drawing technique and design approach skills. Students, who were not confident about design and use of material in their initial work, demonstrated that they attained a certain level in both drawing techniques and in the use of material and structures towards the end of the study and acquired self-confidence in both survey results and sketch studies.

As a result, within the scope of landscape material and structures course, the course outline was established with an original method and for the first time problem-solving method was used for professional development of the "comprehension" and "implementation" skills of the students. The resulting two-dimensional work and statistical data constituted the visual expression of this development. Thus, although the study was unique, and it has a guiding quality in implementation of design by problem-solving.

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An Examination of the Relationship between L2 Motivational Self System and L2 Learning in Turkish EFL Context

Cevdet Yilmaz

1. Introduction

It has been widely recognized that motivation is key factor in the learning process. It is frequently characterized as being a complex and multifaceted construct, but it has been acknowledged as one of the determinant factors that most influence the success of second language (L2) learning by teachers and researchers (Oxford, 1996). Dörnyei (2001) emphasizes the role of motivation in forcing students to start learning an L2 and to sustain the later learning process. Oxford (1996, 121) maintains that it also determines “the extent of active, personal involvement in foreign or L2 learning”. Obviously the unmotivated students who are not actively involved in their study are not supposed to develop L2 skills. As Dörnyei and Csizér (1998, 203) state, “Without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and neither are appropriate curricular and good teaching enough to ensure student achievement”.

Given the central role of motivation in learner’s achievement, research on motivation to learn a second / foreign language has received much attention in the past decade. Parallel to the trend towards motivational theories regarding classroom learning, there has been more interest in the concept of motivation among researchers of L2 and language teachers.

This suggests that both parties have attempted to find out the determining factors that motivate students to learn an L2. Takahashi (2013) points out that teachers are more eager to know how to motivate their students so that they make a great effort to study and accomplish more in an L2. Understanding students’ motivation to learn a second language is key to enhancing their motivation and increasing learning achievements. Research has shown that there exists an identified interrelationship between motivation and achievements (Gardner & Lambert, 1972).

The attention to motivational theories have also been reflected in the bulk of studies devoted to SLA (Second Language Acquisition), highlighting the importance of motivation as a key factor in language learning without which even gifted individuals cannot accomplish long-term goals. As such, there is evidence to suggest that motivation often compensates for deficiencies in language learning ability (Tremblay & Gardner, 1995).

Thus, other factors covered within the scope of SLA may to some extent presuppose motivation. All in all, the construct of motivation has become central to an array of theories involved in SLA (Gardner, 1985). These theories in turn function as providing accurate information on what constitutes learner’s motivation in the process of language learning. In a broader sense, a sound motivational theory can assist instructors to promote learner’s motivation, and thus help learners to put more effort into achieving more in L2.

Of such motivational theories, a new L2 motivation paradigm called the L2 Motivational Self System has been recently proposed by Dörnyei (2005, 2009) and investigated in various contexts. The current study adopts this paradigm as a point of departure to account for the L2 motivation of EFL pre-service teachers who were enrolled in English as a foreign language courses at university level in Turkey.

Dörnyei’s (2009) theory of L2 Motivational Self System, for the most part, has been centered on previous conceptualizations of L2 motivation theories using psychological views of the self. Theorizing on the L2 Motivational Self System, it was developed on the basis of Higgins’s (1987) self-discrepancy theory which postulates that human beings become motivated to reduce the gap between their actual self and ideal self. To illustrate, in the case of

a non-proficient L2 learner who has a strong ideal self-image of being a proficient L2 speaker, this ideal L2 self might act as a means to motivate learner to study the L2 due to the learner's wish to compensate for the emerging gap between his actual self and his ideal self. This model is made up of three main dimensions: Ideal L2 Self, Ought-to L2 Self, and L2 Learning Experience.

Ideal L2 self is the primary constituent of L2 motivation and represents the learner's wish to master the L2 as his or her ideal self-image. For example, if a learner wishes to become a fluent L2 speaker who is able to interact with native English speakers, the image that this person would create of oneself as a fluent speaker might act as a powerful motivator, since it would reduce the discrepancy between the actual and the ideal self (Dörnyei, 2009; Papi, 2010).

The **Ought-to L2 self** "concerns the attributes that one believes one ought to possess to meet expectations and to avoid possible negative outcomes" (Dörnyei, 2009: 29). For instance, if a person wants to please teacher or boss with their language fluency, the Ought-to L2 self is the main motivator for their learning (Calvo, 2015).

The **L2 Learning experience** concerns "situated, executive motives related to the immediate learning environment and experience" (Dörnyei, 2009, 29). This dimension is not linked to self-image but with the situation in the learning process. In other words, the enjoyment of the learning environment, for example, creates more motivation for some language learners to learn an L2 than does self-image.

While Ideal L2 self and ought-to L2 self as depicted in the preceding paragraph emerge as the key components in the L2 Motivational Self System, the system also embodies the other three important dimensions called **attitudes to learning English, the criterion measure and integrativeness**. These are presented as follows:

(1) **Attitudes to learning English** : It concerns "situation-specific motives related to the immediate learning environment and experience" (Taguchi, Magid, & Papi, 2009, 75). Example: "I always look forward to English classes"

(2) **The criterion measure** assesses the learners' intended efforts toward learning English. Example: "I would like to spend lots of time studying English"

This construct of motivation is frequently associated with L2 language achievement (Calvo, 2015; Dörnyei, 2009), since it depicts students' effort, interest, and readiness to invest time and energy to learn the language.

(3) **Integrativeness**: includes possessing a positive attitude toward the second language, its culture and the native speakers of that language (Dörnyei, 2009). Example: "I think that learning English is important to learn more about the culture and art of its speakers".

Given the mainstream research interest in motivation, the L2 Motivational Self System as a new theory of motivation in the field has relatively received less attention from researchers. Initially, Dörnyei and his colleagues have set out to conduct some empirical studies in order to support the model. Subsequently, other research has focused on examining the relationship between several dimensions of the L2 Motivational Self System and language learning across different contexts, in countries as diverse as Japan (Ryan, 2009) and Hungary (Csizer & Kormos, 2009). From this perspective, the investigation of the model in a very different context like Turkey as is the case in this study adds to the validity of the model and the present inquiry is of considerable importance since "self in general is subject to a great deal of cross cultural variation"(Dörnyei, 2009).

2. Literature review

The related literature emphasizes the central role of motivation for language learners and their success and, as Oxford (1996) argues, its exploration can be helpful to identify the motivations of the learners pursuing their language studies. The more research predicts the factors that create motivation, the more teachers will be able to help motivate language learners in class.

In recent years, an increasing number of SLA researchers have become interested in examining L2 learning motivation from the perspective of the L2 Motivational Self System in different contexts. Their studies have also backed up the validity and applicability of the theory. Most of the studies have focused on examining the relationship between the dimensions of the system and other criterion measures such as learner's motivated behavior, L2 achievement or language choice (Papi & Teimouri, 2014).

In a large-scale motivational study conducted by Dörnyei et al. (2006) in Hungary, Dörnyei designed a questionnaire composed of seven main motivational components. These components included (1) Integrativeness, (2) Instrumentality, (3) Attitudes toward the L2 speakers/community, (4) Milieu, (5) Linguistic, (6) Cultural interest and (7) Ethnolinguistic vitality. The researchers then utilized the seven components and the relationships among them to validate the L2 Motivational Self System. The researchers also stated that these seven motivational components are "amongst the most common dimensions investigated in past L2 motivation research" (Dörnyei et al., 2006, 10).

In the case of the Ideal L2 self, it has been found to be the most significant dimension of the L2 Motivational Self System (Ghapanchi et al., 2011; Islam et al. 2013; Rajab et al., 2012). In Kim & Kim's (2014) study, the Ideal L2 Self revealed a positive impact in the Korean context, and it pointed out that the more clear the Ideal L2 self, the higher level of English proficiency. Takahashi (2013) undertook a similar study in order to gain a rich understanding of the development of ideal L2 selves. In this study six non-English major university students were interviewed. The results indicated that the interviewees' ideal L2 selves varied in terms of their contents and specificity. Other research has focused on verifying or examining the connection between the concept of the ideal L2 self and integrativeness (Ryan, 2009).

3. Aim of the study

Drawing on Dörnyei's (2009) L2 Motivational Self System as the main theoretical framework, the present study aims to examine the L2 Motivational Self System beliefs of EFL pre-service teachers in Turkish context. The focus of the study is on the five motivational constructs as identified by Dörnyei including "ideal L2 self", "ought-to L2 self", "criterion measures", "attitudes toward learning English" and "integrativeness". To do this, the following research questions were addressed for this study:

1. What are pre-service teachers' L2 Motivational Self System beliefs held in the language learning process?
2. Is there a significant relationship among the dimensions of the L2 Motivational System scale (Ideal L2 self, Ought-to L2 self, Attitudes to learning English, The criterion measure, Integrativeness) ?

4. Method

4.1. Participants

The participants for this study were all TEFL (Teaching English as a Foreign Language) pre-service teachers coming from Department of English Language Teaching in Çanakkale Onsekiz Mart University, Turkey. 160 respondents (53 males and 107 females), in their second, third and final year participated in the study.

4.2. Instrument

To analyze the five variables that make up the L2 Motivational Self System, a quantitative method was employed in the present study. These variables were measured using a 30-item questionnaire that was devised on the basis of five-point Likert scale format. The questionnaire items were adapted from a currently devised questionnaire by Taguchi et al. (2009). To analyze the data, values ranged from 5 for 'very much' to 1 for 'not at all'. In effect, the variables within the framework of L2 Motivation Self System came to highlight students' views of ideal L2 self, ought-to-L2 self, attitudes to learning English, integrativeness, and students' intended efforts to learn English.

4.3. Procedure

Prior to the implementation stage during the main study, a pilot test was conducted on a group of samples to identify potential problems areas and deficiencies in the research instrument. Cronbach alpha index of reliability for the student questionnaire items was calculated at a high 0.85. Before students started to respond to the questions, they were briefly informed about the purpose of the present study and the format of the questionnaire. As for data analysis, the mean scores and standard deviations for each item in the L2 Motivational Self System questionnaire were calculated using SPSS (Statistical Package for Social Sciences) 18.0 Software for Windows. Further, Spearman correlation coefficient was conducted to demonstrate the possible relationship among variables with an emphasis on students' perceived attitudes toward learning English.

5. Results and Discussion

Table 1 presents the means and standard deviations for each of the 30 items designed for analyzing the EFL pre-service teachers' the L2 Motivational Self System beliefs.

Table 1. EFL Pre-Service Teachers' L2 Motivational Self System Beliefs

Items of L2 Motivational Self System subscales	M	SD
Ideal L2 self		
1. I can imagine myself speaking English as if I were a native speaker of English.	3.30	1.09
2. I can imagine myself speaking English with international friends or colleagues.	4.13	0.92
3. Whenever I think of my future career, I imagine myself using English.	4.51	0.74

An Examination of the Relationship

4. I can imagine myself studying in a university where all my courses are taught in English.	3.93	1.07
5. I can imagine myself writing English e-mails fluently.	4.12	0.86
6. I can imagine myself living abroad and using English effectively for communicating with the locals.	4.14	0.13
7. I can imagine myself as someone who is able to speak English.	4.45	0.69
8. The things I want to do in the future require me to use English effectively.	4.38	0.83

Ought-to L2 self

9. I study English because close friends of mine think it is important.	2.10	1.16
10. If I fail to learn English, I will disappoint other people.	2.54	1.40
11. Studying English is important to me in order to gain the approval of my teachers.	2.97	1.35
12. Studying English is important to me in order to gain the approval of my family.	2.91	1.37
13. Learning English is necessary because people surrounding me expect me to do so.	2.65	1.31
14. Studying English is important to me because other people will respect me more if I have a knowledge of English.	2.82	1.39
15. My parents believe that I must study English to be an educated person.	3.23	1.40
16. Studying English is important to me because an educated person is supposed to be able to speak English.	3.95	1.15

Attitudes to learning English

17. I like the atmosphere of my English classes.	3.71	1.24
18. I find learning English really interesting.	4.62	3.32
19. I think that time passes faster while studying English.	3.82	1.09
20. I always look forward to English classes.	3.55	1.12
21. I would like to have more English lessons at school.	3.71	1.27
22. I really enjoy learning English.	4.37	0.88

Integrativeness

23. I think that learning English is important to learn more about the culture and art of its speakers.	4.32	0.94
24. I would like to become similar to the people who speak English.	3.95	1.16
25. I find studying English important because it will help me meet and converse with more and varied people.	4.73	3.30

The criterion measure

26. If an English course was offered at university or somewhere else in the future, I would like to take it.	4.30	0.96
27. If my teacher would give the class an optional assignment, I would certainly volunteer to do it.	3.43	1.31

28. I would like to study English even if I were not required.	4.20	4.11
29. I would like to spend lots of time studying English.	3.76	1.15
30. I am working hard at learning English.	3.48	1.13

Considering the means of questionnaire items, as displayed in Table 1, item 4 which relates to pre-service teachers' strong desire to integrate with other people and cultures by studying English had the highest mean ($M=4.73$).

This makes it clear that learners' motivation to study a foreign language is enhanced if they will keep in contact with the people of the target language and become the part of its culture. As such, pre-service teachers ranked item 18 ($M=4.62$) as one of the most important motivational factors behind their reasons for learning English. This item points to their common attitudes towards English, which indicates that they find studying English interesting.

With respect to the item 3 ($M=4.51$) in the ideal L2 self-subscale, an overwhelming majority of pre-service teachers pointed out that they imagine themselves using English when planning their future career. In this context, the ideal L2 self appears to function as the source of motivation and represents students' wish to master the L2 as their ideal self-image. On the other hand, item 9 had the lowest mean ($M=2.10$) in the questionnaire, which posits that one might wish to learn English, first and foremost, in order to meet the expectations of close friends. Such an attribution, however, does not prove to be main motivator for the majority of pre-service teachers in learning English. This is because they might find this factor too external to account for the source of learner motivation.

On the basis of the results of L2 Motivational Self System analysis on items, five subscales were identified. The descriptive statistics for these five subscales including Ideal L2 self, Ought-to L2 self, Attitudes to learning English, the criterion measure and Integrativeness are shown in Table 1 as follows:

Table 2. Means and Standard Deviations of L2 Motivational Self System Subscales

Subscales	N	Mean	SD
Attitudes to learning English	160	4.76	1.14
Integrativeness	160	4.33	1.27
Ideal L2 self	160	4.13	0.60
The criterion measure	160	3.83	1.15
Ought-to L2 self	160	2.89	0.88
Total	160	3.98	1.00

With respect to overall L2 Motivational Self System beliefs, the total score was found to be 3.98 which is statistically high. This suggests that pre-service teachers judged their motivation to study English to be closely related to the L2 Motivational Self Model. The means and percentages of table 2 show that 'attitudes to learning English' have the highest mean ($M=4.76$), followed by 'integrativeness ($M=4.33$)', 'ideal L2 self ($M=4.13$)' and 'the criterion measure ($M=3.83$)' while 'ought-to l2 self' is ranked the least mean ($M=2.89$).

An Examination of the Relationship

In response to the second research question as to whether there is a significant relationship among the dimensions of the L2 motivational system scale, spearman correlation coefficient was run. The correlation coefficient is summarized in the table 3 below.

Table 3. Correlation Coefficients

	Ideal L2 self	Ought-to L2 self	Attitudes to learning English	Integrativeness	The criterion measure
Ideal L2 self			,470**	,353**	,360**
Ought-to L2 self					,253**
Attitudes to learning English				,449**	,614**
Integrativeness					,409**
The criterion measure					

** Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level.

As the above results display, all variables statistically were found to correlate with the criterion measure which informs the learners' intended efforts toward learning English. That is, pre-service teachers' intensive efforts to learn L2 are fundamental to understanding the L2 Motivational Self System. The results demonstrate how pre-service teachers relate their efforts to learn an L2 to either "integrativeness", "ideal L2 self, ought to self, or attitudes to learning English.

It follows that ideal L2 self emerges as the other important variable which correlates to the three constructs including attitudes to learning English (.470), integrativeness (.353) and the criterion measure (.360). To illustrate the relationship between ideal L2 self and the criterion measure, pre-service teachers are capable of visualizing an L2 component in their ideal self as responsible for their efforts to learn an L2. These results are compatible with the results of previous research (Dörnyei, 2005: Roohbakhsh Far & Rajab & Etemadzadeh, 2012).

The relationships among these variables are meaningful, positive and medium. In addition, the most significant finding obtained in the study is the coefficient between the criterion measure and the attitudes to learning English which is the highest (.614). In other words, pre-service teachers tend to attribute their efforts to learn L2 to their attitudes toward English.

6. Conclusion

This study has sought to investigate the relationship between Dörnyei's (2009) Motivational Self System and L2 learning. On the whole, the results have revealed that the four dimensions of the theory have considerable impact on language learning, though, to varying degrees. Of the five variables, 'ought-to L2 self' has been reported to have no relevance to L2 learning due to the insignificance of the external pressures or obligations in learning English.

With regard to the findings resulting from the analysis of correlation coefficients, it has been found that 'the criterion measure' emerges as the most contributing factor to L2 learning, followed by 'the ideal L2 self'. Surprisingly, this is contrasted with the current research and related literature (Dörnyei, 2009: Calvo, 2015: Roohbakhsh Far & Rajab & Etemadzadeh, 2012) where 'the ideal L2 self' functions as the primary constituent of L2 motivation. The

meaningful correlations between ‘the ideal L2 self’, ‘the criterion measures’ and the other dimensions have also given some clues on how to focus on the effective teaching of an L2.

Consequently, Motivational Self System has proved useful in examining motivation, making room for interpreting different motivational learner types. This can benefit both teachers and material designers. On the one hand, teachers of English can create certain tasks and behaviors rooted in the ‘ideal image’. On the other hand, material designers can produce a variety of engaging and motivating tasks to invoke such images.

6.1. Research suggestions

The present study has yielded substantial consequences for suggesting relationship between L2 Motivational Self System and pre-service EFL teachers’ language learning in the Turkish context. However, further studies are needed with different learners of various levels and more studies of this type with larger samples can prove more convincing in order to validate L2 Motivational Self System. If such studies are carried out cross-culturally, comparing different results is likely to allow for a clearer understanding of this motivational construct.

Many studies have employed a questionnaire method to examine L2 Motivational Self System and have not explored the in-depth range of participants’ motivations. In order to gain a rich understanding of the development of L2 Motivational Selves, more qualitative tools should be employed across diverse samples and contexts.

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Identifying Educational Administrators' And Supervisors' Motivators And De-Motivators Of Life Long Learning Process: A Qualitative Analysis

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1. Introduction

Education is identified as the process that takes part in one's life from birth to death, first in the natural surroundings as family and friends and then with formal education that shapes the spirit, beliefs and personal life vision. In the field of literature, many identifications related to education can be found. Erturk defines education as "The process of changing behavior throughout personal life experiences within desired outcomes" (as cited in Yağcı, Başar & Aşkın, 2016). The term 'desired outcomes' stands for the needs of the individual as much as the society itself from micro to macro level and lifelong learning could be regarded as the linkage between these two levels.

Lifelong learning process (LLP) is first come up to stage in history in the 1960s during European Countries' educational modification attempts for better outcomes (Klug, Krause, Schober, Finsterwad & Spiel, 2014) and first pronounced during a conference that was organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Short after the term LLP was taken into consideration by UNESCO Institute of Education in Hamburg, which gave a start to theoretical and practical studies by many researchers (Óhidy, 2008).

The Turkish Republic of Northern Cyprus (TRNC), which is also named as the 'island of education' depending on the considerable amount of universities despite its area of 3,355 km² LLP is also on the research agenda, not to fall behind the global facts. TRNC has 4 public, 10 private universities with their faculty members dealing with LLP as personal efforts and there are also formal organizations that are funded or supported by these universities to serve as LLP centers which supply demand based courses beneath various titles. Even if LLP is mostly taken into consideration by universities, it's possible to find private and state formations to serve the citizens. This research is conducted to identify the educational administrators and supervisors' motivators of the LLP in TRNC.

2. Literature Review

Motivation refers to "the reasons underlying behavior" (Guay et al., 2010, p. 712). Gredler, Broussard and Garrison (2004; as cited in Lai, 2011) broadly define motivation as "the attribute that moves us to do or not to do something"

Researchers talk about two different motivations, one is 'intrinsic motivation' which is animated by personal enjoyment, interest or pleasure and the other one is the 'extrinsic motivation' governed by reinforcement contingencies. For educators, intrinsic motivation is more desirable as they claim that it results in better learning outcomes than extrinsic motivation (Lai, 2011).

The essence of the individual's motivation is the influence of its behavior to achieve the performance required. It's a process of activating internal requirements to manage human activities to target its efforts. Motivation for learning is affected by the environments, cultures and the histories that people live through. As Coffield (2000a) has stated, motivation is 'a

complex social construction... best examined at the intersections between history, geography and biography' (as cited in Martin, 2005, p. 6).

LLP involves learners of all ages and all backgrounds and can exist in various situations where the learners live with different forms, self-directed learning, learning on demand, informal learning, and organizational learning (Fischer, 2000). The Organization for Economic Co-operation and Development (OECD), defines the term as "a process of individual learning and development across the lifespan, from cradle to grave—from learning in early childhood to learning in retirement. It is an inclusive concept that refers not only to education in formal settings, such as schools, universities and adult education institutions, but also to 'life-wide' learning in informal settings, at home, at work and in the wider community" (OECD, 1996; as cited in Deveci, 2015).

Considering the fact that LLP is a necessity rather than a possibility or a luxury, it is an essential challenge for inventing the future of the societies. It complements and transforms industrial-age with knowledge-age approaches. LLP creates the challenge to understand, explore, and support new essential dimensions of learning such as: (1) self-directed learning, (2) learning on demand, (3) collaborative learning, and (4) organizational learning (Domik & Fischer, 2011).

Policy makers and educators have been interested in finding out what motivates adults to engage in lifelong learning. Lifelong learning is considered as the solution to several pressing problems, particularly the need to update the knowledge base of the labor force as globalization forces industry to restructure. It is seen as a route to personal growth and as a way to create active and democratic citizens and a good society. This is why motivation for learning is important (Taylor & Francis, 2007; Fejes & Nicoll, 2008).

The learners' interests, needs, and motivations promote the learners to learn in their lives that stands as the starting point of this research. McCombs (1991) stated in her article that the "motivated person is a lifelong learner, and the lifelong learner is a motivated person".

3. Methodology

The main research question is clarified as: "What are the motivators and de-motivators of the LLP of educational administrators and supervisors that are currently working in educational institutions in the TRNC?", and to reach the relevant data a qualitative research design was undertaken for this study, depending on the practicality, usefulness, and convenience of the qualitative research (Creswell, 1998; Merriam & Associates, 2002; Patton, 1980; Stake, 2000; Strauss & Corbin, 1990), which is often a preferred design when "there is lack of a theory or an existing theory fails to adequately explain a phenomenon" (Merriam & Associates, 2002, p. 5) and it is best characterized as a family of approaches whose goal is to understand the lived experience of persons who share time, space and culture (Frankel & Devers, 2000, pp. 113-114).

Bogdan and Biklen (1998) state that as a qualitative methodology, case study "is a detailed examination of one setting, or a single subject, a single depository of documents, or one particular event" (p. 54). Moreover, Yin (2003) emphasizes that a qualitative case study methodology is better suited for studies looking at educational phenomena under the contextual conditions (p. 8), that may bring out "experiential knowledge" and "knowledge transfer" (Stake,

2005). Within the light of this information, in order to reach the relevant data in terms of qualitative research, a single case study is conducted in this research.

The data collection procedure is done by means of semi-structured interviews with open-ended questions as they consist of several key questions that help to define the areas to be explored, but also allowing the interviewer or the interviewee to diverge in order to pursue an idea or response in more detail (Britten, 1999, p. 12). The researchers developed five interview questions aiming to gather different information related to the research, which are formed by a detailed literature review. In qualitative research, it is believed that an important element of the interview preparation is the implementation of a pilot test, which can also assist the researchers with the refinement of research questions (Turner, 2010, p. 757). With this respect, the interview questions are tested with four participants as two mailings and two face to face interviews that are not included in the study group to make necessary revisions prior to the implementation of the study (Kvale, 2007).

Patton and Cochran (2002) underline that sample sizes are typically smaller in qualitative work. One way of identifying how many participants needed is to keep interviewing until nothing new comes from the data a point called 'saturation', which can be determined as the appropriate amount of interviews. In order to reach the saturation level, purposeful sampling was used by the researcher to select the participants of this research which is explained by Bogdan and Biklen (1998) as, choosing particular subjects, so that they are believed to facilitate the expansion of the developing theory (p. 65). Demographic information of the study group is shown in Table 1 below, consisted of 12 male and 8 female participants within the age range of 38 to 65, 7 MA and PhD holders and 13 MA holders, all active in different educational institutions even if some of them are retired.

Table 1. Demographic information of the study group

No	Age	Gender	Data Collection Type	Education	Code
1	42	M	Note Taking	MA+PhD	K1
2	52	F	Interview	MA+PhD	K2
3	65	M	Mail	MA	K3
4	58	M	Mail	MA	K4
5	52	M	Mail	MA	K5
6	55	M	Interview	MA+PhD	K6
7	58	F	Interview	MA	K7
8	38	M	Interview	MA	K8
9	50	M	Mail	MA	K9
10	55	M	Mail	MA	K10
11	50	M	Interview	MA	K11
12	52	F	Interview	MA	K12
13	50	M	Note Taking	MA	K13
14	45	M	Mail	MA+PhD	K14
15	41	M	Interview	MA	K15
16	39	F	Interview	MA	K16
17	47	F	Mail	MA+PhD	K17
18	49	E	Interview	MA	K18
19	56	F	Interview	MA+PhD	K19
20	61	F	Interview	MA+PhD	K20

In the field of literature, quests about using e-mail interviews are possible to be found. Meho (2006) states that the past two decades have seen a considerable increase in the number

of studies in library and information science that employing qualitative research methods. Researchers have identified challenge associated with the observation and in-depth interview methods, including cost, time, and limited access to research participants (Denzin & Lincoln, 2005; Gubrium & Holstein 2002; Kvale, 1996; Miles & Huberman, 1994; Patton, 2002; Strauss & Corbin, 1998; Taylor & Bogdan, 1998). Challenged with the task of identifying new methods or tools for conducting more effective research while retaining or improving quality, researchers started to explore using the internet for carrying out qualitative research (Meho, 2006, p. 1285). It is stated in the field of literature that these researchers began to use three main types of internet-based qualitative research methods: *online synchronous interviews*, *online asynchronous interviews*, and *virtual focus groups*. In contrast to studies that used online, synchronous interviews (Bowker & Tuffin, 2004; Madge & O'Connor, 2002; Mann & Stewart, 2000) and those that used virtual focus groups (Burton & Bruening, 2003; Chase & Alvarez, 2000; Gaiser, 1997; Mann & Stewart, 2000; Schneider, Kerwin, Frechtling, & Vivari, 2002; Underhill & Olmsted, 2003), studies that used online asynchronous interviewing are also regarded as convenient and subsumed under the broader category of online research methods (Kraut et al., 2004; Madge & O'Connor, 2004). Depending on these references and due to the fact that some of the participants in the study group stated their lack of time because of their heavy workload, seven e-mailing interviews are conducted within the research.

According to Turner (2010), the final constituent in the interview design process is that of interpreting the data that was gathered during the interview process. During this phase, the researcher must make “sense” out of what was just uncovered and compile the data into sections or groups of information, also known as themes or codes (Creswell, 2003, 2007). Codes are the repeated words or phrases of the participants found within across the individual texts (Thomas, 2006).

After the data gathering process is finished, all of the interviews are transcribed by the researchers in order to conduct content analysis for in-depth understanding of the interview responses. Mailing responses and transcribed interviews are loaded into Nvivo 10 Qualitative Analysis Software, and analyzed by the researchers separately and as a team. The data reduction process (Miles & Huberman, 1984) is applied and after the agreement of the codes and categories that are formed throughout the research, the final draft of the findings is member checked in terms of data triangulation for validity and trustworthiness (Patton & Cochran, 2002).

4. Findings

The first interview question is designed to gather information related to the reasons that led the participants to start their graduate education in their later professional life. Two participants (%10) stated that their reasons have direct connections with external factors which caused them to change their field and start MA education. The researchers coded these two participants' sentences as ‘change of the field’ beneath the “external factors” category. Participant K8 underlined the situation as:

I have decided to start MA education when I changed my job and realized that I was the only one at my new institution who do not hold a graduate degree. Even if I have 15 years of teaching and administrative background, I felt like a rookie and useless...

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The external factors category also includes two participants (10%) who mentioned that late education is a result of 'family issues' which kept them away from graduate education and two other participants (k3 & k5) stated that they were in a 'scientific gap' causing inertia at their institutions where they spent many years. Another category that is formed by the researcher involves participants who have a high level of personal motivation towards learning new things involving three different codes as 'desire to learn' with seven participants (35%), 'ambition for administrative position' with two participants (10%), and 'personal betterment' with three participants (15%). Participant K11, who has the desire to combine experience and knowledge with the belated graduate education stated the ideas as:

I learnt in time,.... after graduating from the Faculty of Education as a math teacher and many years in the Ministry of Education and Culture (MEC), that I have to develop new skills and serve my country by forming new systems and planning for better teaching activities..."

The category that is named 'desire for reflecting academic interest, personal progress and acquisition' involves 13 participants (65%) who ranked their desire to gain 'professional efficiency' as the first reason to start their belated graduate education. Participant K14's ideas related to this subject can be seen as the basis of this category mentioning;

...The most important reason....is the desire to be more efficient in my profession. My Ma and PhD education helped me to be more effective in the field of educational sciences during my teaching years and at the times that I worked for the MEC.

This category also involves three codes as 'academic environment' with three participants (15%) stating that they like to be in, as they have the chance to gain new knowledge as a reason for belated graduate education, and 'combination of experience and knowledge' which helps them to reflect their experiences more efficiently with four participants (20%). Only one participant (k20) mentioned that she has started the belated education by means of friend encouragement which forms the "external positive effect" category.

When the answers to the first interview question are overviewed, it is possible to state that the participants' personal motivation for academic progress and their major motivation for starting graduate education is to be more effective in their professional lives. The category which is named as "personal motivation for learning" gathering a considerable amount of participants can stand as the proof of their motivation to learn, despite the undesired reasons that kept them to start their graduate education in their early professional lives.

The second interview question helped the researchers to identify the reasons that kept the participants away from graduate education, even if they have high levels of motivation. According to the answers, the researchers formed "negative conditions of the country" category that gathers nine participants (45%). The category name comes from the war period in 1974 which was due to a clash between the Greek and the Turkish Cypriots and its aftermath effects causing political and economic embargoes, the lack of higher education institutions in the country. K1 summarized the situation by saying;

"There were no MA or PhD programs in TRNC at that time. Depending on the reason that I was working, it was impossible for me to go to Turkey or abroad for these graduate programs."

Another participant (k11) also mentioned the same problem supporting participant K1 and other participants in the same category and added;

“...At those years, there was no chance for us to get graduate education and we had to go abroad to do so. My marriage and children also put me into a hard position to get over the existing problem.”

Within the second interview question, three different codes are formed by the participants involving six participants (30%) as ‘family issues’, five participants (25%) as ‘financial difficulties’ and four participants (20%) as ‘heavy workload’, standing as the reasons which kept them away from graduate education at their early years of professional lives. Participants K8 and K11 mentioned that their BA education was considered as ‘enough’ for their professions and because of the changing conditions related to their major domains and the field of study, they decided to start graduate education.

When the codes that are formed within the second interview question are examined, it is possible to state that the highest amount of participants is gathered beneath the “negative conditions of the country” category with nine participants (45%) as the prior reason for belated education. Participant K1 summarized the situation by saying;

..... The existing universities in our country did not have graduate programs. Going to Turkey or abroad required a considerable amount of money...and... So that the country was living the aftermath effects of war, it was impossible for us to do it...Unfortunately.

There were also participants like K7, K16 and K18 who did not mention any obstacles for a graduate education but later on, they were in need of new academic information which formed the “need of academic information” category. K11, on the other hand, mentioned that one of the reasons for the belated education was the lack of ‘government support’.

When the answers of the second interview question are overviewed, it is possible to state that the fundamental obstacles that kept participants away from graduate education generally had an external effect due to the country’s political and economic status in those years. Moreover, some personal issues like family responsibilities and financial problems also stand as a reason for the belated education despite the high motivation levels of the participants.

The third interview question helped the researchers to identify the effects of the graduate courses and classroom interactions of the participants so that they were all highly motivated when they are compared with other graduate students. When the answers are classified, it is found out that 14 participants (70%) stated that the graduate education helped them to ‘increase self-confidence’, supplied ‘purity in personal ambitions’ and ‘professional efficiency’ which also formed the codes with the same titles and categorized as “personal and professional development” by the researchers. K11 commented on this aspect as;

The courses that I took and the classroom interaction during my graduate education helped me to widen my vision, to use more academic data and knowledge in my job, to understand my colleagues from an administrative perspective and to increase my administrative knowledge and capabilities. They have considerable effects on my approach to my status in the Ministry of Education and to use academic language and literature more effectively.

Furthermore, 12 participants (60%) mentioned that the graduate courses and classroom interaction helped them to gain a ‘positive attitude towards their professions’ which is coded with the same title by the researchers. This coding and ‘the increase in questioning and examining’ that was mentioned by five participants (25%) are categorized as “increase in social skills” by the researchers. ‘The combination of daily and academic life’ code that is formed by

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four participants' (20%) comments and K 15's 'empathy development' codes are also categorized with the former title. K7 summarized the content of this category by saying;

....My PhD had a very positive effect on my job. Like...First of all, it helped me to understand the identity of my colleagues, my students, parents and myself...And to classify them...it helped me to develop suitable attitudes and approaches according to their characters.

In accordance with the answers of the participants, the code of 'learning new methods' involving four participants (20%) and 'acquiring academic language' with two participants (k11 & k8) and participant K17's 'crisis management' and 'increased academic awareness' codes are also categorized as "academic knowledge acquisition" by the researchers.

When third interview question's answers are examined holistically, it is found out that the graduate education, that participants found chance to take part in their late professional lives affected them in a good way, helped them to develop new professional skills and improve their social skills, that can allow them to create good relationship with their employees and colleagues. The research findings assert that the classroom interaction during the graduate education process, not only helped them to develop academically but also socially.

The researchers designed the fourth interview question to figure out the differences that are likely to occur, when the participants had the chance to start their graduate education in their early professional lives. This question is answered by four participants (20%) as the effects on their educational and academic life 'would not be at an efficient level' when it is compared to the belated version. Two participants (k2 & k19) stated that graduate education that is gained 'after a professional satisfaction is more effective' and two participants (k7 & k9) supported the ideas of these participants by mentioning that graduate education helped them to be 'more productive', so that the level of awareness can be lowered at the early ages of an individual. Three participants (15%) stated that they were quite comfortable and satisfied with the undergraduate education and were 'never in need of an extra education' at those ages. Three participants mentioned that their 'level of awareness level is higher' than the early ages and four participants clearly used the words as 'the right time is now' to underline that the graduate education that is gained in their later professional life is far more effective when it is compared to earlier ages.

Participant K5 stated that personal motivation can help to close the gap and said:

"As I like to do research and develop myself, it would not make a difference. But it would be true that late graduate education had a motivational effect on my educational life."

Three participants mentioned that the graduate education did not have a considerable effect on their teaching activities. This could possibly interpret as the field of education is different from the field of profession and K13's statement slightly supports this assumption as;

I think that the graduate education did not have a positive effect on my teaching practices, neither the information that I pass to my students, nor the methods that I used to do so...Maybe...This is because my MA is different from my BA.

Two participants (k17 & k20) mentioned that if they had to chance to start their graduate education in their early professional lives, it would be possible for them to skip their profession to different fields. Participant K6 commented on the subject as;

“My late PhD education caused late professional promotion when it's compared to my peers...” and these comments are categorized as “the destiny effect” by the researchers.

Participants K11 and K14 underlined their confusion related to the effects of late graduate education whether there would be a difference or not, which is categorized as “instability” by the researchers.

When the fourth interview question's answers are examined, it is possible to underline that the unexpected finding of the research came out, so that the most of the participants (13; 65%) agree that the right time for an effective graduate education is ‘now’, in terms of the effects on their profession and classroom interactions during their graduate education programs. Only three participants mentioned the possible effect on their professional careers when the graduate education is completed in their early professional lives and four participants mentioned that they had no considerable effect on their profession, depending on the reason that their field of study was different from the field of teaching. In the light of these findings, it is possible to state that the graduate education which is gained after some years of experience can help to develop better academic and social skills when it is compared to have graduate education at the early years of one's professional life.

The final interview question is designed to find out the expectations of participants from political authorities and officials directly responsible for education like government, Ministry of Education, Higher Education Council to develop and wide spread the motivation for education and LLP.

After the examination of the answers, nine participants (45%) were gathered beneath the ‘official regulations for motivated personnel’ code that will allow motivated educators to have the desired graduate education while they are active in their affiliated institutions. Six participants (30%) mentioned that the government and universities have to internalize LLP and take useful steps to spread the vision and it is categorized with the same title by the researchers as “internalization of LLP”. Moreover, there were six participants (30%) stating that government has to supply ‘financial support’ for LLP and graduate education, and two participants (k1 & k16) underlined the need of developing ‘policies for social unification’ which were all gathered beneath the “financial support and orientation policy of the government” category by the researchers.

Four participants (20%) mentioned that the government has to organize ‘performance based funding’, which is categorized as “external motivation” by the researchers. Finally, seven participants (35%) underlined the need of organizing ‘demand based in-service training’ as a dimension of the LLP, forming the last category of the research as “the importance of in-service education”

When the responses to the final question are examined, it is seen that the expectations of participants from authorities are to form rules and regulations to help the motivated personnel, allowing them to have the graduate education that they are in need of with official or/and financial support; to form policies that will help to internalize LLP by the government and universities in order to spread the LLP vision. Besides, some participants underlined that in order to spread the vision and applications of LLP external motivators could be designed by the government.

5. Discussion and Conclusion

The research findings assert that, fulfilling the personal objectives, personal betterment, both professionally and socially, acquiring new academic and social skills, combination of experience and knowledge by means of the academic courses, and classroom interactions are prior motivators for the participants of the study group in terms of the LLP. Participants' late graduate education helped them to widen their capabilities and increase self-esteem and professional efficiency and stand as examples for intrinsic motivation. Existing obstacles of participants' early professional stages as financial problems, family issues, heavy workload, lack of government support and negative conditions of the country as external effects could not succeed to decrease participants' internal motivation, despite their negative effects.

It is also possible to state that for better educational outcomes, personal awareness and readiness can be regarded as a key term according to the findings of the research. Having a graduate education after some years of occupational experience is considered to be much more effective when it is compared to a graduate education gained at an early stage of professional life.

As a conclusion, one can say that within the effect of globalization, which turns our world into a big village, LLP comes forth among many other important virtues that affects our personal and national lives. The importance of gaining and using the knowledge and its transfer to others, rapid changes in technology and the considerable effect of the internet has increased the importance of LLP more than ever. In order to compete and control these vital contemporary virtues, official rules and regulations prepared and conducted by authorities like Government, Ministry of Education, Higher Education Council to supply and sustain LLP is required not only for the motivated citizens of TRNC, but also for other nations and countries, according to the recommendations of the participants who have once suffered from the negative conditions of the country, during and after the 1974 turmoil period that happened because of the clash between Turkish and Greek Cypriots. Moreover, financial support, performance-based funding and payments, demand based in-service training for educators and other employees can be regarded as key elements for the LLP, according to the findings of this research, that can enable a better integrated and developed society.

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Distance Education Applications For Teachers

Hasan Arslan, Meltem Kuşçu

Introduction

Society generating information by use of technology is the information technology. While technology was used in formal education firstly, it used in non-formal education and remote education finally. As the information and communication technologies became widespread, opportunities of building a career for the working class smoothed. Remote education works limited with only Anadolu University in the past is now an education practice found a place country wide.

The role of concept of lifelong learning is big for remote education being so significant. Lifelong learning ranks first in education programs of developed countries. For the sake of protecting right of receiving education of individuals of every age and class is great important. The concept of lifelong learning that retired people contribute considerably in the developed countries found the opportunity of becoming widespread as the remote education is used in this field.

Quantity of knowledge required taught and learnt in the education sector is increasing day by day and sources allocated for the education is reducing. Remote education is an education method that needs to be worked on to overcome the problem. Opportunities and techniques provided by the technology for the remote education are wide. For a good remote education, method of remote education fit for the proper class should be chosen. Keeping up with the time is necessary for a good remote education and if necessary new technologies should be imported (Ertuğrul, 1999).

In the crowded societies with hard competition conditions, students can graduate from two universities within the same time frame by means of remote education. Working class has the opportunity of building a career thanks to remote education. Remote education has an undeniable role for equal opportunities. Remote education application is a glimmer of hope for the life of disabled, being trapped at home. For this reason, remote education practice is an issue becoming more and more important in our country.

Definition and aim of the remote education

According to Ulug and Kaya, remote education is a more flexible education than the traditional education and offers the opportunity of self-learning to the individual and is adoptable to the conditions of the person. (İşman, 2011). It is an education system that restrictions such as age, time, place, method and tools seen in the traditional education are eliminated and supported with special written tools, class programs prepared for especially radio and television and short-term face to face education (Şakar, 1997). Remote education is a planned education that a teacher does not need to be at the place of students physically, technological opportunities are used and student and teacher meet in different ways in a virtual classroom (Ertuğrul, 1999).

Since some of the definitions were made in pre-computer time, it is noted that it is generalized as the available technology. Of course definition of remote education will not change as the computer is used but it may be renewed. Environments that individuals from all age can study based on their requirements and interest independently from time and space, providing equal opportunities and professional and personal development and interactive education platforms with web-based applications are the remote education environments. The

aims of remote education include access to more people, overcoming the problem of physical distance, reducing education cost, accessing to target mass fast, accelerating education process and overcoming psychological pressures of classical education (Ertuğrul, 1999). Its difference from face-to-face education can be analyzed in two dimensions. The first one is the superiorities and the second one is the restrictions. Superiorities include non-restriction of time, space and age, low cost, independent learning opportunity, making the individual responsible. Restrictions include prevention of socializing, not reaching the goal for the individual not having self-learning habit, removing the time of resting of working people, not being productive in applied and skill-based classes, needing technology (Kaya, 2002). Avcı (1984) compared face-to-face education and remote education in his book and described advantageous and disadvantageous features and even emphasized that we could improve this list and motivated the readers for thinking.

The aim of remote education is to train individuals proper for the information society and responding to individual differences. It is to provide education to the individuals in their own speed independently from time and space. The aim of remote education is to overcome some problems faced in formal education and provide education right to all individuals within the framework of equal opportunity.

It offers alternative to individuals in modern education concept. It is effortlessly reaching numerous people by saving in learning activities.

Historic Development of Distance Education in Our Country and World

History of distance education goes all the way back to 17th century. It is first seen by the teachings of stenography through the letters published by Boston Newspaper in 1728 (Odabaş, 2014). Isaac Pitman began lectures of distance education in 1840. The very first lecturing through mail on the other hand began with distance education system establishment by American Chicago University. HansHermod opened a high school providing distance education in Sweden in year 1898 (Kaya, 2002).

In 1920's radio was started being used in distance education services in America (Uşun, 2006). Radio, not just in America, was started being used in distance education in Europe as well. Since it was more economic, the method of distance education system through radio was preferred instead of establishing a school in each village and appointing a teacher. Radio was started being used in distance education in China in 1929. Studies of distance education accelerated with spread of the use of television after world war two. Even the term of Television University took its place in literature (İşman, 2011). Initial regular television broadcast started in England in 1936; these developments were later followed by USA and USSR (Kaya, 2002).

Colleges and universities started getting interested in educational television stations in 1950s. This has formed a platform for development of the concept of Open University (İşman, 2011). Students and teachers met in an environment where they can communicate with each other by the grace of teleconference system which was put to practice in 1970's. In time, teleconference was developed even more and transformed into video conference. The advantage of teleconference and video conference for students was the opportunity to ask questions on misunderstood subjects since they allowed mutual interaction. Distance education reached where it is today upon the entrance of computers followed by internet into our lives. While radio broadcastings, teleconferences were being buried in history, universities are broadcasting not just university level but master's degree and international level courses. Lectures are provided through online publications and broadcastings and exams are once again performed through internet environment. We can see the ultimate sample of this in e-YDS.

When distance education is mentioned in Turkey the very first things that comes to mind are Anadolu University and TRT. Distance education studies in our country goes all the way back to 1920s. In those years they remained in intellectual level. The first solid step of distance education was taken by the attempt of Ankara University Bank and Commerce Institute in 1950 and people who were employed in banking business were lectured by letters. Studies of lecturing through letters continued through various organizations and institutions in our country after those years. Educational programs conducted through mail by Anadolu University especially, can be shown as one of the successful samples of distance education (Odabaş, 2014). Eskişehir Anadolu University with its 884.081 students became the first distance education university in 1958 (İşman, 2011).

In 1960, Department of Education and Occupational and Technical Training Undersecretary, made their first attempt to teach certain technical subjects through mail and accomplished the establishment of “Learning through Mail Center” in head of statistical publication. Although single dimensional and serves limited purpose this attempt has become the first serious practice of distance education in Turkey. Pilot Higher Education Teacher School (PHETS) is the first enterprise to undertake the job of practicing distance education method in modern terms in Turkey. By way of this the number of teachers has shown rapid increase in terms of quantities. Higher Education Institute Publication (YAYKUR) was designed to train intermediate human force by minimizing the accumulation in front of higher education thus providing an educational environment to students who were fresh out of high school and its equivalents (Çakmakçı, 1999). However these practices take their places among the abandoned applications which were tried out without a final evaluation or analysis of yield (Gökdağ, 1986).

The study conducted by cooperation of Anadolu University with TRT was conducted successfully despite some interruptions. Lesson broadcasts provided during specific hours of the day in single channel years was exposed to intense interruptions at the beginning due to broadcasting of important programs or emergency breaking news during all hours of the day. With TRT increasing the number of its channels, a separate television channel reserved only for the lectures was established. Today, open elementary school and open high school courses are broadcasted on those channels. In April of 1993, Turkey was introduced to internet through the cooperation of ODTÜ (Orta Doğu Teknik University) and TÜBİTAK (Scientific and Technological Research Council of Turkey). Shortly after its introduction internet was used in field of education. Various organizations and institutions, primarily the universities, are capable of providing in-service trainings and various courses by way of distance education through the internet. Aside from that, opening to the world by participating in international practices and programs that grant universally recognized certificates is an approach preferred by the younger generation. The thing that makes it possible is once again the distance programs and practices offered by the companies.

Samples of Distance Education Practices Used in National Education

E-Academy: Practice can be accessed by <https://mebbis.meb.gov.tr/eakademilogin.aspx> internet website with a MEBBİS password. This distance education application contains a training which institution executives are held responsible for by Department of National Education. Basic courses taken by institution executives are gathered under two headings such as “Basic Information Security” and “Information and System Security Directive”.

EBA (Learning Informatics Network): Practice can be accessed by <http://www.eba.gov.tr> web address. It forms one of the five legs of the Fatih project. It is an online social learning

platform executed by YEĞİTEK (Innovation and Learning Technologies) General Management Office. The purpose of this platform is to assist integration of technology into learning by supporting the use of effective materials by using the tools of information technologies. Students and teachers are allowed to share their studies which they prepared concerning the lessons. Course books are found in website in pdf format. There is a distance education application called (uzem) and it is found within EBA. Educational conversations and courses are shown to teachers by using uzem in June and September seminars. Khan Academy Turkish contents have been included into EBA by an agreement entered into with YEĞİTEK (<http://www.khanacademy.org.tr>).

Vitamin Teacher: Practice can be accessed through <http://www.vitaminogretmen.com> address. It has been put in practice by support of a special enterprise by the name of Sebit. Registration to live broadcast trainings is possible. People who are unable to participate to the live broadcastings can easily watch the videos of old broadcastings without having to become members. Interaction into live broadcastings is possible through writing. As it is in EBA, document sharing is also possible. It can form a classroom with students registered to Vitamin Learning, prepare exams and give homework.

Distance Education: Practice can be accessed through <http://uzaktanegitim.meb.gov.tr> internet address. It is an application entered with a MEBBİS password. Training is not opened unless the other is finished. An evaluation exam is provided at the end of training. Together with being optional training periods are held rather long. Recently, with Distance Education Library study, a “Learning Workshop” page has been formed within the scope of authorship software project. Student books and teacher guidebooks are also starting to be found in the site.

Kursiyernet: Practice can be accessed from the website <http://kursiyernet.meb.gov.tr> address. It contains videos of subject trainings of Adobe applications, information and system security, graphics and 3D software, Document Management System, Office applications, distance education activities and software languages. Practices which don't require membership are open to everyone. And it is a rather beneficial application in terms of continuous updating and introduction of new technologies.

Authorship Software: Practice can be accessed from the website address of <http://yazarlikyazilimi.meb.gov.tr>. It is a practice prepared following the introduction of Informatics Technology to the majority of the schools in year 2007. Due to reasons such as not being introduced sufficiently to teachers or not being cared after as it supposed to be, it didn't receive the attention it deserved and it was limited to participation of only the formatter teachers and some major teachers. Adobe products, material preparation courses are found among subject headings. Within the scope of this study schools received CS3 and CS4 CDs (Creative Suite 3 and 4).

Örav: Practice can be accessed from the website address of <http://orav.org.tr>. Örav means Teacher Academy Foundation. It is the first non-governmental organization established in 2008 by Garanti Bank for the purpose of providing support to educators. In Turkey in general, they go to demanding schools and conduct studies of “Unlimited Learning”, “Education Manager Development Program”, “Teaching Leader Teacher” and “Teaching Chemistry”. Provides live broadcasting trainings. Volunteering teachers receive training by taking part in lectures. Successful ones receive digital certificates at the end of the courses. Teachers are capable of sharing materials they prepared.

Method

The purpose of study is to reveal how much of the distance education practice that the teachers know and at what levels they know them and are they capable of using them. The other purpose consists of enrichment of body of literature as well. Even though the subject of distance education is a well-studied subject, the number of studies made with distance education applications supported by ministries and towards teachers is rather limited. The goal of this study is to pave the way of researches concerning the subject.

Qualitative research method for data collection and technically interview was used in this study. Interview is collection of data technique through verbal communication. Even the interview can take place majorly face to face; it can also be done through immediate sound and image transmitters such as telephone or video interview (Karasar, 2012). Interview is one of the most common data collection techniques used in qualitative researches. It is much more effective in driving benefit out from experiences and opinions of individuals. Individuals, who take part in the interview, have the chance to express themselves rather more comfortably since they communicate their thoughts verbally (Yıldırım and Şimşek, 2011). In this study interview was preferred to obtain in depth information regarding the subject.

20 teachers, who are lecturing in a middle school found in district of Burhaniye of the city of Balıkesir, were interviewed. Various measuring tools found in Akın's (2013) book were analyzed before the formation of questions. Interview questions were prepared by article writer after research of different sources concerning the subject.

Findings and Comments

This study was conducted to observe what level of benefit is driven out of distance education practices aiming to increase the quality of lecturing a course by allowing teachers to prepare their own materials by aiming to contribute to the personal and occupational developments of executives and teachers. At first the level of awareness followed by level of effectiveness of the practices known and used were analyzed through various questions. Viewpoints of teachers on distance education practices were examined. 20 teachers participated in the study. 10 out of 20 participators were formed of males and the remaining 10 were formed of females. 10 different major teachers were interviewed. Majority was formed of younger teachers. Participator information is provided in Table 1.

Table 1: Participator Information

By Gender							
Female			Male			Total	
10			10			20	
By Seniority (years)							
1-5	6-10	11-15	16-20	21-25	26-30	31-35	Total
2	6	2	4	3	2	1	20
By Age							
25-30	31-35	36-40	41-45	46-50	51-55	56-60	Total
4	4	5	2	2	1	2	20

In the interview the knowledge and usage levels of the participators were analyzed by mentioning the distance education methods first. Five different types of distance education, such as training through mail, radio-television broadcasting, Open University, teleconference and internet based distance education practice knowledge and usage levels were examined and the results were recorded onto Table 2. According to this Internet practice is seen as the most updated and the most recognized and used application. Second place is taken by radio and television broadcasting. Least known and used application on the other hand is seen as leaning through mail. Age factor has a significant impact on this result. Since majority of the teachers interviewed were formed of younger teachers and that affected the result. At this point, it should be remembered that practice of learning through mail is used in the way past according to young teachers. It is understood that the teleconference application on the other hand remains as short lived practice since widely used internet has gone all the way into our pockets with smart-cellphones. When knowledge and usage levels are examined it has been seen that the level of usage less in former distance education methods. Once again the impact of working majorly with younger teachers has been encountered in this notion. It has been seen as normal for teachers who are graduates of Education Faculty to have low benefiting rates from Open University. Of the internet trainings, which is the most updated distance education practice, to have never been used by four people, despite the fact that it is known by all teachers, is also an indicator that there are shortcomings in that method as well. Otherwise this comes to mean that none of the teachers benefited from those applications for personal and occupational development.

Table 2: Distance Education Methods

Method	Recognizer	User
Training by Mail	6	1
Radio – TV Broadcasting	19	8
Open University	17	1
Teleconference	11	3
Internet/Web	20	16

It has been asked from teachers which of the distance education practices prepared for managers and teacher in National Education they know of. Answers provided are as shown in Table 3. The most known practices respectively are encountered as EBA, Vitamin Teacher, Distance Training and e-Academy. EBA application is the most recognized and used practice since it houses the materials most used by teachers during lectures. In the same exact way Vitamin Teacher is a practice that houses materials towards maximizing the lecture quality. And this indicates that teachers prefer practices that provide occupational development rather than the personal development. Aside from that it is seen that the other practices, which are to allow teachers to prepare their own materials by providing personal development, are less known and used. It is understood that teachers prefer using ready-to-use materials instead of preparing materials themselves.

Table 3: Number of Teachers who are Aware of the Distance Education Programs used in Education

Name of the Program	Number of People who Knows the Program
e-akademi mebbis.meb.gov.tr	11
www.eba.gov.tr	19

Distance Education Applications For Teachers

www.vitaminogretmen.com	18
uzaktanegitim.meb.gov.tr	11
kursiyernet.meb.gov.tr	6
yazarlikyazilimi.meb.gov.tr	3
www.orav.org.tr	1

During the interview seven questions regarding distance education were asked to participators. Answers provided were evaluated within the scope of content analysis. According to the answers given by the participators findings for each question are as follow.

Question 1: In your opinion what is Distance Education?

It was expressed by seven participators that it was a type of learning performed with technological tools and kits. Together with that three participators described it as type of learning performed with communication devices and four participators described it as type of learning performed with sound and image producing devices. It was indicated by seven participators that it is not a face-to-face learning and it is perform independent of time and place. It was expressed by four participators that it is a learning method used for people who are unable to access information, people who are experiencing time issues and to reach large masses. One participator expressed that it is a learning management in which only the exams are performed in writing. Another participator indicated that it is a method in which the individual is not found within on one on one basis. And one participator didn't answer the question.

P3 expressed the following concerning the subject: *"Distance Education is a type of education provided with the assistance of today's technological devices and it carries the purpose of creating difference and transferring the accumulated information to large masses."* The following is a description of P14: *"Education provided with communication tools such as internet, TV, mail and teleconference in situations where face – to – face education is not possible is called distance education (learning)"*. As it is understood from the descriptions teachers see the distance education as an alternative learning method. It is understood that distance education is perceived by people of different occupation groups as a method to be utilized as a road to obtain information and gain academic advancement.

Question 2: How beneficial are the distance education environments prepared for teachers?

11 people out of the participators expressed that they found it beneficial and four found it non- beneficial. Two of the participators said that its benefit depends on person and Two others emphasized its insufficiency by sharing their opinion on how it could be better. One participator on the other hand indicated that even though it is theoretically beneficial it can be a disadvantage since there aren't any hands on training or live and learn environment. People who found distance education environments beneficial mentioned different points. Some of the advantages such as immediate access to information, offering a solution to those who are incapable of taking courses, finding resources, provide for personal development of teachers by accessing new information and obtaining new skills and provide for academic development has been mentioned. Two participators mentioned distance education being dependent on the internet therefore possible disconnections may create a disadvantage. People who didn't find it beneficial introduced different reasons. Among the negativities are provisions of insufficient opportunity, internet disconnections, boring and colorless narrations, inability in learning by doing and living were mentioned.

P8 said the following on the subject of the benefit of distance education: *"I can say that it can be beneficial in terms of the environment in which it is practiced theoretically however, it is a disadvantage in terms of not providing an environment in which the students can learn by practicing, experimenting and learning."* P11 approach more critically to the issue and commented: *"It can be better, if the learning done at home with ease can be performed inside classroom environment in a way that it can be beneficial to students as well it can be more beneficial."* As a conclusion teachers in general find the distance training practices beneficial. Interruption of broadcast due to internet disconnections and experience of shortcomings due to lack of practice comes across as its negative sides. Academic development, finding resource and allowing access to information on demand characteristics are among the most significant advantages.

Question 3: in terms of teachers which one of the distance education practices you find as the most beneficial?

Six of the participator gave the EBA answer and four of them replied as Vitamin Teacher. There were five participators who replied as all of the distance education models instructed by use of internet and computer are beneficial. Two participators said television and one participator said Open University. Two of the participators expressed their feeling about finding Morpa Campus application as the most beneficial in terms of finding resource during lectures. While one participator replied as *"all are appropriate"* another participator said the uzem application within EBA is beneficial due to the reason that the conferences shown to teachers during seminar period. One participator expressed his/her feelings as viewing movies appropriate to subject would be more beneficial. One of the participators didn't answer the question.

P6 commented as follows in regards to matter at hand: *"I find the learning applications we use very beneficial in terms of resource during lectures. Morpa Campus for example."* P18 explained the practice found the most beneficial by him as follows: *"I think the EBA is beneficial. I use it all the time and update my data"*. It has been seen that teachers didn't approach to distance education applications within its purpose. Teachers approach to the event is rather to find resource that would be of help during their lectures. Answers provided reveal that the teachers didn't understand the purpose of distance education practices which is prepared for them adequately.

Question 4: In your opinion which one of the applications within the distance education practices are unnecessary?

Two of the participators said that any study done in the name of education is good therefore they are all appropriate. One participator stated that all applications towards competence of teacher are unnecessary. One participator found learning through mail unnecessary. One participator emphasized on the fact that teaching /lecturing with a monotone voice is the worst feature. One participator found giving courses to teachers which are not in connection with their field of education unnecessary. One participator said that he/she can't comment since he/she doesn't know all the applications. One participator expressed feelings about distance education being difficult. While four of the participators replied as *"none"* to the question seven participators didn't answer the question.

Wide range answers were evaluated and it was understood that teachers, in general, didn't see the distance education practices unnecessary. They emphasized that only some of the practices can be turned into more fun. P1 said the following in connection to the matter: *"people who get on the stage to speak make presentations by reading the papers in front of them against what is expressed in formation lectures. A monotone voice and zero mimic, I think*

these are the most negative sides to this". Participant 11 who brought a positive opinion said the following: *"I can say that there isn't any unnecessary application. Every study made in the name of education is good."* Teachers, as conclusion, see the distance education practices beneficial to their knowledge and use. Subjects and critics found unnecessary by the teachers belong to trainings given in uzem application making teachers watch during seminars and found especially under EBA. Since the participators can't grasp the entire distance education practices their answers came from the areas they have knowledge of.

Question 5: If it was you, what kind of a distance education environment would you have created for teachers?

Together with having two participators who find the existing practices adequate, two other participators indicated that they would like to create an environment that had better physical conditions. There are 6 participators who desire to create internet environments, in which both the teacher and student can be active, interact with one another, have more fun, and one on one environment in which the teachers can debate with their colleagues of their own department and eliminate shortcomings. One participator indicated that a distance education chamber can be established in centers of districts and teachers can be allowed to use this chamber within a plan. It was expressed by two participators that a goal-oriented, systematic, mandatory and extensive distance education application can be organized. A participator indicated that he/she desires to create a distance education environment in which the lectures of education management, classroom management and formation are given. Five of the participators didn't answer the question.

P4 said the following in connection to the subject: *"Less talk and more image containing videos can be a more colorful presentation for us."* Opinions of P8 are as follow *"I would have created a distance education environment in which the teachers can debate on their field of education live and eliminate shortcomings"*. P14 expressed the following: *"I would have create a section in form of a distance training chamber in centers of districts and allow teachers to use that chamber within a planning."* As conclusion teachers in general need an environment in which they can communicate with their own community. Volunteer teachers fill the gap on this subject with the various websites. There are environments such as *"turkceciyiz.blogcu.com"* website for Turkish language, and *"www.sosyalbilgiler.biz"* website for Social Studies in which teacher community debates, makes comments and shares resources. What is important is that to achieve this in official websites. Teachers' wishes are in this line.

Question 6: in your opinion, what are the contributions of distance education environments prepared for teachers to education and learning?

Six people out of participators offered their opinions and expressed their feelings that the distance education environments provide positive results in teaching a lesson. Six participators on the other hand approached to the subject in terms of development of teacher. By giving a negative answer three participators said that it has no contributions. Positive opinion givers indicated that in general it provides for lessons to be taught according to information period, that the lessons are taught more actively and it provides enrichment of materials and innovations and developments are transferred to lesson teaching environment. People who mentioned teacher development mentioned in general its benefit of personal development and development of occupational sufficiency. One participator didn't reply to question.

It is important to apply the information obtained by way of distance education into classroom environment. Otherwise the education obtained is not going to reach its purpose. Majority of the participators indicated that the distance education practices must be used in

lesson/teaching environment. As it is indicated before, the participators only answered as much as they know and use. None of the participators provided information on preparing their own materials. The minimal number of teachers who learned some of the new teaching techniques provided in EBA and Vitamin Teacher applications is noted. P5 said the following concerning the matter: *"It is very beneficial in terms of updating information"*. P9 on the other hand said the following: *"It is important for teachers to complete their occupational qualifications. It is important in terms of richness of materials used in teaching a lesson"*. As conclusion, teachers who grasped the subject express their feeling about being able to use the things that they learned through distance education in classroom.

Question 7: Could you share what you want to add in regards to distance education for teachers?

12 participators didn't give any answers to this general, extensive and summarizing question. three of the participators on the other hand gave the answer of *"none"* to this question. The positive comment among the answers is for distance education to become a necessity of today. Suggestions are as such as to have subjects assigned according to everyone's own major and addition of more and effective resources. One participator gave opinion in the direction that the Eğitek CDs which have been distributed to schools in the past were very productive and those CDs were in quality to be used in distance education environments. Two participators on the other hand expressed their feelings that face to face learning is more beneficial instead of distance education.

P4 from among the participators made the following comment: *"Eğitek programs, especially the ones that taught a lesson and occupation selection programs were very good. They were very beneficial to students."* P14 from among the participators on the other hand offered a very different point of view by saying *"Actual education is the one that is performed face to face. But distance education became one of the necessities of today"*. In the end, participators as teachers who know a certain part of the distance education applications answered only the questions about EBA, uzem applications and Vitamin Teacher in general. This caused misunderstanding or inadequate understanding of the efficiency level of the distance education. It also caused the perceptions of teachers to go in the wrong direction.

When answers and comments are analyzed in general it has been seen that the teachers emphasize more on resources that they can benefit in teaching a lesson instead of their own personal developments. This was connected to the point that they didn't have knowledge of all the distance education practices. The most important issues for the teachers were the lessons they taught and students who they prepared for exams. And this reveals the point where the competitive education based on exams and tests has come to. It is seen that what teachers understand from distance education is to reach the materials they can use in teaching a lesson. This condition is understood from the teachers showing Morpa Campus application and Eğitek as samples. Instead of investigating different teaching approaches that they can use in lesson as open to innovations, teachers concentrate more on the classic materials that they can use in teaching a lesson. Therefore, teachers are unable to use distance education practices for teachers fit to purpose and they focus more on how to teach a lesson in a classroom environment. It is understood from the answers that other than being a lessor resource, the commonly known EBA and Vitamin Teacher practices are not at the desired levels even if they are used for the purpose of personal development.

Conclusion and Suggestions

Distance Education Applications For Teachers

When we look at the distance education policy in our country it is impossible to not realize the improvement experienced within the last 50-60 years. The process that started with learning through mail climbed all the way up to having a master's degree with the distance education. The financial difficulty coming with the removal of fees was shown as one of the reasons to press against distance education for universities in recent years. However, no matter what the reason is the distance education has become the hope of employed section. Hope of completing two universities simultaneously, in a competitive environment brought on by unemployment. In short, no matter what the reason is the distance education has become extremely effective support to raise qualified individuals through internet.

This research performed concerning the distance education practices towards teachers and managers used in National Education System revealed that teachers had inadequate level of knowledge on this subject. Level of recognizing practices other than EBA and Vitamin Teacher being low indicates the inadequacy of the studies concerning the subject. Even though the sites are extensive and are rich in content, being known by minimum amount of people lowers their effectiveness. It is understood that and inadequacy occurred in presenting the sites. In that case, teachers can be reached for presentation of the sites by various announcements and activities. Thus the sites can be benefitted more productively. Especially within the last year, schools received letters, in order to encourage EBA site use. Inside the letter there is a directive about all students in school to become members of EBA. Reform course registrations in schools are performed over the e-Course model which is a sub-service of EBA. School, course and teacher selections are done by students over e-Course model. In addition EBA photograph and EBA caricature competitions are being organized. Together with that a notification about the success of the schools using Vitamin Education was made to encourage teachers to use Vitamin Teacher site and therefore they were encouraged to use the site.

When we look at the other sites it was revealed that the teachers didn't pay much attention or their levels of attention were inadequate. For the purpose of encouraging the distance education site the site went through a reform however its effects have not yet been seen. Teacher guide books have been placed inside the distance education site and a library practice has been started. In years to follow we can find the opportunity to see whether these innovations have changed the points of views of the managers and teachers. Teacher Academy Foundation site supported by Garanti Bank is encountered as the least known site. Teachers providing face to face education by going to schools on demand talk about how to benefit from e-campus practice by introducing their sites to participators. Majority of the participators followed by face to face education that was provided extremely productively become volunteers to use the site. With their live broadcasted trainings typical as it is with the Vitamin Teacher they give them opportunity to personally develop themselves. There is also place for different teaching methods that they have never heard in their occupation before. Teachers use this site usually to find resource and they put the personal development issue on the back burner. And this lowers the effectiveness level of practice.

It is necessary for Department of National Education to make much more studies on this subject and consider the site purposes rather more closely. It is necessary for executives to be more equipped than the teachers. The distance education studies towards managers can be increased for this reason. They should enable effective use of existing distance education sites. Teachers should be allowed time and opportunity to take part in these applications.

Managers in order to catch up with the times and to provide accurate directions should be better equipped than teachers and carry out their transactions without any interruptions. Teachers can grow occupationally and personally with the live broadcast trainings and have the characteristics of a more effective leader by practicing what they learned. Teaching is ageless.

A teacher who improves himself allows others around him to do the same thing as well and this bring along success and organizational loyalty. Characteristics of being effective and equipped leaders of the teachers increase if average of the effectiveness level increase about the distance education sites. Therefore more encouraging studies should be conducted in order to benefit more from the distance education managers and teachers.

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“Our Earth; Mysterious Journey to the Future Home – TUBITAK Summer Science Camp 2015”: An Assessment of the Implementation

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1. Introduction

In recent years, "Science and Society Projects" developed by TUBITAK, especially to introduce children to science, to popularize science, scientific thought which aims for the masses, "Summer Science Camp" are organized. In the summer term 2015, the organization has carried out in-house ÇOMÜ.

TUBITAK with these studies, is intended to promote science, the scientific concept of the target audience in order to create awareness of technology and innovation, to understand the process and allowing them to practice, the Science Camps that introduced themselves with smiling Science face (with accommodation) and Science School of (without accommodation) in our country. The team that prepared the project for implementation at the Dardanelles the purpose of the study, "Çanakkale Central District outside the primary school of select on a voluntary basis from students studying in 6th grade-line to groups of six-day camp during the period of the science and to introduce some disciplines forming the Social Sciences. It has been demonstrated though the expected gains in reaching the overall objective of this framework is as follows:

- a. To increase their interest in basic sciences
- b. To develop their skills of research and explore
- c. To provide opportunities to develop their interest and abilities
- d. To develop awareness of the environment and themselves
- e. It is to ensure that working in collaboration with teachers, camp officials and their peers.

Primary school students, provide awareness of science and technology, the environment, health life and sports, culture and history, and living environment which environmental cases to consider with a scientific approach; the problems encountered by entering into an effort to solve based on the scientific method, so natural and social skills by interacting with science events and students by helping them develop critical thinking skills, "Science is Everywhere" to introduce the slogan reveals the rationale of the camp.

In this respect, Fun Summer Science Camp project was planned and put into practice in cooperation with Çanakkale OnSekiz Mart University and the Ministry of Education that ongoing secondary school children were taken who are grade 6 and 12 years old. It has tried to give science is a fun in everywhere that different disciplines prepared activities and working in accordance with students' psychomotor development, age and cognitive, affective development.

“Science beside us” slogan has tried to raise awareness among 12 years old students using educational purposes of Canakkale OnSekiz Mart University. In this sense, the university's classrooms and laboratories, sometimes nature, sometimes museum and sometimes the archaeological excavation site used as an educational environment. Natural and cultural resources of COMU Dardanos Campus, Marine Products and Technology Faculty and the Faculty of Education labs, Astrophysics Research Centre Ulupınar Observatory, Canakkale College, Gallipoli Peninsula Historical National Park and Simulation Center, Troy Historical National Park, Parion excavations, ÇTSO Piri Reis Museum Simulation Center, and DOĞTAŞ and ICDAS factory in observational studies conducted, the synthesis is at the forefront of learning by doing approach.

The project has been prepared in accordance with the Ministry of National Education Primary School Curriculum. Project; Elementary School Science and Technology is located in the Social Studies and courses "Universe and Us", "Culture and Us", "Our bodies and Us", "Production and Us" theme and consists of creative activities based on the sub-themes. Activities will also support expressions and math skills courses, arts, physical education and sports, Turkish, English and information technology were enriched by activities related to the course. So it is expected that pivotal event for the lessons with the theme of expression and a pattern of activity for skills courses will be created. This pattern would provide both recognition of the sciences disciplines and interpenetration of science the interior with life also noticed.

Program activities are carried out by experts of different faculties OnSekiz Mart University of Çanakkale; In the 2015 program, 40 people 6 separate programs and 5-days total of 240 students; the six-day program, applying the 30-persons group of students has reached 120 students for four weeks.

In line which mentioned the above the objectives and regulations, the camp's what extent is effective and scientific awareness and thought to be beneficial to what extent the development direction, to what extent that reaching the target, to know that what the utility level of the camp is very important. In this study, the science camp, the students of the development of scientific thought and awareness; students, teaching staff, it was decided to put forward the views of their parents and teachers.

2. Aim and Method

2.1. Aim

The aim of this study is what are the activities carried out in the TUBITAK science camps and students who attend the camp awareness and scientific knowledge to develop in the science development and participate in the camp of the camp usefulness of faculty and put forward based on the views of students and their parents. To depend on the aim sought objectives responses are:

1. What are the views on students to gain scientific awareness and scientific knowledge in the areas of duty TUBITAK science camp instructor in camp practice?
2. What are the views of the students who attended the camp in the development of scientific awareness and scientific thinking of TUBITAK science camp?
3. What are the views of parents regarding the development of scientific thought and scientific awareness of the students who participated in the TUBITAK science camp?

2.2. Scope and Limitations

All students, faculty members, teachers and parents were reached the study which involved in the 2015 summer semester. Interviews which did with the instructors are limited to questionnaires applied to parents and students.

2.3. Method

Depending on the purpose of the study, pattern was designed and made based on the survey model, a mixed route was monitored utilizing the qualitative and quantitative research methods. Qualitative research using interview form in determining the opinions of the teaching staff in practices on scientific awareness and scientific knowledge to develop in students the camp; the

students put forward their views observation and interviews, and quantitative research methods were utilized for parents based on a questionnaire.

Students' developments were observed during the camp, interviewed with them, almost at the end of the camp and approximately six months after the camp surveys were administered to students. The data obtained in talks and gathered through monitoring and processing of made their observations by classifying textual analysis of the data recorded and reported. The analysis of the survey data was used SPSS statistical software.

A questionnaire about the camp was given students and parents, it includes five options to reveal the 10-point level can participate and put forward their ideas. Five points in the questionnaire scale ranges taken into account in assessing the question is as follows: 1:00 - 1.80 Many; 1.81 - 2.60 Very; 2.61 - 3:40 Central; 3:41 to 4:20 Least; 4:21 to 5:00 Never

Student questionnaire includes most admired camp activities and produces two open-ended questions related to the slogans.

3. Results and Interpretation

At the end of the camp, after four months, faculty members who serving in the camps interviewed and the survey applied to students and parents, and the results are given below.

3.1. Academic Personnel' Opinions Who Working in The Camp

Twenty-three (23) lecturers took part in the camp. After the camp, there was a meeting based on the evaluation meeting, attended all but five instructors who have an excuse. They are successful students who participated in the camp, and their interest increased easily and they shared vision of the teaching staff that they understand the issues which have discussed. Instructors views on the camp's usefulness of the teaching staff can be discussed under the following headings:

- Despite having a busy schedule, camp during the hot summer, students have been high level of effort and interest in and discovery especially in practical activities (test, review etc.).
- Sky telescope science workshop, sky atlas, building relationships sundial in the application, finding and have performed well above the levels for predicting.
- Drama, archaeological activities, entrepreneurship and design studios, creative ideas in a stunning level of activity in the camps of the kind of writing the story and reveal perfectly their products.
- Faculty members and students with an effective communication link established between them and expressed the way to go on benefiting from social media for continuity.
- Nano technology has enabled them to robots and augmented reality applications as they adopt new technologies and information to students without strange advanced knowledge and engage in efforts to resolve their curiosity.

3.2. Students Feedback Who Join the Science Camp Working

In October 2015, the duration of the camp, which applies to students and parents in order to determine the lasting impact and that a sufficient number of surveys to a sample taken into consideration were adopted. The findings of the collected questionnaires are given in Table 1.

Students, when evaluating their responses to the questionnaire, in general, from the camp of the students who attend the camp "too many" shows that they were satisfied. All of the propositions about the camp as the arithmetic mean "too many" was falling value of the score range. The majority of the evaluation "too many" and partly "many" and "medium" showed accumulation of options. While marked "less" very few who tick the "none" number of items that marked the option remains at two.

Table 1. Camp Assessment of the Students Who Attended to Camp

	Involvement Degree										s.d.	Approx.
	Too many		Many		Medium		Less		None			
	f	%	f	%	f	%	f	%	f	%		
consider joining again a camp which similar before	58	85,3	8	11,8	2	2,9	-	-	-	-	0,46	4,82
My interest in the subject of nature and science has increased.	55	80,9	9	13,2	4	5,9	-	-	-	-	0,56	4,75
I shared what I have experienced in the camp with my family and my friends.	52	76,5	14	20,6	2	2,9	-	-	-	-	0,51	4,73
In the camp, my teachers to communicate with me, and my thoughts about their contribution is positive.	51	75,0	14	20,6	2	2,9	1	1,5	-	-	0,60	4,69
In the camp working with my friends have contributed to my relationship with my friends and the others.	49	72,1	14	20,6	4	5,9	1	1,5	-	-	0,66	4,63
The camp has contributed to improve my social relationships	48	70,6	16	23,5	3	4,4	1	1,5	-	-	0,64	4,63
The camp, has contributed to success in my school	44	64,7	33	32,4	1	1,5	1	1,5	-	-	0,60	4,60
I was pleased to attend the camp	49	72,1	13	19,1	4	5,9	2	2,9	-	-	0,74	4,60
The camp has been a contribution to my planned study.	42	61,8	11	16,2	10	14,7	4	5,9	1	1,5	1,02	4,31
I've enjoyed facilities as nutrition, shelter and so on in the camp.	65	95,59	3	4,41	-	-	-	-	-	-	,05	4,96

Survey respondents except 3 students, student satisfaction was higher on very well and that is the consensus of the majority of facilities (= 4.96) as campground, nutrition and so on. The 85.3 percent of the students they consider re-joining the camp "too many" 11.8 per cent "many" expressed by selecting the option. Two students thought stated that in the degree of "middle". "Less" and "none" does not have students mark their choices. The average score of these assessments ($\bar{x} = 4.82$) and "too many" points fall within the range. This proposition is followed by the statement of an average value of 4.75 "My interest in the subject of nature and science has increased". This high average, from this premise camp expressing the basic objectives of science movement, these findings can be interpreted that the project objectives are largely achieved indicators. In addition, the arithmetic average with 4.73 "I shared what I have experienced in the camp with my family and my friends." is found the first three propositions. More than three quarters of students (76.5%) shared their experiences in detail in the camp with his family and friends.

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A portion of the 75 percent of the students marked the option of “too many” and said “In the camp, my teachers to communicate with me, and my thoughts about their contribution is positive.”. With regard to this proposition, 20.6 percent of students marked “many” and 2.9 percent of students marked in the “medium” stated that degree make a contribution. Only one student issues his opinion on the “less” revealed by checking the option.

On the other hand, “medium” degree option marking four and “less” option to mark one the except of the students’ “camp, have contributed to my relationship with my work and friends with others.” proposition evaluating other students, “too many” (72.1%) and “many” (20.6%) were observed that they mark their choices.

Students marked “too many” and said that “Camp has contributed to the development of my social relations.”. Only one student marked “partly”, three students marked “medium” mean this proposition put forward their views by selecting the option “too many” ($\bar{X} = 4.63$) falls in the range points. When students come to the camp they generally uneasy and inward-looking behavior they exhibit, at the end of the camp they have developed a close relationship between them. This view of students is verified by through interviewed parents via face to face assessment and surveys.

Seven students marked “medium” and said “I’ve enjoyed facilities as nutrition, shelter and so on in the camp.” and the others also marked below sections to answer a degree, it is considered that due to the difficulty to adapt to the challenges of living tents in nature. Because a majority of the students the first time have stayed in such an environment. In addition, during the camp students also expressed the opinion on the camp environment that they had been forced to adapt to the camp. But in the following days, students are also accustomed to this environment. Nevertheless, close to three quarters of the group of students marked “too many” and “many” were revealed in the form of an opinion is satisfied. In addition, the average grading roll on to propose “too many” ($\bar{X} = 4.23$) is reduced to the point range.

When taken into consideration the characteristics of the seasons and catering renewed, nutrition as taste, the evaluation of the students said that they were very positive. Many of them for the first time left her/his family and that environment where mass food assessment related to eat, meticulous and diligent efforts in providing a good environment for students of the camp reflect that. At the camp, four meals are served, the team representatives inspected the food in advance by a private company has taken the necessary measures to be presented to students in a best way. A noteworthy point here, at the end of the camp, their views on the questions in this direction has been to express, revealing a significant difference in average scores. The emergence of the 4.23 average score in the evaluation by three months after the camp; (after 2.5 months) and that their opinions would be perceived as more favourable moved into a pointed position.

All assessments concerning the proposition, the camp’s “awareness” in the creation, as revealed science camp reached their goals, four of the applications (4) months later, even to reveal the increasingly high average of opinions about the camp also explains that enters an appearance on the nature of attitude.

Responses to open-ended questions asked to students about the camp reveals a positive thought. He took the degree of interest in the issues dealt with in the camp, they give students answers to questions about which one of the topics that most interest; general interest in the subject was attractive, it was found that particularly stand out rocket construction of the robot.

Offered shelter and nutrition in the camp were found the facilities very adequate. Services received hotel environment, sleeping and eating facilities is admired by children in very high quality. The diversity and abundance of food offered by the hotel has to cater to the tastes of students. More than half of the children they take advantage of such a place for the first time and felt that they were worthwhile. The camp process, students have expressed a lot of thought in this direction to the team leader and faculty members.

Contribution of the students that they learned in school subjects, they encourage friends to participate in this kind of camp, emphasized that they again want to participate if they receive an invitation to a similar camp.

Some of the slogans are given below that they have created based on students' camp-related activities.

There is Mars on the sky and my hometown is Çanakkale its unbelievable.

The mystery of the universe is solar system, Jupiter, Mars came and shook me.

The world turns, the seasons pass. Sun, Earth, Moon let's count the stars.

The Gordian's knot is mind's product.

Turn wheels, mud would take shape.

Seyit Corporal raised bullet, he saved Canakkale

Take compass of your hand, turn your direction of the north.

Shah vizier bishop, know them all.

The development path is entrepreneurship this is Turkish trade route.

Windmill turns and gets energy.

Calculate the sundial and experience the magic of space.

Prevent the global warming and support ecology.

Nano is the unit and it shows smallest.

Variety of butterflies, they entertain us.

Multi-coloured candles, what beautiful soaps.

Colourfully candles, fragrance soaps all made with handmade.

We produced ideas and talked about our ideas we reached our past.

Make model, take toy.

We do, we live, let's write our story.

We are entrepreneurs, we are designing.

3.3. Student Parents' Opinions About Science Camp

When we look the responses of questionnaire which join the 68 parents (Table 2), values close to the average of the responses of their children's says that they evaluate the camp with high average. When we look at all the evaluations of parents' who marked "too many" and "many" are collected in options; outside a proposition "none" will be seen by those who have the option. Although very few (up to 3 people), "low" option is marked the propositions are "Our child's interest increases in subject of nature and science.", "Camp has given to contribution of the planned work of our children" and "Our child has positive thoughts about camp's possibilities as nutrition, shelter and so on. ". Considering the other average of the parents, all the questions obtained the average in the "too many", "many" or "low" are the form of a weight. On the other hand, it is seen that there is a high correlation between the parents and students' evaluation.

"None" option is marked, and the highest average value proposition, "Our child, she/he shared her/his camp life with us and her/his with friends." ($\bar{x} = 4.70$), has expressed the view that proposition. As the students' opinions, parents also agree that their children's camp pleasure are the same and they marked "too many". Students haven't been turned options of "low" or "none", unlike the students, parents only haven't been turned option of "none". "The camp has contributed to our children to work with his/her friends and developed their friendship." the premise is the second ranking and scoring average is 4.69. The average value is the same as in student assessment.

Revealing opinions about the camp are the same average ($\bar{x} = 1.62$) their values expressed by the two propositions, "Our children's ideas about academic staff who worked in the camp is

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positive." and "The camp has contributed to success our children's school life.". When we look at the standard deviation value is creating a significant difference, "The camp has contributed to success our children's school life." ($S. = 0.67$) views on the proposition, "Our children's ideas about academic staff who worked in the camp is positive." ($S. = 0.67$) is homogeneous than their views on the proposition. The same average ($\bar{x} = 4.54$) represented by the value proposition has three more. The propositions are; "Our children were delighted to participate in the camp." , "Our children's interests increase the subject of nature and science." and "The camp has contributed our children's planned work."

Table 2. Parents' Science Camp Evaluations

	Involvement Degree										s.d.	Approx.
	Too many		Many		Medium		Low		None			
	f	%	f	%	f	%	f	%	f	%		
Our child, she/he shared her/his camp life with us and her/his with friends	52	76,5	11	16,2	4	5,9	1	1,5	-	-	0,57	4,70
The camp has contributed to our children to work with his/her friends and developed their friendship.	51	75,0	12	17,6	3	4,4	2	2,9	-	-	0,58	4,69
Our children were delighted to participate in the camp.	50	73,5	13	19,1	3	4,4	2	2,9	-	-	0,66	4,65
Our children’s ideas about academic staff who worked in the camp is positive.	52	76,5	8	11,8	7	10,3	1	1,5	-	-	0,79	4,62
The camp has contributed to success our children’s school life.	48	70,5	14	20,6	4	5,9	2	2,9	-	-	0,67	4,62
The camp has contributed our children’s social development.	47	69,1	15	22,1	5	7,4	1	1,5	-	-	0,70	4,59
My Child was delighted to participate in the camp.	50	73,5	6	8,8	11	16,2	1	1,5	-	-	0,82	4,54
Our children’s interests increase the subject of nature and science.	44	64,7	17	25,0	7	10,3	-	-	-	-	0,68	4,54
The camp has contributed our children’s planned work.	46	67,6	14	20,6	4	5,9	3	4,4	1	1,5	0,76	4,54
Our children have positive thoughts about nutrition, shelter and so on.	42	61,8	17	25,0	9	13,2	-	-	-	-	0,72	4,48

When we look at the survey data in general terms, students and their parents are similar views and opinions and there aren't significant differences between the groups. Such a similarity, on the views of parents, said that the impact of emotions they express and the description of the children's camp. Because parents are the views of children's shapes and behaviours that they observed. This opinion is proximity, but also shows that accurately reflect their views on the two groups in the camp. This consistency is reflected in the reliability of the results.

4. Conclusion and Recommendations

All evidence suggests that the camp is highly active and successful. Students who attend the camp they enjoy their work as instructors as. Parents who have indirect information about the camp are also positively affected their children's expressions and behaviours. On the other hand, students who attend the camp have the opportunity to meet books as, TUBITAK Science Child, Science and Technology and a number of popular science books. Students' willingness increased to magazine subscriptions.

Camp students not only improved their knowledge and interest in science, but also contributed to the development of communication and self-confidence. Parents said that; "My child not only gain knowledge, but also increase communication with friends and self-confidence. This view has made me very happy." Their expressions are significant in this sense.

The newspaper also widely used in order to establish effectively. There are applications such as TVs, media tools, posters, banners and so on. They have also been promoting the effectiveness of the camp practices.

There are recommendations that developed via results which have achieved:

- As expressed by the entire teaching staff, the applications in this program content should not be limited to a one-week camp; such applications should be given to students in their schools.
- The subject of students' service training through experiences in school education programs should be implemented for teachers to serve the learning in applications.
- Initiated in universities "Children's University" project implementation should be expanded, and seek similar arrangements to science camp in the Children's University.
- Similar projects are also widespread; it should be expanded to include successful students.

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Examining Private And Public School Administrators' Perceptions And Applications Of Management Process In Girne District Of The Turkish Republic Of Northern Cyprus: A Qualitative Analysis

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1. Introduction

An organization is defined as the coordination of power and actions in order to reach desired outcomes that requires shared efforts. If an organization is regarded as a structure, administration can be defined as the process of activating the structure (Aydin, 2014, p. 53). The science of administration is defined as an interdisciplinary field that examines administrative issues by a systematic set of rules (Tortop, 1982, as cited in Aydin, 2014, p. 54). Administrators in educational institutions are responsible for not only gaining the technical knowledge of the things to be done, but also knowing how to work with the personnel in an effective way. They are supposed to have knowledge about rules and regulations related to school, management processes and its applications, subjects like group dynamics, the content of the instructional program, assessment and development of the current educational applications (Sisman ve Turan, 2004, as cited in Aypay ve Sekerci, 2009, s. 138). Depending on this information, this research is planned and conducted with the administrators of the Girne District of Turkish Republic of Northern Cyprus (TRNC) in order to gather information related to educational administrators' perceptions and applications of the management processes within a qualitative methodology.

2. Literature Review

Management refers to a systematic process, which sets common objectives, coordinates and motivates people in organizations to achieve these objectives and evaluates the success in achieving them (Saruhan and Yildiz, 2009, as cited in Coruk, 2012, p. 89). Various authors classify management processes differently. Fayol was the first to classically list the functions of the management process as planning, organizing, directing, coordinating, and controlling (Bursalioglu, 2013, p. 79). Gulick further refined the management process functions in the acronym "POSDCORB" as Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting (Aydin, 2014, p. 102). In addition to Gulick, Gregg categorized the management process as Deciding, Planning, Organizing, Communicating, Influencing, Coordinating and Evaluating. The functions listed in Gregg's classification, which are also followed in this research, cover all aspects of the management process (Aydin, 2014, p. 105).

The quality of the management process is determined by decision-making. School administrators are required to consider any function that affects the school management decision-making process as a decision-making body and apply by adopting the principle of including it in the decision-making process (Bursalioglu, 2013, p. 82). Not only participating in decision-making helps individuals identify with organizational goals and programs, but also it encourages contributing more effectively to internal training programs (Aydin, 2014, p. 109).

Planning, is to regulate foreseen actions in order to achieve the objectives, in other words, planning is the determination to achieve organizational goals by the provision and usage of the organization's resources (Sisman, 2015, p. 189). It includes estimation related to the school's

growth, development of education, predictions and realistic questioning (Basaran, 2009, p. 291).

Organizing is the action involved in creating the necessary structures for the achievement of a goal that requires a cooperative effort (Aydin, 2014, p. 117). Structure, which is a result of organizing, primarily enables to achieve goals easier, manages sources that are financial or non-financial more effectively, causes a rise in efficiency and reduces conflicts among individuals due to defined duties and responsibilities (Aydin, 2014, p. 120).

Communication is a tool for creating a formal organization, clarifying the organizational goals, and coordinating individual and group efforts towards common aims (Yildiz, 2001, as cited in Coruk, 2012, p. 94). Communication plays an important role in all management processes, the impact of communication on the morale of individuals clearly demonstrates the importance of this process (Cartwright, 1953, as cited in Aydin, 2014, p. 137).

Coordination is a process that involves actions for the realization of organizational goals, integrates the contribution of available human and material resources, by reconciling knowledge and skills (Bursalioglu, 2013, p. 121). Creating the appropriate organization structure, selecting and training talented staff, applying effective supervision, preparing a plan of integrated programs that can be implemented by staff and finding ways to make the necessary explanations are an administrator's responsibility to construct the coordination process (Aydin, 2014, p. 141).

As the final step, assessment is the process in which organizational decisions, planning, communication and coordination are evaluated in terms of the desired outcomes that are set by the organization (Sisman, 2015, s. 194). Every step of the management process is evaluated separately and as a whole (Akçay, 2001, as cited in Ebabil, 2015, p. 49). By this way, strong and weak sides of the organization are identified to be modified (Aydin, 2014).

In the field of literature, it is possible to find related research with the purpose to analyze the perceptions of the management processes from the perspectives of both teachers and the administrators. Aydoğan (1998), studied the application of the management processes in private schools and found out that administrators were more positive regarding the application of the management processes compared to teachers. Girgin (2005), as a master thesis, studied the fulfillment of the expectations of the teachers from administrators in terms of the applications of the management processes and found that administrators rarely afford to fulfill the stages as decision making, planning, communication, influencing and assessment; whereas in a better situation within the organizing and coordination processes. Karagöz (2006), conducted a research on the problems of the administrators that they face during the management processes and found that having the lack of education related to the management processes lead them to have problems with their superiors. Moreover, administrators complained about their limited authority regarding some stages of the management processes. Coruk (2012), studied the emotion management behaviors of administrators in terms of management processes and found out that administrators need to have powerful emotion management strategies and underlined the necessity of improving these skills by various educational programs for a better administrating duty. And more recently, Ebabil (2015), stated that besides communication, administrators found out to be capable of fulfilling the responsibilities of the management processes.

3. Methodology

The main research question is identified as: “What are the perceptions and applications of the management process of educational administrators that are currently working in educational institutions in the TRNC?”, and to reach the relevant data a qualitative research design was undertaken for this study, depending on the practicality, usefulness, and convenience of the qualitative research (Creswell, 1998; Merriam & Associates, 2002; Patton, 1980; Stake, 2000; Strauss & Corbin, 1990), which is often a preferred design when “there is lack of a theory or an existing theory fails to adequately explain a phenomenon” (Merriam & Associates, 2002, p. 5) and it is best characterized as a family of approaches whose goal is to understand the lived experience of persons who share time, space and culture (Frankel & Devers, 2000, pp. 113-114). Yin (2003) emphasizes that a qualitative case study methodology is better suited for studies looking at educational phenomena under the contextual conditions (p. 8), that may bring out “experiential knowledge” and “knowledge transfer” (Stake, 2005). Moreover, Bogdan and Biklen (1998) stated that case study “is a detailed examination of one setting, or a single subject, a single depository of documents, or one particular event” (p. 54). Depending on this reason a single case study is conducted in this research.

The data collection procedure is done by means of semi-structured interviews with open-ended questions as they consist of several key questions that help to define the areas to be explored, but also allowing the interviewer or the interviewee to diverge in order to pursue an idea or response in more detail (Britten, 1999, p. 12). The researchers developed seven interview questions, within the order of the management process, which aims to gather information related to the research that are formed by a detailed literature review. All interviews are conducted face to face with the duration of 20 minutes to one hour, transcribed and cross-checked by the researchers and the analysis process is peer-reviewed before preparing the final draft. In qualitative research, it is believed that an important element of the interview preparation is the implementation of a pilot test, which can also assist the researchers with the refinement of research questions (Turner, 2010, p. 757). With this respect, the interview questions are tested with two participants that are not included in the study group to make necessary revisions prior to the implementation of the study (Kvale, 2007). The interview questions prepared according to the order of Gregg's (1957) classification are:

1. Regarding your school administration, could you please describe the decision making process in your school?
2. During the planning process in your institution how do you set your priorities? Which key variables do you consider?
3. How do you evaluate your staff's competence in achieving educational goals aligned with the organization? What are your responsibilities' to your employees and superiors in this sense?
4. According to the defined goals and objectives of your institution, please describe the communication process between your subordinate and superior staff. When and how do you communicate?
5. How do you establish effective coordination among activities within your institution? Do you encounter any problems during the coordination process, if so what are they?
6. How do you influence and motivate your staff to achieve the institution's goals and aims?
7. How do you and your superiors evaluate to what extent the institution has achieved its goals or objectives? Please describe your assessment process together with its effects.

Table 1 reflects the demographic information of the participants in the study group. In order to supply confidentiality and stick to the ethical considerations of a qualitative research, participants' genders and age are not included in the table, depending on the reason that the Girne District of TRNC has a small scale of the population. Moreover, there are only three private schools in the district that the administrators of these schools would be easily detected according to their genders and ages. There were 12 males and eight female participants with an age range from 35 to 60, with two to 24 years of administrative experience.

Table 1. Demographic information of the study group

Pseudonym	Educational level	School Type	Educational Background	Administrative Background
P1	High school	State	MA	12
P2	Primary	State	MA	22
P3	Primary	State	MA	5
P4	High school	State	BA	19
P5	Primary	State	MA	16
P6	Primary	State	BA	5
P7	Primary	State	MA	12
P8	Primary	State	MA	9
P9	Primary	State	BA	2
P10	High school	Private	MA	15
P11	Primary	State	BA	16
P12	High school	Private	BA	5
P13	Primary	Private	MA	20
P14	Primary	State	BA	15
P15	Primary	State	BA	9
P16	Primary	State	BA	13
P17	Pre-school	State	BA	10
P18	Secondary School	State	BA	16
P19	Primary	State	BA	24
P20	High school	State	MA	15

4. Findings and Interpretations

The first interview question aimed to compare the managerial approaches of administrators. Amongst 20 participants, 12 of them (60%) mentioned that the decision making process is completed only by administrators of the school, after discussing the issue with principals and vice-principals and eight (40%) participants mentioned that they prefer to discuss the matters with the teaching staff. Participant P2 summarized the situation as; “All of the decisions related to our school are made by five vice-principals and me. Our teaching staff is informed after our decision making process.” Participant P11 supported the clarification of P2 by saying: “Throughout decision making process, I generally discuss the situation with my vice-principals...and if we are in need, we consult to the teaching staff.” On the other hand, eight participants (40%) mentioned that through scheduled meetings in which a new idea or a solution of a problem is discussed by creating a consensus amongst the staff. Participant P5 mentioned that meetings are organized with the teaching staff in the decision making process and said; “I generally arrange a meeting when we face a problem or in need of a change... and I always apply the shared decision that comes out of these meetings.” Participant P6 stated that they follow the Ministry of Education’s formal directions for administrative affairs and underlined that;

“... When there is a need of a consensus about a problem, I prefer to discuss the issue with the staff...and...not only with the teachers, but also with other personnel at our school to be more effective.”

When the responses to the first interview question is analyzed holistically, one can see that the decision making process is generally handled by administrators. Despite the amount of the administrators that answered the question as it is their duty to discuss and decide the educational issues, it is possible to see that a considerable percentage (40%) of administrators prefers to direct this process by the shared decision making, with the belief that educational outcomes would be higher, if the decisions are made together with the teaching staff.

In an educational institution, it is obvious that many decisions and planning activities have a direct link with the effectiveness of education. With the second interview question, the researchers’ purpose was to analyze the participant responses in terms of the planning process. Administrators’ planning activities are generally consisted of “educational priorities” which involves codes from participant responses as ‘exam success’ by P1, ‘attendance’ by P2, ‘educational quality’ by P5, P19 and P20, ‘student satisfaction’ by P7, ‘teacher satisfaction’ by P13 and ‘foreign language capability’ by P12; underlining that these issues are the most important subjects in their planning activities. The “demographic changes” category involves codes as; ‘immigration’ by P6, P14 and P16, ‘foreign students’ by P8 and P12 and rapid regional changes by P18; all stressing that their schools are negatively affected by the country’s latest immigration receiving status which forced them to take precautions in order to supply a qualified education for the citizens. Participant P6 underlined the importance of this immigration issue as;

Our country...and...our city are affected by the rapid changes in the population that decreases our educational quality. Because, it takes time for the new comers to adapt the life here. And there is always a circulation that we cannot apply our annual plans the way that we desire.

Participant P8 from the ‘foreign students’ code supported P6’s words from a different perspective and said; “We have many foreign students from Russia, Vietnam, Philippines, Turkmenistan which turns our school into a multi-cultural one, by forcing us to create holistic

plans for the sake of our students.” The other two categories that are formed by the researchers involve four participants who stated that family-school relations (P2 & P4) and proper instructional facilities (P11 & P17) are their planning process priorities.

When the responses to the second interview questions are analyzed, it is possible to see that the administrators of the Girne district of TRNC regard educational issues and the demographic changes in the territory as their prior subjects to be dealt with, which effect the educational planning process directly. Moreover, the physical setting of the school and the family-school relations are also found out to be important aspects of planning process subjects that administrators have to deal with.

The third interview question allowed researchers to compare the managerial approaches of the administrators within the organization process. Participant responses reveal that 13 administrators (65%) prefer to organize the teaching staff, according to the “formal rules and regulations” set by the Ministry of Education which is categorized with the same title by the researchers, whereas seven administrators (35%) prefer to organize depending on voluntarism which is categorized as “social interactions” by the researchers. Participant P7’s sentences clarified the reason for creating a category with the title “social interactions” as;

Our teaching staff has enough capabilities to set the teaching curriculum properly and I do not need to assess them separately...that’s why I prefer to assign duties depending on their interest which helps us to create a better school climate.

In educational institutions, work load or duty distribution is done according to personal specifications. When there is a personal will to accept a duty, this can allow the responsible person to reflect his/her creative powers. Participant P11’s sentences stand as the rationale for this explanation as;

“I never prefer to give orders or force our staff to do something. I believe that forcing people to do something decreases not only the amount of motivation, but also the potential to create good work.”

On the other hand, participant P11 is likely to explain why the highest amount of participants prefers to assign roles depending on formal duty setting rules by saying;

As administrators, we have the responsibility to set up a good coordination amongst our staff. Sometimes more than one teacher want to work on a subject which can create a conflict between these people...I mean some social problems can occur if we let them choose what to do during an academic year. But if we...administrators assign these roles, then they have to obey the order and the schedule...that is what I think!

These two different quotations can be regarded as ‘good examples’ of both managerial perspectives in which they have some sides to be considered ‘realistic’ and ‘humanistic’. One must bear in mind that this kind of decision can possibly be affected by the population or condition of the educational institution.

The fourth interview question’s purpose was to find out what the administrators do for an effective communication process. Amongst 20 participants, 13 (65%) administrators’ stated that communicative activities are carried out by formal and informal meetings with the staff. Participant P18 identified this process as;

Besides our formal meeting that we do monthly or sometimes weekly, I try to gather my staff in an informal way, like drinking coffee in the teachers' room or having chats in my room. By this way we provide a friendly atmosphere here...I hope so! (smiling)

Participant P12 stated that gathering with the staff is done through planned meetings, but complained about the lack of communication with the superiors as; "We have the chance to supply active communication with our staff, but this is not the same with our superiors. They are really busy and sometimes it is really hard to reach them for our needs."

Participant P3 stated that the preferred way for an active communication is to use social media, which helps to create an instant communicative process. And participant P20 mentioned that mailings with the staff and the superiors allow fast and easy communicative process. There were two participants, P6 and P11 (10%), who choose to have face to face interaction both with the superiors and the staff and said;

We generally receive our yearly plans and other issues through formal documents...that is a well-known fact... let me say. But I try to break this chain by keeping the issues and find a way to communicate with my superiors face to face. It is more effective you know (trying to get approval). And with my teaching staff, I always try to communicate again face to face.

Participant P2 and P16 stated that they have almost daily communication with the staff, but having the lack to communicate with the superiors. P16 summarized the situation by saying; "We don't have the chance to communicate with the superiors unless there is a problem at our school or a special event. But with the staff, we see and discuss issues almost daily... which is good for both sides."

According to the responses given to the interview question four, the communication process is active with the staff, having a lack with the superiors on the other hand. This situation can be considered as a 'positive' value for the school, staff and the students. From another perspective, having a lack of communication with the administrators and the superiors can cause unexpected effects on educational quality, when it is hard to communicate with the superiors who design and decide the school curriculum.

Another important issue of the management process is the administrator's coordination duty, in which the staff and the duties are distributed for the sake of the school as a whole. The fifth interview question helped the researchers to gather information related to coordination process. According to participant responses, it is found out that 11 administrators (55%) prefer to coordinate their teaching staff by the shared-management approach, which they think it helps to create a common ground amongst the staff to supply better educational outcomes. Besides participant P4, the rest of the participants (out of 11) mentioned that by applying the shared management approach they do not face any obstacles due to the fact that all decisions and duty distribution is done by creating a consensus. On the other hand, P4 mentioned that they face 'burnout' amongst the staff that prevents fulfillment of the duties and said;

"It is really hard to get somebody to do something who is exactly in a burnout situation (looked helpless)... this is what causes some problems in the coordination process."

There were nine participants (45%) who mentioned that coordination process is handled through formal regulations of the Ministry of Education to supply fulfillment of the teaching staff duties. Amongst nine participants, six of them (P1, P3, P5, P6, P11 & P18) mentioned that the obstacles they face during the accomplishment of the duties are 'unwillingness' of the

teachers to take part in an activity, two of them (P12 & P20) mentioned that ‘irresponsible teachers’ are their main obstacles to reach the desired educational outcomes that are planned at the beginning of the academic year. Participant (P7) stated that continuous absence of some teachers due to illness or other excuses, causes a lack in the coordination process. Only one participant (P8) openly mentioned that they are having a considerable lack in the coordination process due to incompatible teaching staff who are unwilling to do some extra work even if it is for the sake of the students. This situation prevents them to set goals and arrange duties in order to fulfill their planned activities.

When the responses given to the fifth question are examined holistically, it is possible to see that administrators of the Girne district of TRNC prefer to create a positive and social atmosphere in their institutions for the benefit of the students and the staff. By following this managerial philosophy, it is possible for them to prevent obstacles so that all decisions and duty setting is done by the shared management approach that allows them to unite their powers and reach the desired outcomes. On the other hand, one can see that the ones who prefer to follow the formal regulation to set up a teaching or activity plan generally mentioned that they face obstacles like absence from duty, unwillingness, and being irresponsible.

One of the important aspect for an administrator is the potential to effect the staff to work for the benefit of the students to reach better educational outcomes. The sixth interview question aimed to find out participants’ preferences to influence the staff. The researchers categorized responses as “official power” involving eight participants (40%) after coding the responses as ‘committee decisions’, ‘regulatory documents’, and “social interactions” category involving 11 participants (55%) with codes as ‘humanistic approaches’ and ‘the family approach’. Only one participant (P6, 5%) mentioned that acting as a role model is the most effective way to effect the staff to focus on the work better and said;

If you want your staff to dedicate themselves to do something, you have to do it first to have a considerable effect on them...as an example there were teachers who were always late in the mornings. I later realized that that was because of me... I was coming to school just before the bell rings. Later, I started to come early and the problem was solved!

Participant P1 summarized the reason for the “official power” category as; “We form committees in order to be more effective during the academic year and it helps to distribute the roles equally which gets the staff involved in activities... Yes, that is how I affect my staff.”

On the other hand, participant P7 clarified the reason for the “social interactions” category by saying “If you know how to be empathic, your staff would pay it back...instead of using your official power, using social skills is more likely to help you succeed in educational administration.” Despite the separation of the preferences in effecting the staff to get involved in activities, there was a spiritual consensus amongst the participants in terms of motivating their staff. All of the participants mentioned that they motivate their staff by encouragement and praise for good work. They all mentioned that not financial, but social awards are more effective on the staff to let them know that their work is qualified enough to be happy with. Participant P19’s sentence is likely to summarize the rest of them as; “I believe that the best tool for motivation is to praise the good work as a reflection of your assessment...just to say ‘Well done!’ can help you to win hearts”

The final interview question was designed to analyze the applications and approaches of the participants related to the assessment process. Amongst 20 participants, ten (50%) of them

stated that the assessment of the staff is done according to the success in central exams of the Ministry of Education to pass to the upper educational level and seven participants (35%), according to the accomplishment level of the annual targets that the educational institution sets at the beginning of the academic year. Three participants (15%) mentioned that they assess themselves according to the positive feedbacks of their superiors and the parents. Participant P1 from the first group underlined the current educational system that depends on exams and said;

Whether we like it or not, neither students nor the teaching staff is assessed depending on the social or sports activities that they take part in; but it is central exams that your ..I mean the school and the students, even the administrator's success is assessed by the superiors and the parents of course!

The third category, 'parent feedback', is likely to support the first group's clarification of assessment even if any participant from that group mentioned something about the exams. But the satisfaction of the parents is regarded as being successful by the administrators and participant summarized the situation by saying; "At the end of the year, if you don't receive any criticism from the parents or the superiors this means that we are successful at what we are doing. That is the case!"

Seven participants (35%) in the second category mentioned that they assess themselves according to the accomplishment level of the annual targets that they set as a team at the beginning of the academic year. Participant P4 said:

Institutional assessment is really important for us. We set a plan, distribute roles and get things running during the year. Accomplishing our plans, like we do for the last two years (being so sure), is both our goal and reward.

5. Conclusion

This research aimed to find out the managerial approaches and the management processes perceptions of 20 participants who have managerial duties in three private and 17 state schools of the Girne district of TRNC with the help of the seven semi-structured interview questions. It is found out that the decision making process is applied by the administrators after the formal meetings having the aim to include the teaching staff's opinions in the process to be more effective. In the planning process, educational priorities come forth, followed by demographic changes that are affected by the latest immigration level of the country, family-school relations and the facility issues that are believed to affect the quality of education. A considerable amount of administrators follow formal rules and regulations to fulfill the organizational process, whereas some other administrators count on social interactions in order to create a positive school climate. The communication process is carried out by scheduled meetings that help to interact face to face. The use of technological applications is also preferred by many administrators for a fast communication, both with the superiors and the subordinates. The coordination process is carried out by the shared-management approach backed up by formal rules and regulations. Participants mentioned that coordination and communication process is positive and effective with the staff, but there is a lack between the superiors and the administrators. It is found out that humanistic approaches are preferred by the administrators rather than using official power to effect the staff to do something in terms of planned teaching and other social activities during the academic year. Finally, depending on the current educational system that relies on exams to be passed for an upper and qualified level of education, administrators assess the educational outcomes depending on the success in central

examinations for better schools. On the other hand, annual educational target setting and the accomplishment level, and parental feedback is another dimension of the assessment process that are taken into consideration by the administrators.

There were nine participants who hold an MA degree whether in their major domain or in the field of Educational Sciences and eleven participants with a BA degree. According to the responses, it is possible to state that not a considerable difference is found depending on their educational level. All participants were highly motivated and concerned about their institutions' success. Their experience in educational administration on the other hand, expectedly affected their responses given to the interview questions. Likewise the former studies mentioned in the literature review of the research, all of the participants mentioned that they regard the communication process as a key element of an effective management process.

As a conclusion, it is possible to state that there is a positive interaction between the staff and the administrators no matter it is a private or a public school, whereas in some occasions there is a gap between the superiors and the administrators due to the heavy workload of both sides. It is found that the administrators count on important aspects of the managerial process as shared management and humanistic approaches to be more effective in the educational process, in order to reach the desired outcomes that are planned at the beginning of the academic year, whether they are set by the superiors or by means of the consensus amongst the staff. In the light of the findings, it is possible to state that there is an educational and managerial consistency amongst the administrators in the Girne District of TRNC.

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School Organizations Journey from Shadow Side to Wisdom

Nuray Oakley, Gülşah Taşçı Kaya

1. Introduction

School is one of the most crucial parts of an individual's life. According to Taymaz (2009), it is the most important figure of education system. The most effective factor in revealing the school which is a social system is the needs of society and individual. Especially when we consider the education opportunities in terms of the individuals' own interests and abilities the importance of school in our lives is clear. The oldest examples of systems such as schools are seen in times of Sumerians and only boys were accepted to these schools and headmasters were called as "school father" and the students were names as "school boy" (Aydın, 2002, pp.2-3). With the spread of modern schools in 17th and 18th centuries the function of the schools changed, in other words they took over the mission of changing the society. The change was accelerated in 19th century. According to Drucker (1993), who is linking the radical changes of schools in information society with the modern learning theory, when we consider the limitless flow of information, it is seen that they have the ability of learning how to learn. In present day, according to Balcı (2010) the school is the environment where the students acquire the knowledge, ability and attitudes within the light of education system's objectives and principles (p.149), and the school has five functions, in individual, structural, national and international levels (p.153). As cited in Jack Frymier point that "A School for Tomorrow" the aim of education caused three sources:

The nature of knowledge, sometimes referred to as the disciplines, the nature of society: population patterns, demographic data, cultural values, institutional expectations, sentiments, and norms, the nature of the individual's biological, physiological, and psychological structures and function (cited Best, 1981, pp.155-156).

So, what kind of a school do we expect in 21st century? Which functions does the school have? A lot of questions reveal the given importance to the school, since the school helps the children to transform their anxieties and fears to the meaning. Children learn how to become authentic individuals and how to be aware of the subjective life by freeing their hands, brains and hearts with the help of school. So, the school gives the children abilities of changing the world, courage to come across with the problems, and self-esteem, challenge, struggle, aggression, take the responsibility of their decisions, and the ability of being positive for world's future (Sungur, 2001, p.17). "School handles with every student and discovers individuals by developing their attitudes" (Sungur, 2001, p.19). For this reason, 21st century's schools should be designed as flexible, clear and they should have as well creative systems (Hesapçioğlu, 1998). It is possible to change with the change of the society's public school archetypes. Therefore, institutions, and they are routed by routing. According to Dittrick (2006), "the goals of a leader is to foster and develop relationships with the individuals within the school to the extent that these ties will strengthen and bind the actions, philosophy, and vision of community together" (p.115). Furthermore, the generated school organization (child, teacher, administration, parents) should be integrated with the school climate in order to reveal the shadow sides of school.

To sum up, knowing the feelings of teacher trainees as the teachers of future will give important information in terms of their ideas about their study fields. So, the aim of this study is to analyse the perceptions of teacher trainees about "school" concept according to Jungian Theory.

2. The Critical Outlook to the Related Literature

“Archetype” concept, which Carl Gustav Jung donated to psychology world, is defined as the structures that organize our perception; design, change and develop conscious contents in psychology literature (Budak, 2000). There are many different archetypes, examples include the persona, the shadow, the anima, the animus, the great mother, the wise old man, the hero, and the self (Fiest & Friest, 2009).

Jung who deals with physical body in two parts as conscious and unconscious, divides unconscious as individual unconscious and collective unconscious in two groups and he describes the archetypes as core structures of collective unconscious. Individual unconscious was described as a structure in which we recorded every item which we think, captured unconsciously; suppressed disturbing things and it was asserted that the source of this structure was our individual experiences. As for collective unconscious, it is a structure which every human being takes it from birth and its context includes psychic interactions (fear, danger, struggle against superior power, sexuality, birth, death, love, etc.) from the first human being. (Jacobi, 2002). He deals with four basic personality types: thinking, feeling, intuition, and sensation (1971; cited Mayes, 2005, p.37).

Jung’s archetype has two poles; it has both bright and shadow sides (Jung, 1997). According to Jungian Theory, “Jung’s shadow concept” which means being in the middle of lightening and darkness: when it is considered as a spiritual metaphor, ego’s adaptable and bright side changes place with ego’s dark and rebellious side, in a stage of a person’s life. This shadow side always forms a very powerful shade as bright side of an individual who is aware of his/her ego’s bright sides (Sharp, 1991, p. 83). In the Jungian perspective, it is important that (Fiest & Friest, 2009) we face and integrate our shadow, into our conscious awareness and personality (Mayes, 2005, p.33). Especially, post-Jungian archetypal pedagogy was developed by James Hillman and Clifford Mayes. “The Jungian educators described above using narratives drawn from poetry, stories and myth to structure creative work in the classroom” (Rowland, 2012, p.15). Mayes (2005) puts forward that “Ten Pillars of a Jungian Approach to Education”:

The teacher–student relationship is archetypal, education should not be reduced to technical rationality, education should not be mere “Intellectualism”, teachers and students can explore archetypal dimensions of subject matter, the symbolic domain and intuitive function are educationally crucial, failure can be constructive, education has a legitimate therapeutic function, reflectivity is key to teacher development, education should be both culturally conservative and progressive, education can and should have a spiritual dimension (pp.30-40).

As cited in Best (1981), “Implications of a Jungian perspective in teaching and curriculum”:

Ego strengthening for younger students, developing a sense of history , personal and cultural, as a basis for on going evolution, respecting and valuing the inner promptings of the unconscious and its symbolic manifestations, strengthening in a purposeful way the integration of consciousness, fostering the individual’s dialectical adaptation to nature, fellowman, society, and the larger universe allowing the learner to develop his individual personality through individuation (pp.157-158).

There are various studies in literature about school perception. For example, Inbar (1996) put forward that students associated the school with prison, factory, garden, family, team, organization, bee hive, and zoo. On the other hand, in another study, Balcı (1999) revealed that there were some metaphors of students about school, such as care, information transfer, and educating the teens. Çuhadar and Sarı (2007) stated that the students identified the school as future, home for knowledge, a gate for brightness, exam centred, a place the students are not trusted, full of restrictions, and a place without justice. In another study, it was seen

that the students identify the school under three categories; a place under stress, a place full of care and development, and home (Özdemir, 2012; Özdemir & Kalaycı, 2013). On the other hand, in recent years, several studies have indicated that reflection through metaphor can be a means by which preservice teachers come to terms with experiences (Sillman & Dana, 2001), school metaphors, images (Baker, 1991; Grady, Fisher & Fraser, 1995; Cerit, 2006; Saban, 2011; Nalçacı & Bektaş, 2012; Toker-Gökçe & Bülbül, 2014). However, Jungian studies limited about school perception such as Mayes (1999, 2002, 2005). On the other hand, “Darrell Dobson’s sustained study (2008), explores an invaluable concept for teachers, the archetype of the teacher-learner, discussed in his book by Austin Clarkson (2002), and taken from Guggenbuhl-Craig’s” (1971; cited Rowland, 2012, p.14). Dobson shows this in a similar study (Rowland, 2012, p.14). Within the frame of this general aim, the following questions are looked for their answers:

Within this concept for the quantitative dimension of the study:

1. Do the preservice teachers’ perceptions at school change according to their branches?

For the qualitative dimension of the study;

2. How are the perceptions of preservice/teachers about the school notion?
3. What are the bright and dark sides of preservice/teacher trainees about school notion?
4. Which factors do effect the preservice/teachers’ perceptions about school notion?

3. Method

In this study, in order to understand and explain the gathered data profoundly, a combined method was used as a data collection method including both qualitative and quantitative techniques. In the study, after collecting the quantitative data, sequential explanatory design was preferred in which quantitative data were supported with qualitative data (quantitative→qualitative). In quantitative dimension of the research survey method was used. The present situation was tried to be described with survey model. The qualitative dimension of the study was designed in phenomenological design. In qualitative researches, phenomenological design focuses on the phenomenon that we are aware but we do not have detailed percept. (Yıldırım and Şimşek, 2006).

In sequential explanatory design, qualitative data have priority; qualitative data are used in order to increase former data and to be able to make deep analysis about su.well, 2003). Quantitative data helps to access a lot of participants; the data gathered through qualitative methods such as observation, interview provides to investigate the research topic profoundly (Green et. al., 2005). Besides that in this study is used Jung’s ‘Hermeneutic Method’. Jung’s Theory characterized his method as ‘hermeneutic’ (Smythe & Baydala, 2012, p.60). Jung’s interpretive approach meant a personally and interpersonally based comparative approach and the method of amplification (Smythe & Baydala, 2012, pp.60-61).

This study was carried out with 224 participants from three different programs (pre-school teaching, science teaching and classroom teaching) in the academic year of 2015-2016 at Kocaeli University. In collecting research data, two different sampling methods were used for qualitative and quantitative dimensions of the study. In order to determine the quantitative dimension of the study, accessible case sampling method, which is one of the purposive sampling methods, was used. There were 224 participants suitable to sampling method in quantitative dimension of the study. 114 of them were male and 100 of them were female teacher trainees. For qualitative dimension of the study, quota sampling method, which is one of non-probability sampling methods, was used. In quota sampling, researcher identifies related categories according to research topic, decides the number of participants for each category,

and fixes the number of participants in categories' of sampling (Neuman, 2007). For each of these categories there are 5 male and 5 female teacher trainees, who participated in quantitative dimension of the study, defined the dark and bright sides of school notion in interviews, and participated voluntarily. Detailed information about participants who are willing to participate in the qualitative dimension of the study presented on the following tables. Hence, in the qualitative dimension of the study, there are two categories as dark and bright sides according to Jungian theory.

For the quantitative dimension of the research; every one of the participants were asked to complete the sentence in terms of their former school perceptions "the school is like a.....because....." in order to reveal their present perceptions about school notion. To accomplish this, they were asked to fill the empty form on which it had a school picture and "school" word on the top of the page 224 teacher trainees filled the given form properly. In this study, "because" notion was used in order to present a reasonable justification and a support. The completion from the handwritings of the participants was used as a main data source in this study. For the qualitative dimension of the study, the data were collected through face to face interviews profoundly. Each interview session lasted approximately 15-30 minutes. After collecting the data about school notion: coding and sorting stage, category development stage, providing validity and reliability stage, and transferring the data on excel program for quantitative data analysis stage, and frequenting stage were used. A temporary list was prepared sequencing the statements alphabetically in this step. The blank papers without any image were sorted (n=2) in this stage. Thematic analysis was done according to Jung theory.

So as to assure the reliability of the study, a professional was consulted in order to confirm whether the perception images given in 2 notional categories represent that kind of a notional category. The professional was asked to match the sample perception images in the first list with the two notional categories in the second list using these two lists. Afterwards, the matches of the professional were compared with the categories of the researcher. In the matching, the numbers of "agreement" and "disagreement" were determined; the reliability of the study was accounted using the formula of Miles and Huberman (1994) ($\text{reliability} = \frac{\text{agreement}}{\text{agreement} + \text{disagreement}} \times 100$) (p.64). With the reliability of this study for this research, 97% agreement (reliability) was guaranteed. The professional, who was consulted for reliability study, associated only two perceptions with a different category than the researcher's. In this case, reliability was accounted = $72 / 72 + 2 \times 100 = 97\%$.

4. Findings

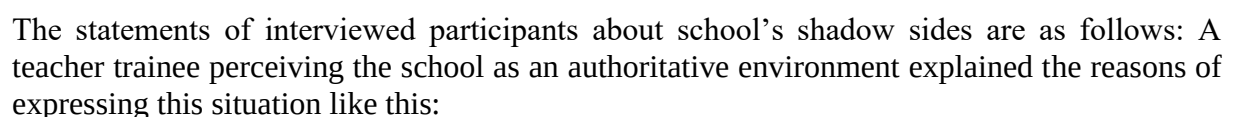
In this study are mentioned that the views of the preservis teachers on school's images were grouped into two different categories: (1) shadow sides, (2) bright sides.

The quantitative findings of the study were frequented below. Then, the quotations about qualitative dimension were given place. When the first five most important results, which were generated by the most of the participants, were examined, the shadow sides of the school were defined respectively; strict rules, boring environment, prototype education, obedience to the authority, excessive discipline. The frequency variances of the statements of teacher trainees were shown on table 1 and graph 1.

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Table 1 Shadow Sides	Frequency
Strict rules	29
A boring environment	29
Prototype education	24
Obedience to authority	17
Excessive discipline	16
Rote education	15
Repressive education	15
Barring creative thinking	13
Competition psychology	10
A stressful environment	10
Exposure teacher ego	9
Exposure discrimination	7
Hard conduct of teachers	5
Exposure to violence	4
Waste of time	4
Time restriction	4
Excess liability loading	4
Prison	4
Unsympathetic teachers	3
Broadcast of the differences	3
Inequality of opportunity	3
Unnecessary Information	2
Scary	2
The limited	2
Add Training	2
Waste of time	2
Vestigiality of intelligence	2
Heavy homework	2
Indifference of the family	2
Lack of socialization	2
Exposure to humiliation	1
Over critical perspective	1
Tying	1
Stressful for a child	1
Psychology of the possessive a group	1
The individuality of blunting an environment	1
Ignoring the question of the child	1
Child Abuse	1
Graphic of the thoughts	1
Captivity	1
More formalized	1
Future concerns	1
Traditional rules	1
Far from real life	1
Insecurity	1
The killing of dreams	1
Isolation of life	1
Hierarchy	1
New system by government	1
Communication problem	1
Human factory	1
The problem of job	1
Uncreator System	1
Solid curriculum	1
Explore preventing system	1
Limited informed	1

Graph 1 Shadow sides



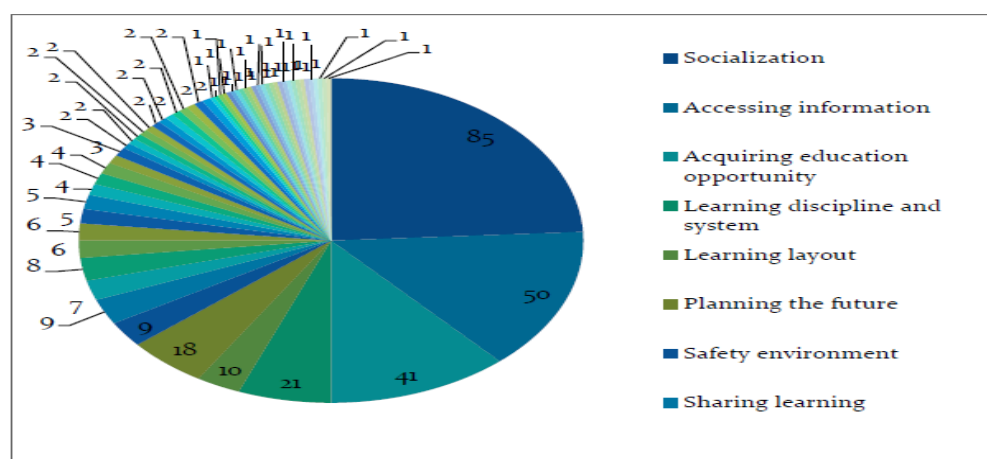
"School is a place of prototype education. For example, I love arts. I looked forward to music courses. But, the lecturer did not know anything about music and he/she was out of branch. I was disappointed. My family did not have economic opportunities to educate me in music".

When the first eight most important results, which were generated by the most of the participants, were examined below, the bright sides of the school were defined respectively; socialization as a place as accessing to the information, acquiring education opportunity, and learning discipline and system. Frequency variances of the statements of teacher trainees were shown on graph 2 and table 2.

School Organizations Journey from Shadow Side to Wisdom

Table 2 Bright of Sides	Frequency
Socialization	85
Accessing information	50
Acquiring education opportunity	41
Learning discipline and system	21
Learning layout	10
Planning the future	18
Safety environment	9
Sharing learning	9
Learning the etiquette	7
Learning life	8
Creativity development	6
Learning the time management	6
Self discovery	5
Learning social rules	5
Human value of learning	4
Talent development	4
Communication development	4
Learning democracy	3
Acquisition status	3
Learning research	2
Thoughts to improve	2
Self-actualization	2
Cultural and moral development	2
Fighting winning spirit	2
Being able to think freely	2
Being planned learning	2
Be responsible	2
Experience acquisition	2
Individuals become useful to society	2
Learning new things	2
Key to success	2
Intelligence improve	2
Knowledge sharing	1
Improve awareness	1
Integrate	1
To gain experience	1
Listening to learn	1
Diploma	1
Gaining awareness	1
Habituation differences	1
Provision of necessary facilities	1
Learning tolerance	1
Growing idealistic individuals	1

Good friendships	1
Quality education	1
Developing the ability to make decisions	1
Self improvement	1
To think positive	1
Psychological development	1
Making guidance	1
Finding a role model	1
Learning to be patient	1
Learning to be discreet	1
Robust character	1
Sincere friendships	1
Artistic development	1
Efficient information	1
Innovator	1
Struggle to learn	1
The expansion of the horizon	1

Graph 2 Bright sides

The statements of interviewed participants about school's bright sides are as follows:

"School "is a place where we have friends. So, I used to love school very much. I had great time with my friends. In time, they were like my family"

"School "is like a family place where we have shares. For example, 1 and 2 classes are too close to friendly conversation talking as my favorite teacher. We are able to steer well according to our ability. They have made mistakes in front of the class the children would not break. He spoke pulls aside. Courses were satisfactory in terms of equipment. A teacher who was much activity with us. He spent most of their inhalation with us. Nutrition in place when the room with us"

School "is like a heaven that prepare us for the life and we get new knowledge every year".

5. Discussion

This paper examines the image of the school as a archetype. The discussion of the results found in the study in comparison to the findings of previous studies can be summarized under two headings.

As a result, referring to the school's Jungian thematic analysis, it has observed that the participants preferred the shadow sides and bright sides. When the first five most important results, which were generated by the most of the participants, were examined, the shadow sides of the school were defined respectively; strict rules, boring environment, prototype education, obedience to authority, excessive discipline. On the other hand, the bright sides of the school were defined respectively; socialization as a place was defined as accessing to the information, acquiring education opportunity, learning discipline and system. However, the images that describe school and university as a workplace have obscured many other viable alternatives and obliterated "unique qualities of the classroom" that are different from work setting (Marshall 1988, p.9). Referring to the school's Jungian thematic analysis, it has been observed that participants preferred the school as the place of knowledge and enlightenment (Özden, 2002; Cerit, 2006; Saban, 2011; Özdemir and Kalaycı, 2013), and also as a place family (Baker, 1991; Inbar, 1996; Mahlison and Maxon, 1998) was preferred and supporting this finding by the preservice teachers (bright side).

On the other hand, the school was observed as "a discipline/control center" (Saban, 2011; Nalçacı & Bektaş, 2012). These expressions are similar to the expressions of our participants' expressions (shadow side). Jackson (1968) and Nalçacı & Bektaş (2012) drew schools as a prison. This case corresponds to the findings of our study (shadow side). The fact that the learner perspective on issues concerning educational purpose and practice has rarely been sought resulted in public perceptions of universities as "providers of intellectual and intelligent labor for trade and industry" rather than as centers for the "transmission, challenge, creation, and development of knowledge" (Merican, 2009).

With all of this, if we look at the school as a Jungian lenses, "teachers themselves should develop their pre-conscious experience and be aware that their unconscious processes also communicate messages to learners, they should function in ways to activate the hidden potential in children, free play and unstructured time should be viewed as significant curricular resources, besides that, teaching and curriculum should make full use of a wide range of experiences that include fantasy, symbolism, and myth, and also the effective setting for learning should foster a sense of wholeness to nourish the widest possible integration in individual learners" (Best, 1981, pp.178-179). Also, "archetypal reflectivity can play an important role in encouraging this kind of post-modern spiritual exercise in teacher reflectivity and teacher education" (Marshall and Kincheloe 1998 cited in Mayers, 2002 p.714). A Jungian theory of education emphasizes helping the student engage with his world in richly symbolic terms (Mayers, 2005, p.36).

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The Study Of School Administrators' Intellectual Leadership Scale Development

Nuray Sevinç, Hasan Arslan

Introduction

The leadership of school administrator shapes schools. School administrators must take their strength from their character and expertise, not from their authority or power (Baloglu, 2014). The school leader, the training leader, the teaching leader, and the program leader have been preferred rather than naming the school administrator, (Turan and Bektas, 2014).

Contemporary debates emphasize school administrators' leadership behaviors more than managers; the school administrator is depicted as people who have to go beyond traditional roles and responsibilities (Arslan, 2013). The school leader is used instead of the school administrator by drawing attention to the leadership of the school administrators (Dönmez, 2002). School leaders as administrators should have the qualities needed by the new century to realize the goals of their schools in the direction of the new demands (Aksoyalp, 2010). Research shows that the leadership roles of school administrators are changing.

It is argued that instead of being a leadership based on personal characteristics or the features of the group, a tendency towards a shared leadership understanding based on the voluntary participation of the individuals within the organization is more accepted in the 21st century (Arslanargun, 2014). In this respect, intellectual leaders who have knowledge, skills and intellectual awareness are needed today (Akdemir, 21 Ekim 2002). With the changes in leadership roles, today's leadership should be intellectual leadership.

Macfarlane (2011) studied professors as intellectual leaders at universities. In the study, Macfarlane's work on "Intellectual Leadership" has been taken as the theoretical basis. With the study of professors working full time at universities in the United Kingdom, he conducted the intellectual leadership behavior of professors' under six dimensions. In his work Uslu (2015) used role model, mentor, advocate, guardian, acquitter and ambassador in the translation of dimensions into Turkish.

All organizations, businesses, institutions, public institutions and state organizations should be managed by the senior managers who developed "intellectual depth, sensitivity skills" (Akdemir, 4 November 2002). An administrator who works successfully at school means that the management understands both the leadership and the management. The school leader should be aware of the social structure he is in, be able to see the full picture, and understand the broad context around both information and value (Arslanargun, 2014). One of the future leadership models for school management that needs to be carried out professionally is the intellectual leadership approach.

The school administrator, who is the leader in the school community, is central to the solution of the problems that occur within and between each group of the school. In the solution of the problems, the school administrator leads others in line with the intellectual opinions and thoughts that exist. The work falling into the intellectual leadership is not only to make the task, but to contribute to learning and creating a learning environment for everyone (Akdemir, 21 October 2002).

MacFarlane's (2011) intellectual leadership competencies can now be evaluated for school administrators like professors. Macfarlane's (2012) six intellectual leadership professors and school administrators in the field of competence are presented in Table 1.

Table 1

Evaluation of Intellectual Leadership Dimensions as Professor and School Administrator

Intellectual Leader, University (Professor) Mc Farlane (2011)	Boyut	Intellectual Leader, School (School Administrator)
Academicians' professional and personal behaviors that are exemplary for their students and colleagues	1 Role Model	School administrators' professional and personal behaviors that are exemplary for their students and colleagues (teachers and other administrators)
Academicians' behaviors that contributes their students and colleagues' academical and personal development with working together through active participation	2 Mentor	School administrators' contributor behaviors for their students and colleagues' academical and personal development with working together through active participation
Academicians' behaviors towards to use of knowledge accumulation in solving community problems by taking an active role in social structures or activities	3 Advocate	School administrators' behaviors towards to use of knowledge accumulation in solving community problems by taking an active role in social structures or activities
Academicians' behaviors towards preserving the standards of their field and expanding the scope of the field within the framework of scientific ethics and values (editorial, refereeing, panelist)	4 Guardian	School administrators' behaviors towards preserving the standards of education and expanding the scope of its activities within the framework of professional ethics and values
Academicians' behaviors to provide financial gain, prestige or awareness to their institutions at international, national, regional or local level	5 Acquisitor	School administrators' behaviors provide financial returns, prestige or awareness at an international, national, regional or local level
Academicians' behaviors to promote the areas within the institution or outside the institution and to represent departments or universities they serve	6 Ambassador	School administrators' behaviors to represent and promote their authorities within or outside the institution or the schools they serve

The dimensions of intellectual leadership can be viewed as intellectual leadership in school management, as Macfarlane (2011) reshapes and Uslu (2015) adapts into Turkish. In this respect, in Table 1, evaluations were made for school administrators according to the areas of intellectual leadership competence. The school administrator must also have these competencies as an intellectual leader. We should investigate the level of school administrators' ownership of intellectual leadership competencies that are the type of leadership of our age. In addition, competence levels must be assessed so that school leaders can maintain effective leadership roles.

No scale were found in the literature evaluating the intellectual leadership competencies of school administrators. Intellectual leadership behaviors, knowledge, teaching and service of professors' were evaluated by Macfarlane (2011). A scale evaluating the dimensions determined was not used in Macfarlane's study (Uslu, 2015). The scale of intellectual leadership competencies developed by Uslu (2015a) and Yılmaz (2007) were found in the literature while evaluating academic intellectual leadership competencies. However, it was not appropriate to use both scales for school administrators.

Purpose of the research

There is a need for a scale that can be used to evaluate school administrators' intellectual leadership competencies. The goal of working in this direction is to develop a valid and reliable scale for assessing intellectual leadership competency levels for school administrators.

Method

This research was conducted to develop a scale that would be used to evaluate the level of school administrators' intellectual leadership competencies. The intellectual leadership scale of the school administrators was developed in the research. Scale development steps and implementation of pilot scheme were indicated.

Scale development phases

The basic principles were followed in the new scale development studies (Karakoç and Dönmez, 2014). The stages in developing the scale were done in the direction of (Acar Güvendir and Özer Özkan, 2015). The scale development steps in this study were ordered according to the basic principles that must be followed. As stages of the scale development; Literature review, item pooling, taking experts' opinion and scale form steps were indicated.

Literature review

If a new scale study is to be conducted the first step is to search the related literature (Karakoç and Dönmez, 2014). Attention was paid to ensure that the contents of the school administration could be countered so that the scale could be evaluated as an intellectual leader. In this respect, the use of the competence areas determined in the study of Macfarlane (2011) was found appropriate as intellectual leadership competencies.

Literature review was also conducted in order to identify competency statements within the intellectual leadership competency areas for school administrators. Measures were collected under six dimensions; role model, mentor, advocate, guardian, acquitter and ambassador. Uslu (2015) used Turkish names in the literature. These dimensions also constitute the areas of intellectual leadership competence.

Creating item pool

The item pool of 245 items used by Uslu (2015a) was examined in terms of intellectual leadership competency areas content according to the school administrators. The items which were believed not to cover the intellectual leadership were eliminated. Some expressions were amended by taking care that the items in the measure were simple and understandable, that a item did not have more than one judgment and expression of opinion. After this process, the item pool was reduced to a total of 112 items given under the heading of 6 dimensions, which was thought to be related to the intellectual leadership of the school administrator.

Get expert opinion

Expert opinions were received from 7 lecturers from the education management field specialist in order to establish the coverage scope for the scale using 112 intellectual leadership competencies. Simultaneously with the receipt of the expert opinions, 50 school administrators working in the province of Tekirdag, where the researcher was working, were asked to evaluate each item by examining the scales of 112 items. At the same time they were asked to evaluate the intelligibility of the items in scale format and the behavior of the school administrator in the

stated expression. In addition, two Turkish Language and Literature teachers (one of whom has been a school administrator) studied the scale items as narration, meaning and expression. The scale applications of 50 school administrators were evaluated statistically. Due to the large number of substances on the scale in this direction, it has been seen that the substances are not much clearer according to the determined dimensions.

Some items were extracted from the 112-item scale by the researcher. The number of items in the measure was reduced to 70 in order to ensure coverage. The scale, which was composed of 70 items, was presented again to field experts because experts evaluated the necessity, clearness and specificity of the questions. Much importance was given by the researcher to evaluate the scope and appearance validity with the expert comment. Lastly, a review of the scale reevaluated the teaching staff of six field specialists, two Turkish language literary experts and two school administrators with fifteen years of managerial experience. It was thought that in the practice of the 70 items the participants might be forced in terms of duration and reading. After the examinations, 40 items were added to the scale and the scale was finalized for a total of 30 items for 6 dimensions, with 5 items in each dimension determined to reflect the contents of the intellectual leadership competency areas.

Scale form

The scale is composed of two parts. In the first part, the demographic information of the participants was asked in order to make evaluations in line with their demographic characteristics. In order to make the evaluation, participants were asked about demographic information such as gender, education status, faculty type, number of memberships and duration of management, managerial duties and type of school. In the second part, a list of the competencies that school administrators should show as intellectual leaders was stated. A 5-point Likert-type grading was chosen to allow the participants to evaluate the scale items in this section according to their level of visibility. Participants were asked to evaluate themselves according to the intellectual leadership competency expressions indicated. It has been stated that school administrators should evaluate each statement by considering how they can display their duties while conducting their duties in school.

Pilot scheme

Another step for scale development is the drafting of the scale. The pilot application was considered important for the scheme of the scale (Karakoç and Dönmez, 2014). It was decided to implement the pilot in a working group that would reflect the target audience of your scale. Pilot application steps were used to collect data, and to analyze participants and data.

Collection of data

As the scale and the intellectual leadership competencies of school administrators would be evaluated, the target audience was the school administrators who were asked to participate in the research. In this direction, Çorlu, Çerkezköy and Ergene districts were selected for the purpose of gathering data from the school administrators in terms of the Tekirdağ province where the researcher served as the research area and the ease of transportation. For the pilot application of the scale, permission was obtained from the Tekirdağ Provincial Directorate of National Education through official correspondence.

It was deemed appropriate to implement the application phase of the scale through the Provincial National Education Directorates in the context of the permission received from the Tekirdağ Provincial Directorate of National Education. It was decided to remove some words from the two items of the Scale. In addition, these two demographic features were removed

from the first section, with the concern that the identity of the participant information did not comply with the principle of confidentiality, the identity of the manager and the school principal and that the participants could not offer the evaluations realistically.

Prior to pilot implementation of the scale prepared in line with these regulations, the number of schools affiliated with the districts to be implemented from the Tekirdağ Provincial Directorate of National Education AR-GE unit and the number of school administrators serving in these schools were taken. Scale forms were multiplied by the researcher in the number of school administrators whose names are in the three districts indicated. The scales, which were separated by the number of administrators in the school, were put in separate packages according to the rules by putting together the grades showing the school name and the number of administrators and a separate transparent file for each school. With the permission of the research and the replicated scales, the districts that were to be implemented were visited to the District Directorates of National Education. In the District Directorates of National Education, the staff members were introduced and the implementation was explained. The scales prepared after the interview were left by the researcher in the incoming and outgoing boxes of the schools located in the District Directorate of National Education. In addition, research permission letter scale forms were sent online through the message system that the District Directorate of National Education used between them and the schools themselves. With this message, the school administrators were also asked to fill in the scales within fifteen days and to send back the relevant member of the District National Education Directorates. Scales filled by the school administrators were collected and delivered to the researcher through the National Education Directorates within 2-3 weeks.

Participants

It was desired to determine the number of observations necessary to analyze scale data. In the evaluation of the lower limit of the number of observations, the number of 30 items form was taken into consideration. According to Yurdagül's (2005) report from Gorsuch (1983), the minimum ratio should be 1:5. For a 30-item scale, reaching 150 observations with a 1:5 ratio was considered sufficient. The target group size was set at 300 and superior to achieve 150 observations, which are the lower bounds. The target group size between 100-200 were found enough (Yurdagül, 2005). It was aimed to reach the number of participants in this direction.

The study group in which the research was conducted constitutes school administrators who serve as school administrators in the academic year 2015-2016. It was aimed to reach all schools' (preschool, primary school, junior high school and high school) administrators as participants in Çorlu, Çerkezköy and Ergene districts of Tekirdağ province. The school administrator as school principal, chief deputy principals and principal assistants were dealt with. The number of the school administrators working in these districts and the number of the school administrators reached in the research are given in Table 2.

Table 2.

Number Of The Participants In The Working Group

Province	District	Distributed	Returned	Percentages %
Tekirdağ	Çorlu	110	53	49
	Çerkezköy	183	85	47
	Ergene	68	30	44
Total		361	158	44.32

As shown in Table 2, there are 361 school administrators working in these three districts as of the period of the study. The scales were reproduced by the researcher and distributed to

the participants through the District Directorate of National Education. 158 (44.32%) of the scales gathered through the District National Education Directorates returned. The most participation in the scale application was provided in Çorlu so the researcher works.

Data analysis

In the research, the data obtained with the "School Administrators's Intellectual Leadership Scale" was analyzed. In the study, statistical analyzes were done using statistical package program SPSS. This program is widely used by social science researchers in data analysis (Büyüköztürk, 2011).

All of the scale forms that had been evaluated were numbered in sequence starting from scale forms 1. The numbers in the scales are transferred to the computer respectively. The evaluations made by the school managers on the scales were entered as a single file into the quantitative data analysis program.

In the evaluation of the items in the measurement, 1 point were given to the "none" option for each item, 2 for the "low" option, 3 for the "medium" option, 4 for the "very" and 5 for the 'full'. According to the Likert type quintile rating scale, to grade and interpret the average scores obtained; "1.00-1.80" is non-existence, "1.81-2.60" is less, 2.61- 3.40 is the middle, "3.41-4.20" is too much, and "4.21 and 5.00" are the exact levels.

Subsequent statistical operations were specified separately. Skewness-Kurtosis (S-K) values were examined in accordance with the normality of the averages of intellectual leadership competencies. An exploratory factor analysis (EFA) was conducted to examine the validity of the scale. Before starting factor analysis, the results of the Kaiser-Meyer-Olkin (KMO) and BarlettSphericity tests were examined to determine if the data were appropriate for factor analysis. Reliability analyzes were performed on the scale items.

Results

First of all, substance analyzes were performed in the direction of the data obtained. The validity of your scale was determined by EFA. Internal consistency reliability methods (Cronbach Alpha) were used.

Item analysis

Prior to the analysis of the data, the data set was subjected to a number of applications in order to be ready for analysis. In preparing the data for analytical preparation, it is necessary to make some studies in the data, to check whether the data are within the limits, to evaluate the lost values and to make some studies for editing the extreme values (Büyüköztürk, Çokluk and Köklü, 2012). The generated data sets were analyzed in terms of lost data and endpoints. Extreme values and incorrectly entered data were checked and removed prior to analysis, without evaluation. The heading and skewness values of the variables in the data set are calculated. Skewness-Kurtosis values for 158 participants are in the range of +2. In addition, Kolmogorov-Smirnov test result (sig=,000) was significant (sig <0.05) in the normal distribution test. Analyzes made reveal that evaluations are spread over a normal distribution.

Prior to the start of the analysis, the results of the KMO and BarlettSphericity tests were examined to determine whether the data were appropriate for factor analysis. The KMO value for the 30 items on the scale is .930. Bartlett Sphericity test (sig =, 000) was significant (sig <0.05). Significant increases in KMO were found to be higher than 0.60 and Barlett's test was found to be appropriate for factor analysis of data (Büyüköztürk, 2011).

The Study Of School Administrators' Intellectual Leadership Scale Development

Exploratory Factor Analysis

The EFA was carried out to see if the 30 intellectual leadership competencies created in 6 dimensions for the pilot scale of the developed scale were distributed for school administrators according to these dimensions. As a result of the factor analysis, the 26th and 28th items (*Ambassador*), whose values were less than 0.5, were subtracted from the scale and factor analysis was performed again for the remaining 28 items. Varimax vertical turning was performed and the results were as follows: 1. (*Mentor*) 8. (*Role Model*) and 20. (*Acquister*) items, as because they were identified as having low discrimination and overlapping, they were taken out. After the substance removal process, the scale was subjected to a re-rotation process with 25 items. As a result of the rotation process, it was seen that the factor loads of 25 items are larger than 0.5 and the number of dimensions is 3. These dimensions and items in dimensions are given in Table 3.

Table 3

School Administrators Intellectual Leadership Scale Rotated Component Matrix

Scale Item No	Dimension	Pilot Scale Item No	Scope Contain Dimension	Total Variance	Factor Variance		
					1	2	3
1	Role Model	2	Role Model	,705	,779		
2		24	Acquister	,709	,716		
3		4	Role Model	,637	,712		
4		6	Mentor	,664	,691		
5		25	Acquister	,522	,666		
6		3	Role Model	,550	,662		
7		27	Ambassador	,556	,600		
8		5	Role Model	,661	,600		
9	Advocate - Guardian	11	Advocate	,666		,705	
10		10	Mentor	,702		,693	
11		15	Advocate	,739		,679	
12		19	Guardian	,479		,648	
13		9	Mentor	,689		,635	
14		13	Advocate	,717		,603	
15		12	Guardian	,666		,601	
16		17	Guardian	,632		,582	
17		16	Guardian	,645		,580	
18		7	Mentor	,641		,559	
19		18	Guardian	,539		,545	
20		14	Advocate	,641		,522	
21	Acquister	22	Acquister	,806			,866
22		30	Ambassador	,728			,798
23		23	Acquister	,705			,686
24		29	Ambassador	,658			,632
25		21	Acquister	,538			,502
Eigen Value					13,490	1,599	1,075
Variance Explained					25,036	23,085	16,533
Total Variance Explained					64,654		
Reliability Of The Dimensions					.903	.938	.853
Reliability Of The Scale					.937		

As seen in Table 3, the final EFA analysis showed that there are 3 factors, which are greater than the score of 1. The scale consists of 25 items and 3 dimensions. In the scale form 1-8 items constitute the dimension of the "*Role Model*" and the factor loads of the items are between 0,779 and 0,600. 9-20 items constitute the second dimension, "*Guardian -Advocate*". The factor loadings of the items in this dimension are between 0.848 and 0.607. And the 21-25 items constitute the dimension of "*Acquister*". The factor loadings of the items in this dimension are between 0.848 and 0.607. These three factors account for 64.65% of the total variance. The first factor with an original value of 13.49 contributes 25.036% to the explained variance; The contribution of the second factor with an equity value of 1.59 is 23.085% and the contribution of the final factor with an equity value of 1.075 is 16.53%.

The scale created theoretically within the scope of 6 dimensions, but after the analyses made, 3 dimensions for school administrators appeared on the scale. When the resulting three dimensions are examined, the factors are named without considering the common characteristics of the materials in each factor and the theoretically accepted dimension names (Macfarlane, 2011; Uslu, 2016). The first dimension is called *Role Model* because it is predominant in modeling ability and the second dimension is called *Acquister* for being competent and observer and the third dimension is called because it has more competence to gain. We can see that the dimension of being a guide is dissolving in other dimensions. Moreover, the *Acquister* of is included in the aspect of gaining in terms of spiritual gain.

Factor analysis was done again with 25 items. With this process, the KMO value of the scale is .937 and the Bartlett's value is .000. As a result of the analyses made, a 25-item scale with construct validity was obtained Successfully.

Reliability

Cronbach's alpha (α) internal consistency coefficient was also calculated for the reliability of the school administrators' intellectual leadership scale. After the pilot application of the scale, the data obtained from 158 participants was calculated as α 0,937. Reliability analyzes were also carried out in terms of the dimensions of the scale consisting of 25 items. The reliability coefficient for *Role Model* dimension is 0,903, the reliability coefficient for *Guardian - Advocate* dimension is 0,938 and the reliability coefficient for *Acquister* dimension is 0,853. Thus, it can be said that the "School Leader's Intellectual Leadership Scale" is generally very reliable in terms of dimensions.

Conclusions and Recommendations

In this study, the process of developing the *School Administrators' Intellectual Leadership Scale* was used to evaluate the intellectual leadership competence levels of school administrators. Developed by the researcher, this scale consists of two parts, 25 items and three dimensions including intellectual leadership competency expressions. It can be said that there is a scale with validity and reliability in the direction of the analyses made.

The studies on the development of the scales used in education by reviewing the literature in the Acar Güvendir ve Özer Özkan's (2015) research evaluated the scale development stages in line with the standards they set. Thus, it can be determined that the scale development work done is in line with the standards. In these stages, the stages of creating a substance pool have been meticulously carried out by utilizing the literature and related literature. The scale and scale of the scale is composed of two parts. The expert opinion on the item pool created for the scale was taken and necessary arrangements were made in this direction. To evaluate the understanding of a smaller group size other than the target group pre-test consisting of 50 people and a pilot application with a scale of 158 people were done. Particularly in the preliminary test, there was a lot of influence in reducing the number of items

of scale. Target group size is set to 300 or higher. However, 158 cases have been reached, which is deemed appropriate when determined on the basis of the number of items. More scale was reached by pilot implementation in determining the validity of scale structure and exploratory factor analysis was made. Confirmatory factor analysis, test repeatability and two equivalent semi-reliability stages were not performed in only three of the scale development standards. These steps can be done in a separate study of the validity and reliability analyzes of the scale.

It is considered as a necessity for the school administrator to have intellectual leadership competencies in today's conditions. The developed scale will be used to assess school administrators' intellectual leadership competencies and help school administrators to develop themselves as intellectual leaders. In addition, intellectual leadership is a new subject for school administrators and it is thought as a contribution to the field of education management in the direction of evaluation obtained by scale.

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Investigation of Knowledge of Pre-Service Teachers Regarding the Terms of Digit and Number

Esra Altintas, Sukru Ilgun

1. Introduction

It is possible to see base arithmetic and number system and their practices in primary school, secondary school, high school and university in the area of many fields primarily in both mathematics and computer. There are a lot of questions about these topics in common exams like TEOG (entrance exam for high schools), YGS (entrance exam for university), and KPSS (government officer selection exam). There are some concepts and practices which constitutes base for these topics. There are figures, number, digit and base concepts and figures and numbers in different bases. Taking into consideration that these concepts constitute base for mathematics, it is inevitable that students' ability to express, differentiation and exemplification of these concepts is essential.

Base arithmetic topic is an important topic of KPSS (government officer selection exam) Mathematic topics. Base arithmetic determines of which digits a number consists and determines the number system that we use while writing the number. The figures that we use in normal mathematic procedures are the figures that we use in decimal systems (URL1). We learn base arithmetic; however most of us think that it is useless. We use decimal number system in our daily life. The price and number of things that we buy in market or bazaar is in decimal number system (Acar, 2013). Computer programmers use binary and hexadecimal systems (Acar, 2013). Base arithmetic is used to adapt data in line into binary system. Base arithmetic is irreplaceable is computer and electronic areas (URL2).

Considering mathematic curriculum from primary school to university, there are some attainment about base arithmetic as follows: developing active usage skills of a chart of 100 numbers, decimal cards, decimal base blocks, percentage circle, decimal and percentage squares, constituting a solid base for decimal number systems, naming natural numbers under 100, determining values of digits in digits, determining three-digit numbers' names and determining digit value of figures which are in digit, determining 4,5 and 6 digit natural numbers' dividers and digits, determining digit value of numbers which are in digit, analysis of 4,5 and digit numbers, determining 7,8 an 9 digit natural numbers division, digits, determining digit values of numbers which are in digit, analysis of numbers which are given in decimal order, determining maximum nine digit numbers' divisions, digits and digit values of numbers, writing any natural number in any base system and doing operation among numbers which are given in different bases.

Number is an abstract concept which is used to determine quantity or amount that is determined after counting or evaluating. Numbers are expresses with figures that are international. Digits are used to show numbers as written. When numbers system is spoken, number cluster which includes one or more operations such as add and subtract comes to mind and when digit number system is said, number system with common divider and multiplier comes to mind. Decimal numbers system is described as ten based number system in which different figures which are used to write any number in spite of its bigness and which consists of ten different symbols (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) Kaplan, 2008). Number system, which we use, use 0, 1, 2, 9 digits and big numbers is expresses in decimal groups (Arslan, Yıldız and Yavuz, 2011).

The box which is used to determine place, location, position in positioned number system is called digit. The grouping in numbers caused digit concept to be born and thanks to this, a digit started to get value in the number where it is. Digit value is value of symbols which

they get in positioned number system according to digit (Kaplan, 2008). Digit value concept is important in primary, secondary school even in higher education. As it is based on children's' grouping, base arithmetic has an important place. As abc number, written in 10 base, c symbolizes (10^0), b symbolizes (10^1) and a symbolizes (10^2), $(def)_6$ number written in 6 base, f symbolizes (6^0), e symbolizes (6^1) and d symbolizes (6^2). For this reason, a man who does not understand digit value concept can be expected to understand base arithmetic (Arslan, Yıldız and Yavuz, 2011). Same number can include different meanings according to base. Digit base is fixed rate or stage in which symbols are placed in positioned number system (Kaplan, 2008).

The study done by Arslan, Yıldız and Yavuz (2011) shows those students' learning difficulties about digit value and their difficulties about numbers originates from that they have not understood digit value well. Albayrak and İpek (2005) have studied mathematic figures knowing and remembering skills of teacher who are in pre-service period. They have concluded that participants do not know number concept very well and they have contradiction in number and digit terms. Also it is concluded that "education before service is not for in service and information is only memorised before it is interpreted, analyzed, synthesized and integrated with his/her own ideas."

Yenilmez and Demirhan (2013) thinks that as number, natural number and digit concepts are generally wrongly used and the concepts that used instead of each other, teaching these concepts in basic education is important. Also when students' answers are analyzed as a part of study, it is seen that students do a big mistake by describing digits using numbers, by thinking that digits are gained from numbers. Kaplan (2008) has observed that while participants can share their ideas about digit and digit value concepts apart from decimal number system, they continue their habits about digit and digit value concepts.

Özdeş (2013) has detected in his study that students have lack of information and serious concept mistakes about base arithmetic topic and they have lowest success in base arithmetic topic. Also he has concluded that students tend to understand numbers which has different base other than decimal base as if they are in decimal base and he has concluded that students have some mistakes and errors like digits that constitutes a number base can be bigger than base number, although there is not prerequisite, thinking digits in number stages can be different from each other and digits that are used in a numbers' base can be equal to base number.

As a result of literature research, there is no study about identifying concepts in digit, number and different number systems, expressing them, exemplifying and knowing skills of different number systems. From this point of view, this study is important and will contribute to this field. Researchers have concluded from their experiences that student have problems about identifying, expressing and exemplifying digit and number concept in different number systems and have shown the situation with this research. This study is important as it reveals number and digit concepts that students experience in their education life ad especially until their university life.

This study aims questioning science and form teachers', who are pre-service term, digit and number concepts in different number systems and their identifying different number systems. In accordance with this aim, an answer for this question is being searched. "Do teacher candidate's ability to comprehend number and digit concepts in different number systems and ability to identify different number systems?" from this problems, answer fort his sub problems are being searched:

1. Do teacher candidates ability to comprehend digit concept in different number systems?
2. Do teacher candidates ability to exemplify and determine number concept in different number systems?

3. Do teacher candidates ability to express number systems taking number analysis into consideration?

2. Method

2.1. Research Model

As a part of existing study, content analysis among qualitative research approaches. Qualitative data takes human in centre and tries to understand how he considers himself and his environment. Qualitative data analysis differs from quantitative research from its objective and its stages in a great amount. Objective of qualitative data analysis to reveal potential information which is keep in deepness of social reality. In this process, researcher takes care of his/her subjectivity and get into direct concept with social reality that he studies. In this interaction process, more than one data collection techniques are used and information in data basket which has similar features are categorized (Özdemir, 2010). Data analysis provides to analyze data in detail. It provides them and dimension which are obvious before to be revealed. The basic aim in content analysis is to reach concepts and correlations which can express collected data (Yıldırım and Şimşek, 2008).

2.2. Universe and Sample

Study is carried out in spring term of 2014-2015 education terms. The universe of study is all teacher candidates who are in Kars Kafkas University Faculty of Education Primary Education Science and School Teaching Department. Sample of study is 90 teacher candidates who are in first grades of Kars Kafkas University Faculty of Education Primary Education Science and School Teaching Department. 47 of them are school teacher candidates, 43 of them are science teacher candidates. Appropriate samples are used to determine participants because of some reasons like researchers' doing practices in their university and department, accessibility, carrying out the study finicky and communication facilities. Intentional sample has been done for selected departments as science teaching and school teaching departments are subsequent department after math teaching department with math lessons student have encountered while entering the university and during university and more specific and more detailed study is need for math teaching department.

2.3. Data Collection Tool

As a part of study, a diagnostic test consisting of 4 multiple choices, 3 open ended totally 7 questions has been prepared. The questions in the test are following:

1. Which of the symbols below is a digit?
A) 10 B) 11 C) 13 D)9 E)All
2. What is digit in decimal system? Answer the question by writing one sentence.
3. Which of them is not a number in binary number system?
A) 0 B) 11 C)10 D)12 E)1
4. What is a digit is heptads number system? Please answer by writing one sentence
5. Which are them means a number in decimal system?
A) 109 B) 105 C) All D) 5 E) 505
6. Please write few numbers in hexad number system?
7. Which is identical with $102:1 \times 25 + 0 \times 5 + 2 \times 1$

A) Triple B)All C)Decimal D) Quinary E) Septet

Objectives which are wanted to be evaluated according to items in diagnostic tests as a part of existing study and which questions are for objective are as following:

1. To be able to tell digit in different number systems (2.question-4.question)
2. To be able to comprehend digit concept in different number systems (1.question)
3. To be able to determine number concept in different number systems (3.question-5.question)
4. To be able to exemplify number concept in different number system (6.question)
5. To be able to tell number system taking number analysis into consideration (7.question)

Question has been prepared under the light of researchers' experience. Researchers have prepared diagnostic tests as they are field experts. Also, the questions that are prepared are answered one by one by the researchers and answer key is prepared.

3. Findings

In this part, there are findings obtained in data analysis. In the table, there are percentage and frequency distribution which are obtained as a result of answers analysis which are given to questions.

Table 1. Percentage and frequency distribution of the answers given to questions by pre-service teachers

Questions	Categories					
	True		False		Empty	
	f	%	f	%	f	%
1	13	14	76	84	1	1
2	27	30	60	67	3	3
3	43	48	45	50	2	2
4	36	40	40	44	14	16
5	60	67	27	30	3	3
6	50	56	30	33	10	11
7	45	50	41	46	4	4

When the chart is examined, answers given to seven questions are categorized as true, false and empty. %14 of teacher candidates give true answer and %84 of teacher candidates give wrong answer and %1 of teacher candidates do not answer to 1.question "Which of symbols above is a digit?". From this point of view, teacher candidates answer the question not taking different number systems into consideration and they mix digit and number concepts with each other.

%30 of teacher candidates give right answer, %67 of teacher candidates give wrong answers and %3 of teacher candidates do not answer 2.question "What is a digit in decimal system? Answer by writing one sentence." From this point of view, it is seen that teacher candidates have not comprehended digit concept in decimal systems. Some of the given answers are as following;

"{0, 1, 2, 3, 4, 5, 6, 7, 8, 9} numbers from 0 to 9."

"Values from 1 to 9"

"All of them are digits separately."

"Digits smaller than ten"

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%48 of teacher candidates give right answer, %50 of teacher candidates give wrong answer and %2 of teacher candidates do not answer 3. question “Which of them is not number in binary number system?” from this point of view, most of teacher candidates have problems to determine number concept in different number systems. %40 teacher candidates give right answer, %44 of teacher give wrong answers and %16 of teacher candidates do not answer 4. question “What is a digit in heptads number system? Answer by writing one sentences.” From this point of view, it is seen that most of teacher candidates have not comprehended digit concept in heptads numbers systems. Some of given answers are following:

“Numbers between 0-7 except 0 and 7”

“Digits from 1 to 7.”

“Each numbers that is created with uniting of seven numbers

“Numbers that can provide us to make differentiation while counting until seven”

%67 of teacher candidates give right answer, %30 of teacher candidates wrong answer of %3 teacher candidates do not answer 5. question “Which of them means a number in decimal system?”. From this point of view, it can be said that students are successful in determining number concept in decimal system. %56 of teacher candidates give right answer, %33 of teacher candidates give wrong answer and %11 of teacher candidates do not answer 6. question “Write few numbers in sestet numbers systems. From this point of view, it is seen that teacher candidates can write numbers in sestet number systems. When we look the ones who give wrong answer and the ones who do not answer the questions, it is seen that the number of the ones who do not answer questions in many incontrovertibly. Some of given answers are:

“12345, 1025, 453”

“605432”

“The biggest number starts with 5. The smallest is zero.”

“20495”

“6, 16, 26, 36, 46, 56”

%50 teacher candidates give right answer, %46 of teacher candidates give wrong answer and %4 of teacher candidates do not give answer to 7. question “Which number systems is $102:1 \times 25 + 0 \times 5 + 2 \times 1$ identical with?” from this point of view, half of teacher candidates can tell numbers systems taking number analysis into consideration. The ones who do not answer the question taking the wrong answerers and the ones who do not answer into consideration are equal with the ones who answer the question.

4. Discussion, Conclusion and Recommendation

In this study, it is aimed to investigate science and school teacher candidates' skills of identifying different number systems and questioning number and digit concepts in different number systems. The results above are reached taking into each sub problem into consideration to reveal ability to express number systems taking teacher candidates expressing and identifying digit concept in different number system, their exemplifying and determining number concept in different number systems and number analysis into consideration:

4.1. Teacher candidates' ability to express and determine number concept in different number systems:

%14 of teacher candidates gives right answer, %84 of them give wrong answer and %1 of them do not answer "Which of the symbols below is a digit?" question. From this point of view, it is seen that teacher candidates answer the question without taking different number systems into consideration and they mix number and digit concepts with each other. %30 of teacher candidates gives right answer, %67 of them gives wrong answer and %3 do not answer "What is number in decimal system? Please answer by writing one sentence." question. From this point of view, it is seen that teacher candidates cannot describe digit in decimal system. %40 of teacher candidates give right answer, %44 of teacher candidates give wrong answer and %16 of them do not give any answer to "What is digit in hexad number system? Please answer by writing one sentence". From this point of view, it is seen that teacher candidates cannot describe digit in heptad number system.

4.2. Teacher candidates' ability to determine and exemplify number concept in different number systems:

%48 of teacher candidates give right answer, %50 of them give wrong answer and %2 of them do not answer to "Which of them is not a number in binary number system?" from this point of view, it is seen that most of teacher candidates have problems to determine number concept in different number systems %67 of teacher candidates give right answer, %30 of them give wrong answer, %3 of them do not answer "Which of them means a number is decimal system?" question. From this point of view, although majority of teacher candidates can answer number concept in decimal system, teacher candidates still have problems taking the ones who give wrong answer and do not answer into consideration. Also when we do generalization by taking other questions into consideration, it is seen that teacher candidates have problems to determine number concept in different number systems.

%56 of teacher candidates gives right answer; %33 of them gives wrong answer and %11 of them do not give answer to "Write few numbers in sestet number systems." From this point of view, it is seen that majority of teacher candidates can write numbers in sister number system. However, it is seen that the ones who have not answered the question is many incontrovertibly when we take the ones who give wrong answer and who do not give any answer into consideration.

4.3. Teacher Candidates' ability to express number systems taking number analysis into consideration:

%50 of teacher candidates give right answer, %46 of them wrong answer and %4 do not give any answer to question " $102:1 \times 25 + 0 \times 5 + 2 \times 1$ " from this point of view, it is seen that half of teacher candidates can express number systems taking number analysis into consideration. It is seen that the ones who not answer the question is equal with the ones they give right answer when we take the ones who give wrong answer and who do not give any answer.

It is seen that students have problems about the things which are wanted to be evaluated as a part of diagnostic tests: these are to be able to express digit concept in different number systems, to be able to identify number concept in different number systems, to be able to identify number concept in different number systems, to be able to exemplify number concept in different number systems, to be able to express number system taking number analysis into consideration, to be able to determine number concept and identify number concept taking into

objectives and teacher candidates' different number systems into consideration as a result of obtained data, to be able to determine, exemplify number concept in different number systems and to be able to determine numbers system based to number analysis

Taking these results into consideration, it is seen that students are in parallel with Arslan, Yıldız and Yavuz (2011) in their problems about digit value and numbers, in parallel with Işık, Albayrak and İpek (2005) and Yenilmez and Demirhan (2013) in their problems that teacher candidates do not know number concept very well and they mix number and digit with each other, they are in parallel with Kaplan (2008) in that teacher candidates counting to use their habits about decimal number systems while doing analyzing in different number systems, they are in parallel with Özdeş (2013) in that teacher candidates have lack of information and serious misconception about base arithmetic, teacher candidates tend to consider the numbers part from decimal system as numbers in decimal system, teacher candidates have mistake in that digits that constitutes a numbers can be bigger than base numbers, they also have mistake in that the digits in number stage are different from each other and the digits use in number base can be equal with base numbers

These suggestions are given as a part of study.

A similar study is suggested to be done for students studying in primary maths and high school maths departments. Also comparison should be done by doing diagnostic test to first grade students and last grade students.

Diagnostic tests which questions basic math concepts should be formed and applied to teacher candidates and needs should be fulfilled and students should be aimed to graduate as they have a grasp of their areas.

It is thought that different base systems, base arithmetic topics are base of number learning field. However, these topics are given to students in high school. It is suggested that basic concepts about this topic should be taught to students in primary school. Many people use decimal system in daily life unconsciously. Students who are used to study in decimal system without knowing other number systems continue their habits in decimal system when they encounter with different number systems. From this point of view, base arithmetic topic should not be only limited in high school and existence of different number systems should be emphasized.

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Teachers' Reminiscences: Prospective Teachers' Memories of Their Teachers

Neslihan Avcı, Nihan Koran

1. Introduction

Children spend most of their daily lives with their teachers and peers. Since teachers influence the learning and in-class experiences of children, they are also important role models for them (Battistich, Solomon, Watson, & Schaps, 1997; Celep, 2002; Rowe, 2003; Vogt, 2002). Shumaker and Heckel (2007) emphasize that children generally have a greater tendency to embrace the information provided by their teachers than their parents. According to them, the reason for this is that children perceive teachers as figures of authority, and schools provide a more active and intense learning environments than home. Furthermore, unlike in other occupations, the relationship and interactions between teachers and children tend to be both long-term and multifaceted (Chan, Lau, & Yuen, 2011).

Various studies suggest that positive characteristics and qualifications among teachers have a positive impact on children's learning (Rosenfeld, Richman & Bowen, 2000; Wentzel, 1997), school attendance, academic success (Klem & Connell, 2004; Sanders, Wright & Horn, 1997), and commitment to school. Therefore, teachers have a significant ability to influence the lives of children will into their adulthood (Blum, 2005). However, it is evident that not all teachers possess positive or desirable characteristics and qualifications. Teachers with negative behaviors tend to reduce children's willing to participate in educational environments, as well as the level of benefit they drawn in educational environments depending on their individual characteristics (Ağaoğlu, 2002; Koran, 2012). Children can recall positive and negative memories of their teachers even in adulthood; this is indicative of the long-term effect teachers have on children (Hook, 2002; Pajares, 1992). Memories are defined as significant events or situations which individuals have experienced in the past and recall at present (Disque and Bitter, 2004; Rousmaniere, 2000).

Based on the fact that prospective teachers spend nearly 12 years as students before they begin teaching of their own, it can be suggested that, by the end of their time as students, prospective teachers will develop certain values, sentiments, and opinions depending on the influence of their families, the school system, their own personalities, and their teachers (Miller & Shifflet, 2016; Moore & Ash, 2002). It is also suggested that these memories acquired through such experiences, which tend to be subjective, also influence their lives as adults and their perception of teaching (Hook, 2002; Pajares, 1992). The aim of this study is to examine prospective preschool teachers' childhood memories of their teachers. In this context, answers were sought to the following questions:

1. To what age period do these memories belong? What is the teaching area of the teacher in question? What is the gender of the teacher in question?
2. What do these memories involve?
3. What effects do these memories presently have on the lives of prospective teachers?

2. Method

2.1. Research Model

This study was conducted according to a qualitative method (narrative analysis). Narrative analysis is a holistic approach that highlights contextual knowledge and human perception, and

recognizes the validity of constructed meanings. In this type of analysis, the main focus is the ways in which humans experience the world (Merriam, 2009).

2.2. Study Group

The study group consisted of 33 third-year prospective teachers attending an early childhood education department in one of the universities at the Turkish Republic of Northern Cyprus (TRNC) during the 2014-2015 academic year. The participants were selected based on the proper sampling method. Thirty two of the participants were female, while only one was male. All study participants were between the ages of 21 and 28, with the mean age being 21.9.

2.3. Data Collection

In accordance with the study objectives, data were collected in writing from the prospective teachers. The written documents used in the research were filled by the participants who directly recorded their memories in writing. Documents produced in line with the objectives of the study provide the researcher with usable and reliable data. Similar to data obtained by the method of interview, data obtained through documents also provide the researcher with an easily accessible source of data (Merriam, 2009). Furthermore, in narrative analysis, data is generally collected in writing from the participants (Creswell, 2009).

A meeting was held with the participants, who all participated voluntarily to the study, and the questionnaire form was introduced to them. This meeting, which lasted 35 minutes, provided information on the study purpose and the data collection form. The data collection form included closed-ended questions such as, “How old were you when you experienced the event that lead to the memory you will write below?”, “What was the area of education of the teacher you mention in your memory?”, and “What was the gender of the teacher you mention in your memory?” The participants were asked to write their memories of a teacher from their childhood, to provide a detailed account of the event, and to define the sentiments they had at the time of the event. Finally, the participants were asked to elaborate on the effects such events had on their lives.

2.4. Ethical Concerns

All participants were included into the study on a voluntary basis. The participants were selected from among third-year prospective teachers attending a preschool teaching department at the university where the second author is working. The informed consent form was given to all participants who voluntarily participated to the study, and all participants signed the forms.

2.5. Data Analysis

The data were analyzed using the content analysis method. All data were analyzed and categorized, and then peer reviewed to assess reliability (Creswell, 2009). The reliability of the study was determined as 88%. If the result calculated with the reliability formula is above 70%, then the reliability among the evaluators is assured (Miles and Huberman, 1994). From that stage on, the second researcher continued with the analysis.

The first phase of the analysis of the data, which consisted of memories cited by the prospective teachers, revealed content including physical and emotional abuse. For this reason, the emotional abuse (Barnett, Manly & Cicchetti, 1993; Hart & Brassard, 1991; Polat, 2007)

and physical abuse (Appel & Holden, 1998; Mullen, Martin, Anderson, Romans & Herbison 1996; Polat, 2007) in the literature were used as subcategories for the analysis of the data.

3. Findings

3.1. Demographic characteristics of the memories of the participants

An analysis of the memories according to the demographic characteristics of the participants revealed that 24 prospective teachers recorded memories of their primary school years (ages 6-13). According to the data, among the teachers in the memories, 22 were classroom teachers and two were preschool teachers. Nine prospective teachers, in turn, wrote memories of their secondary school years, where three of their teachers were mathematics teachers, two were history teachers, one was an English teacher, and one was a science teacher. Two teachers were defined in the capacity of director and vice director, and no branches were mentioned. The gender distribution of the teachers mentioned in the memories was 17 female teachers and 16 male teachers.

3.2. Teachers in Memories: Traces, Effects

Table 1. Positive and negative teacher behaviors in memories

The Content	The Behavior-Character of the Teacher that Affected the Prospective Teacher		Number
Positive		Gift giving	3
		Comprehensive and affectionate behavior	3
		Conferring responsibility	1
		Maintaining communication with the child	1
		Total	8
Negative	Emotional abuse	Ignoring the child as an individual	6
		Discrimination among the children	5
		Insulting children	4
		Make children witness violence	1
	Physical abuse	Punishment	3
		Slapping the face	2
		Collective beating	2
		Throwing a piece of chalk	1
		Forcing the child to do something	1
	Total		25

When we analyzed the positive behaviors of teachers in the memories of the prospective teachers, we determined that three teachers had gift/reward giving behaviors, three teachers had comprehensive and affectionate behaviors, one teacher had responsibility giving behavior, and one teacher had the behavior of maintaining communication with the child. As an example of gift/reward giving behavior, prospective teacher 20 wrote the following: “... *When I was at preschool education, it was New Year’s time and I was a very introverted child. In that morning there was a New Year’s party. The teacher called me to his/her room and gave me a gift. There was a green linen dress with shoulder straps in the package. I left the room smiling like a Cheshire cat and I often wore that dress.*”

Negative memories included emotional and physical abuse; 16 memories included emotional abuse, and nine memories included physical abuse. Emotional abuse led the child to suffer psychological damages. Emotional abuse is defined as the exposure of the child to negative attitudes and behaviors by an adult or another peer, and depriving the child of the

attention, love, and care he/she needs (Polat, 2007). In the literature, behaviors that are regarded as emotional abuse are categorized as rejection, being left alone, intimidation, steer toward crime, humiliation, exploitation, early attribution of the adult's role, discrimination, and making children witness violence (Barnett, Manly and Cicchetti, 1993; Hart and Brassard, 1991; Polat, 2007). With respect to emotional abuse, the memories of the prospective teachers included behaviors of rejection, discrimination, humiliation, and making children witness violence. Six of the memories of the prospective teachers reflect events where the teachers did not take the child into consideration as an individual. The following quote may be taken as an example: "... We were with the same teacher for five years. It was a privilege for us that she/he knew all of us well. Finally she/he applied for her/his reassignment and thus she/he had to go away. She/he always told us that she/he was going to say farewell to us; but she/he did not. When we returned to school, there was nothing more than an address on the board. I do not remember how many days I cried." (PT 3) In the memories of five prospective teachers, teachers were portrayed as discriminating between children. In the memories of four prospective teachers, the teachers were portrayed as humiliating the children. The following phrases are an example of the behavior of face slapping that was mentioned in the memories of two prospective teachers: "... The teacher turned back and asked, 'Why are you laughing?' I was shocked. I would have never imagined that she/he would react that way. She/he called me by her/his side. I was so terrified. She/he asked again, 'Why did you laugh at your friend?' I was so terrified that I could not say a word. She/he put her/his hand on my face and turned my head. She/he removed her/his ring. To avoid leaving any mark on my face, she/he was so conscientious, of course. She/he slapped me in the face, WHACK!" (PT 8)

The punishment behavior of the teacher is reflected in the memories of three prospective teachers. The memories of two prospective teachers reflected their teachers' behavior of collective beating of the children in the classroom. Regarding the effects of the events mentioned in their memories, 25 prospective teachers said that the effects were negative, while eight prospective teachers said that they were positive.

Table 2. Positive and negative effects of the event experienced

Type of the event experienced	Effects of the event experienced	Number
Positive	Feeling love for the teacher and keeping in contact	5
	Increased faith in one's success	3
	Total	8
	Loss of self-confidence and initiative	9
	Having unfavorable feelings for the teacher	6
Negative	Feeling worthless	5
	Having prejudices against teachers	3
	Alienation from the school	2
	Total	25

Eight prospective teachers expressed the positive effects of the memories as feeling love for the teacher, keeping in contact with the teacher, and increased faith in their own success. Five prospective teachers said the positive effects of the memories were feeling love for the teacher and keeping in contact with the teacher, which are illustrated in the following phrases: "...When I see those books, I still remember the sentiments that I used to have at that time and get emotional, and I smile remembering how I loved her/him. I kept in contact with my teacher for a long time." (PT 27) Three prospective teachers, in turn, noted that the effect of the memories was that they increased their faith in their own success.

When we analyzed the negative effects of the memories of the prospective teachers, we found that the negative effects included loss of self-confidence and initiative, having unfavorable feelings for the teacher, feeling worthless, having prejudices against teachers, and

alienation from the school. Nine prospective teachers noted that they lost their self-confidence and initiative due to the experienced event. This was reflected in phrases such as "... *Due to that attitude of my teacher maybe I have lost my self-confidence and initiative forever.*" (PT 13) Six prospective teachers expressed their unfavorable feelings for their teachers. Five prospective teacher expressed feeling worthless. Three prospective teachers noted that their memories of their teachers led them develop prejudices against teachers, and two prospective teachers said their memories led them to feel alienated from the school.

4. Discussion

Analysis of the memories of the prospective teachers revealed that the majority of them had memories of their elementary school years and their classroom teachers. Since children at elementary school age are younger and usually have a single teacher, they are more likely to consider their teachers as figures of authority. These children are hence more open to the effects of their teachers than children of secondary school age. In studies such as that of Erol, Özaydın, Koç (2010) and Yapıcı (2008), which aimed to analyze classroom memories that are not forgotten by the students, the participants of the studies generally refer to the events they experienced in the first and second phases of their primary school education. The study by Kredl and Kingsley (2014), which aimed to identify the reasons for prospective teachers to select teaching as a profession, also confirmed that prospective teachers usually recall the memories of their primary school years and their classroom teachers. It is suggested that in the memories of prospective teachers, the gender of teachers is not a distinctive factor.

The analysis of teacher's behaviors in the memories of prospective teachers suggests that there are more negative memories than positive ones and that negative memories are related to behaviors containing emotional and physical abuse. In the memories of prospective teachers, the rate of behaviors containing emotional abuse is higher than the rate of behaviors containing physical abuse. The results of the study conducted by Theoklitoua, Kabitsis, and Kabitsi (2012) on 1339 students in grades 4-6 of their primary education suggest that the rate of students exposed to emotional abuse is higher than the rate of students exposed to physical abuse in the classroom. Some studies (Brendgen, Wanner & Vitaro, 2006; King & Janson, 2009; Shumba, 2004; Walsh & Farrell, 2008;) suggest that in classrooms, teachers frequently exhibit behaviors of emotional abuse such as yelling at children, humiliation, threatening, and discrimination, and that they use such behaviors as a method of disciplining the children.

Our study supports the abovementioned studies, in that the memories recalled in our study also consist of behaviors including emotional abuse. Teacher behaviors such as punishment, face slapping, collective beating, throwing a piece of chalk, and forcing children to do something, which are identified in the memories of prospective teachers, are considered as examples of physical abuse of children. Such behaviors make children feel fear and anxiety and lead them to experience negative sentiments such as anger and hatred (Milne, 2011). Physical abuse, which brings increased violence to obtain a result in case of repeated negative behavior, is considered as a negative factor for the safety and the personality development of the child (Firmin & Castle, 2008; Polat, 2007; Şahin & Beyazova, 2007). An analysis of 2827 abuse notification reports compiled by the York Consultancy Company (2011), which were based on the complaints of children against their teachers in 34 schools and 20 local governments in England, suggests that 56% of the reports implied physical abuse of the children by teachers. The report also suggests that teachers intensively exhibit behavior of beating and punishing children.

The study conducted by Erol, Özaydın, and Koç (2010), which aimed to analyze the unforgotten classroom memories of students, notes that the participants intensely recalled the physical punishment behavior of teachers. Our study is in line with the abovementioned studies

in that it includes memories of physical abuse that elicit negative effects, even in adulthood. In the memories of the prospective teachers, fewer positive than negative events were recorded. Positive events include teachers' behaviors such as giving gifts, being comprehensive and affectionate, conferring responsibility, and maintaining communication with the child. This is in line with the conclusions of the study by Hook (2002) on prospective teachers' early childhood memories of their teachers. Among the 59 prospective teachers who participated in the study, 15 recalled positive memories of their teachers. These positive memories included teachers' behaviors such as positive guidance of children, utilization of positive disciplinary approaches, and empathy. The study suggests that there might be two reasons for the lower rate of recalling of positive memories in adulthood.

The data may suggest either that teachers exhibit fewer positive behaviors than negative ones in the classroom (Brouwers & Tomic, 2000; Güleç & Alkış, 2003; Allen, 2010) or that due to their impact on the child, negative behaviors are more easily recalled than positive behaviors (Erol et al., 2010; Hook, 2002; Uitto, 2012). The prospective teachers noted that the effects of the negative memories were loss of self-confidence and initiative, having unfavorable feelings for the teacher, feeling worthless, having prejudices against teachers, and feeling alienated from the school. Apaydın and Seçkin (2013) conducted a study among 80 primary school students and 28 teachers to identify civilized and uncivilized behaviors in the classroom. The study reveals that both teachers and students exhibited uncivilized behaviors involving violence in classroom environments. In the face of teachers' uncivilized behaviors, students either became introverted, feeling negative sentiments such as sadness, vulnerability, fear or shame; or become extraverted with a feeling of rage. The studies suggest that the most common reaction of students in the face of such unfavorable events is to remain passive and silent. Negative childhood of the school and the teacher not only have a long-term effect on the educational life of the child, but also negatively affect realization of the child's potential.

5. References

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The Characteristics of Toxic Leaders and Teachers' Opinions Related to Reflections on the School Culture of the Toxic Leadership

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1. Introduction

Toxic is used as a term to describe the leadership of CEO, clergy leadership in terms of methods to deal with allegations of sexual abuse, military leadership, the leadership in sport and the political leadership (Padilla, Hogan & Kaiser, 2007). The toxic leadership, on the other hand, is defined as malicious behavior by being abuser, defamatory, destructive, psychological corrupt. Control, concerns about the strength and status decline are sufficient for the start of dysfunctional toxic behavior. The perceived fear related to the Status concerns causes toxic leadership (Walton, 2007). Toxicity in the workplace that make it a toxic organization, seems to be coming from toxins in the organization. This observation cause the use of some terms such as toxic leader, toxic administrator and toxic culture which nowadays arise in often business, leadership, administration and psychology literature (Reed, 2004).

To define the mechanisms that create the harmful effects of toxic leader is difficult. Therefore, toxic leaders create damage essentially by two mechanisms; destructive behaviors and dysfunctional personal characteristics. Toxic leaders apply to the incredible repertoire of destructive behavior. Some of the dysfunctional personal characteristics of toxic leaders include (Lipman-Blumen, 2011):

1. Great ego that blinds leaders within the lack of character and limits their capacity to renew themselves.
2. Their sustainable power, fame and fortune of insatiable greed that makes them on their followers.
3. Arrogance that causes the problem in understanding the nature and not being sufficient and effective leadership, limited cognitive abilities and judgments, which prevents them to accept their mistakes and instead led to accuse others.
4. Insensitivity to others' feelings and needs.
5. Discouragement that leads to evade difficult choices.
6. Immorality that causes impossible for them to distinguish right from wrong.

Toxic personality traits are characteristic ways of behaving and being harmful to other people. These leaders quite is rooted and relatively maintain patterns of thinking, feeling and behavior that significantly damage to interpersonal relationships, workplace, and society. It is clear that such leaders prefer aggression and real war rather than diplomacy and negotiation (Firestone & Catlett, 2009). Some toxic leaders' destructive behaviors are as follows (Lipman-Blumen, 2011):

1. Toxic leaders identify scapegoats and scold them.
2. Toxic leaders create toxicity by violating the basic standards of human rights of their own supporters.
3. Toxic leaders induce incompetence, cronyism, and corruption.
4. Toxic leaders fail in raising other leaders.
5. Toxic leaders deliberately mislead their followers through diagnosis of problems with deliberately false and deliberately hiding the truth.

There is an important link between the leaders and the school culture. Because successful and effective leaders directly affect the employees by using the school culture and give meaning to their life. While the leaders help to shape school culture, school culture helps to shape the individuals as well (Akıncı-Vural, 2012). The spread of toxic effects is easier especially where face to face communication is established and interpersonal relations are dense between people.

Being distanced from both normal and mentally healthy can be observed of employees as a result of the spread of toxic effects. In this regard, it can be said that the employees who work in the institutions that have toxic leaders showed a shift to unethical behavior and communication styles and this is difficult situation to be controlled (Temel-Eğinli & Bitirim, 2008). A toxic work environment affects employees' psychological (stress, anxiety), social (negative impact on the group interaction), and the physical well-being. The source of toxicity may be several such as the lack of privacy, face to face communication barriers, lack of freedom of employees and the physical size of the building (Too & Harvey, 2012).

School culture is associated with the quality of education and student success in school. School administrator in a leading position is the most important person in influencing the school culture. School administrators who bring toxic leadership into the forefront reflect the school culture inevitably. In this regard, to reveal the views of teachers on the toxic leadership, which is one of the most important factors of students' success, is very important. The aim of this study is to expose the characteristics of toxic leaders and teachers' opinions related to reflections on the school culture of the toxic leadership.

2. Method

This research has been designed as a phenomenological method which is one of the qualitative methods. According to Yıldırım & Şimşek (2011), the purpose of phenomenology is to uncover their life for a case of an individual, their perceptions and the meanings that installs them. In order to determine the study group of the research, convenience sampling method, which is one of the purposeful sampling methods, was used. The study group of this research has been formed among 12 teachers employed in public high schools located in Çorlu and Ergene, Tekirdağ in Turkey. The data on this research were collected in 2015-2016 academic year. The data were acquired with face to face interview by using semi-structured interview form. The data obtained in the study were analyzed by using content analysis technique. In order to indicate the views expressed by the teachers interviewed and statements of direct quotations belong to which teacher, P1, P2, ... etc. are added as the form of codes.

3. Findings

According to research answers to the questions identified in relation to the purpose of the research, themes and codes have emerged. The findings supported by direct quotations belonging to participants are presented below.

Demographic Information of Participants

The demographic information of the participants was presented in the Table 1.

Table 1. The Demographic Information of the Participants

Participants	Gender	Branch	Years of seniority
P ₁	Female	German	3
P ₂	Female	Maths	6
P ₃	Female	Literature	15
P ₄	Female	English	16
P ₅	Female	English	16
P ₆	Female	Chemistry	17
P ₇	Female	Literature	18

Teachers' Reminiscences: Prospective Teachers' Memories of Their Teachers

P ₈	Female	Literature	22
P ₉	Male	Maths	22
P ₁₀	Female	English	24
P ₁₁	Female	Literature	24
P ₁₂	Female	Physics	25

According to the data presented in the Table 1; 12 teachers of English, German, Physics, Maths, Chemistry, and Literature participated in the research. According to the professional seniorities of the participants, two of them have 1-10 years, five of them have 11-20 years and five of them have 21-30 years.

Findings on the Characteristics of Toxic Leaders: "A black cloud"

As the first the teachers who participated in the survey were asked their opinions about the characteristics of toxic leaders. Teachers' opinions on the topic "Characteristics of Toxic Leaders" theme are grouped under 12 codes. These codes are showed in Table 2.

Table 2. Views of Teachers on Characteristics of Toxic Leaders

Them	Codes	(f)	Participants
Characteristics of Toxic Leaders	Ignorant / Inadequate	12	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
	Unfair/ discriminatory	12	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
	Censorious	5	P2, P5, P6, P10, P11
	Threatening/oppressive	5	P1, P2, P5, P6, P7
	Self-important	4	P2, P3, P5, P6
	Discouraging	5	P2, P5, P6, P7, P8
	Not being solution oriented	3	P2, P5, P6,
	Not being open to innovations	5	P4, P5, P6, P10, P11
	Prejudiced	5	P4, P5, P6, P11, P12
	Not having a team spirit	7	P1, P3, P4, P5, P6, P8, P9
	Materialistic	4	P2, P3, P9, P10
	Being unappreciative to teachers /Disrespectful	9	P1, P2, P4, P5, P8, P9, P10, P11, P12

All of the participants who were asked about the characteristics of toxic leaders think that they are unfair/discriminatory and ignorant/inadequate.

For example, the school principal who is not equal to teachers while preparing syllabuses is typical quality of toxic leadership (P1).

Such principals are helpful to the teachers who are on the wavelength. Beside this, they're sexist and they oppress new teachers (P8).

Some of the participants received opinions stated that toxic leaders have high ego, they are censorious, discouraging, not solution oriented, closed to new ideas, they do not have a team spirit, they are also threatening, oppressive and prejudiced. Such leaders attribute the positive things in school to themselves while they blame for others for adverse situations.

Such principals have high ego, 'I know' they say and never consult anyone while deciding to do something. Furthermore, whether they listen to the others or not they decide what to do. They put pressure on teachers and create a negative operating environment (P6).

These kinds of principals have a self-centered approach. By showing off in the forefront in every good event, they tend to attribute success to them, being biased toward other teachers. Instead of individual interviews, consulting teachers in front of other people are typical features of such principals (P5).

Some of the teachers who participated in the survey stated that toxic leaders keep material factors in forefront; they compare the financial situation of teachers with each other and them, and they could not bear if teachers have a better financial situation than them.

The places where these kinds of principals work become places where people compare their financial powers. In addition, such directors try to reduce the teacher's income in accordance with the authority at the time they realize if teachers passed him financially (P2).

Some of the teachers who participated in the study pointed out that toxic leaders do not value teachers and they behave disrespectfully. For toxic leaders to official jobs on paper, comes before the human relations in schools.

While working in another school, I was admitted to hospital with a cancer diagnosis. In this process, the school principal did not call me and say 'get well soon'. So, we can say that health is not important for such principals, entering classes regularly is more important than everything (P8).

Such principals do not give value to teachers as they do to students (P2).

The Findings Related to School Culture Reflections of Toxic Leadership: "They and We"

The teachers surveyed were asked about the toxic leadership reflected in the school culture. Teacher opinions are grouped as 10 codes under the theme "Reflections on Leadership School Toxic Culture". These codes are showed in Table 3.

Table 3. Teachers' Opinions related to the Reflections of Toxic Leadership to the School Culture

Them	Codes	(f)	Participants
The Reflections of Toxic Leadership to the School Culture	Miscommunication	7	P1, P2, P4, P7, P8, P10, P12
	Insolvability	6	P1, P2, P4, P6, P11, P12
	Lack of motivation	8	P2, P3, P6, P7, P8, P9, P10, P12
	Groupings	12	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
	Gossip/Rumor	12	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
	Desire to go away	3	P2, P4, P8,
	Low performance	6	P3, P4, P5, P6, P10, P12
	Conflict Environment/ Competition	7	P1, P2, P3, P5, P8, P9, P11
	Low student achievement	4	P7, P8, P10, P12
	Environment of insecurity	8	P3, P4, P5, P6, P7, P8, P9, P10

Teachers who participated in the study think that in a school culture in which leadership is toxic there may be groupings among teachers, conflict environment and they believe gossip and rumor may develop as well.

Espionage or gossip can develop between people. Communication between employees is disrupted. In this case, the teachers who are reactive against the principal come together and there may be groupings as supporters and the others who are not (P9).

Goodwill eliminates and conflicts arise (P3).

Some of the teachers who participated in the study think that in schools which were led by toxic culture, teachers would have lack of motivation and show poor performance, they believe that this case will reflect negatively on student achievement as well.

The teacher's enthusiasm would be broken and they would be unwilling to come to school. There can be lack of motivation. They cannot produce different ideas. There would be lack of communication with the school principal. Sharing things would be reduced (P10).

Such principals impede efforts of teachers working hard to educate students. This also reduces student achievement (P12).

Some of the teachers who participated in the study think that there will be miscommunication and insolvability in schools which have toxic leadership. The teachers who ask for help to solve the problems from the principals are underestimated by the toxic leaders; in this case, the teachers who realize the situation prefer not to communicate with the school principal on many issues again. As a result of the toxic environment, teachers prefer to be away or work in another school.

I have a typical example of the toxic leader in the school where I work currently. I always have an idea of escape from this environment or start to work in another school. I do not get any pleasure with my job. If I need something, I ask my friend. I do not ask him for help. When I asked for something "Are you asking me such simple questions" he says (P2).

Teachers cannot tell their ideas because they believe that what they say wouldn't be taken into account whether it would work or not (P4).

Some of the teachers who participated in the study think that there may be insecurity environment due to a toxic leader attitude that occurs in schools, teachers are forced to work in an environment where they cannot trust to each other and the principal. All this reveals a state of dissatisfaction with the teachers.

As teachers cannot solve the problems with such principals, there will be pessimistic, insecure and negative environment at schools. People find himself complain constantly. The problem which is important for you can be taken for granted by the principal (P3).

4. Discussion

According to the survey, toxic leaders have ignorance and deficiencies in educational administration. Such leaders are resorting to toxic behavior in the school environment and develop defense mechanisms in order to fill in the gaps in this regard. One of the most typical characteristics of toxic leaders is that they have unfair and discriminatory behavior. Unfair practices in this style of leadership are eroding teachers' sense of trust in leaders. Toxic leaders have threatening, oppressive, censorious, demotivating attitudes. In Wilson-Starks (2003) study, the leadership of the toxic leader is expressed as a person who keeps people under control. According to Tavanti (2011), toxic leaders are characterized by fighting and inspection rather than bring happiness and inspiration. Toxic leaders want to be successful in overthrowing the others.

Toxic leaders are biased about teachers working in their schools and they are insensitive to new ideas coming from other people regarding the school. Leaders who are non-solution-oriented when they encounter a problem, making even small problems bigger ones, leaving teachers alone with problems and seeing some problems insignificant which are actually major ones for others do not believe in team spirit in general and always take decisions themselves. Toxic leaders displaying a negative attitude towards teachers that includes not to give value teachers. They do not take teachers' ideas about the school or students. According to Appelbaum & Roy-Girard (2007), the subset of toxic leaders is toxic administrators. Toxic administrators, as well as being disrespectful to staff, by disrupting morale and preventing the cooperation and information sharing, they create a negative work environment. Toxic leaders focus on close targets and budget-oriented goals. They often attribute success to themselves and blame others for deficiencies.

Toxic leaders cannot accept teachers to be financially better than them and they have a great financial greed. This view is consistent with the views of Lipman-Blumen. Money and avarice that make them put the things at the head of the list that money can buy (Lipman-Blumen, 2011) are typical features of toxic leaders. Toxic leadership is a kind of leadership which harm the followers directly and the institutions indirectly in persistent and serious way as because they have negative behaviors and harmful characteristics. Therefore, interpersonal communication of the leader which is both positive and negative is effective in the formulation of organizational culture at schools (Mehta & Maheshwari, 2014).

In the opinion of the participants, toxic leaders, who give more importance to bureaucratic workings of the school management more than human relations at schools, have an adverse effect on teachers' behavior. In a school where there is administration of a toxic leader, teachers pull themselves back, they do not want to go to school, they have low motivation and all these facts affect the performance of teachers. These cowed behaviors of teachers have adverse effects on student achievements. Dobbs's (2014) research reach to the conclusion that toxic leadership is an important predictor of refrains. In addition, it is stated in Frost (2004) survey that the employees faced with an abusive principal close their intellectual and emotional creativity or direct it to off the job activities.

According to the survey, the pro-anti-groupings between teachers leads to a conflict and negative competition in working environment. In the school environment where gossip and rumors head off in the way of formal communication, sense of confidence both against the school principal and each other is eliminated and so insecurity is comprised at school. According to Temel-Eğinli & Bitirim (2008), the institutions where gossip / rumors take a general form of communication, the increase in the number of negative behaviors and the increase in natural accepted of negative behaviors by all employees mean that toxic spread to the influence of communication. In this case, it is suggested that this begins to poison the climate of the organization. In the opinion of the participants, the teachers who cannot get the

necessary support from the school principal in solving problems stay alone with problems and these issues can lead to the emergence of new challenges by entering into a deadlock impasse. According to Inyang (2013), the morale of an employee or a follower whose psychological welfare affected by such a leader deteriorated and this cause them to prefer to stay off the environment. Therefore, the organization is becoming less productive. If a leader is known as insincere, does not respect the rights of others and keep benefiting in the forefront, all these signs will be noticed by other people in the organization. When these signs are institutionalized the culture of organizations will increasingly be dysfunctional. Thus, the values of leaders are taught to the others and people's behaviors are shaped according to this in organizations (Van-Fleet & Griffin, 2006). Toxic leaders can be competent and effective in decisions which they cannot see the far future often and this leads to an unhealthy climate that extends far beyond (Reed, 2004). Such leaders are demoralizing, dehumanizing and fearful; they create an atmosphere that paralyzed the organization (Tavanti, 2011).

Toxicity is a fact of life in all organizations; but all the organizations are not toxic. Toxic is often described as ineffective as well as destructive for employees of organizations, (Bacal, 2000). Ineffective leadership affects both organization and individual performance negatively. Due to the fact that there is no way of taking measurements of ineffective leadership, it is very hard identify the impact of such leadership and it leads to have dull and ineffective leadership. Therefore, the efforts to identify ineffective leadership in order to minimize the negative effects are very important for all organizations (Aboyassin & Abood, 2013).

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Pre-service Music Teachers' Opinions about the Teaching Practicum Course

Deniz Beste Çevik Kiliç

1. Introduction

Many factors affect the education of qualified professionals. With no doubt, teachers are among the most important factors. Teachers play a key role in education. The most important role of the teachers is to guide students by providing information. By doing so, teachers ensure that students make desirable behavioral changes (Erdem, 2005).

Pre-service education is of great importance in training qualified teachers. Professional teacher development courses teach the theory of the teaching profession. However, this theoretical information should be combined with practice (Küçükahmet, 2002). The student teaching course helps pre-service teachers to acquire professional experience and skills through professional activities. This course has undeniable effects on the teaching skills of pre-service teachers. In the student teaching course, pre-service teachers make efforts to prepare for their future teaching role. Student teaching is the first opportunity for pre-service teachers to put their knowledge and skills into practice in a real learning environment (Struyk and McCoy, 1993).

Besides being one of the main factors in teaching education, the student teaching course also enables pre-service teachers to put theory into practice under the supervision of a teacher and a university instructor (Zeichner, 2002). Carrying out this course as an applied course in the schools affiliated with the Ministry of National Education supports pre-service teachers' acquisition of permanent learning and professional behaviors because pre-service teachers have rich learning experiences by actively participating in these activities. Thus, they find opportunities to recognize and interpret information about their profession and gain experience (Savery and Duffy, 1995).

Cabaroğlu (1994, p. 865) described the benefits of the student teaching course for pre-service teachers:

- They learn self-assessment.
- They find opportunities to put the methods and techniques they learn in the faculty into practice.
- They develop their own teaching style.
- They gain experience by facing the students' problems and the factors that affect their success in a real class environment.
- They see the negative and positive aspects of the methods and techniques they carry out and learn their deficiencies thanks to the constructive criticisms of their advisors and guidance counselors.

Student teaching is obviously one of the most important factors in teaching education programs (Ünver, 2003). The number of the studies that include in-school student teaching in teaching education programs has increased in recent years. These studies are of great importance in revealing the opinions of pre-service teachers about the student teaching course. The opinions of pre-service teachers are also important because they indicate the effectiveness

of this course. This study examined pre-service music teachers' opinions about the student teaching course.

2. Method

This study aims to determine pre-service music teachers' opinions about the student teaching course. The descriptive research method was used in the study. This method focuses on a specific group and their opinions about a subject and systematically analyzes the meanings that arise from their experiences (Lincoln and Guba, 1985).

2. 1. Study Group

The study group consisted of six pre-service teachers selected by purposive sampling among the senior students in Balıkesir University's Necatibey Faculty of Education. They were studying in the Fine Arts Education Program's Department of Music Education in the 2015-2016 academic year. In qualitative studies, sample size is small in order to investigate the sample in depth, which makes purposive sampling preferable to random sampling (Miles and Huberman, 1994). Convenience sampling, a purposive sampling method, is speedy and convenient for researchers since the researcher selects small and easily accessible sample (Yıldırım and Şimşek, 2008). Three male and three female pre-service teachers were included in this study.

2. 2. Data Collection Tools

Qualitative studies involve in-depth research by definition. The data were collected using a semi-structured interview form with two open-ended questions. The semi-structured interview technique allows for making changes due to previously unconsidered circumstances that occur during the interviews (Özgüven, 2004).

The researcher reviewed the relevant literature while preparing the semi-structured interview form. The interview form was submitted to the opinions of three specialists to ensure its internal validity. The specialists were asked to evaluate if the questions adequately addressed their subject and if they were clear and understandable. The questions were revised according to their opinions. Then, the interview form was finalized with a pilot study. The form has two questions.

The interviews were carried out in a comfortable environment for approximately 20 minutes with each participant. The interviews were recorded. The participants' names were not indicated in the study to respect the principle of confidentiality. The male students are referred to as M1, M2 and M3, and the female students are referred to as F1, F2 and F3. They were asked the following questions:

- What are pre-service music teachers' opinions about the benefits of the student teaching course?
- What difficulties do pre-service music teachers have in the student teaching course?

2. 3. Data Analysis

The study's qualitative data were subjected to descriptive analysis to organize and present them to readers as they were interpreted (Yıldırım and Şimşek, 2008). The results were obtained after the data were clearly summarized and interpreted using descriptive analysis. Direct quotations were frequently used in the descriptive analysis in order to illustrate the interviewees' opinions and thoughts conspicuously (Wolcott, 1990). Direct quotations also ensure validity.

3. Findings

This section presents findings about the student teaching course obtained from interviews with the pre-service music teachers.

Question one: What are pre-service music teachers' opinions about the benefits of the student teaching course?

The pre-service music teachers expressed various opinions about the benefits of student teaching course. However, the majority of them considered the course as important in teaching education and appreciated having experienced a real school environment. One pre-service teacher said: "I took a first step into the teaching profession with this course. This course made me love the teaching profession even more and feel even closer to school. Thus, I had a foretaste of the teaching profession" (F2). All six of the pre-service teachers emphasized that they recognized deficiencies and gained experience thanks to this course. Another pre-service said: "The student teaching course helped me to gain experience in putting theoretical information into practice. This course is one of the most important steps in preparing us for the teaching profession by providing an environment where we can put theoretical information into practice" (M1).

Three pre-service teachers stated that the student teaching course was useful because it enabled interaction and communication with students, and that it is important to plan the course effectively. The majority of the pre-service teachers said that they felt like teachers in the classroom, that they learned to prepare lessons in advance, and that they had the opportunity to get closely acquainted with the students. Another pre-service teacher said: "I got very excited when I interacted with the students face-to-face in the classroom. All of the student teaching activities gave me experience for my future professional life" (F3). Another pre-service teacher said: "First, I had an idea how to teach a lesson. I had the opportunity to learn how to motivate students, to manage and control the class. I was also able to observe the tone of voice that the teacher used while conveying a subject to the students, and which method he used for which subject. In addition, I learned how to establish a dialogue with the students and lower myself to their level" (M2).

Question two: What difficulties do pre-service music teachers have in the student teaching course?

The majority of the pre-service teachers stated that they had difficulty putting the basic information they learned in the student teaching course into practice. They said they could not find adequate opportunities to practice and had problems with classroom management and the effective use of time. One pre-service teacher said: "This course allowed me to see the problems that I may encounter in my professional life. One issue I had difficulty with during the course was classroom management. It wasn't easy for me to draw the students' attention to the lesson when they were distracted because some students distracted the others, but my supervising

teacher helped me with this issue. I did not know how to treat the students who had problematic behavior. Our supervising teacher also gave me useful feedback about mistakes in the subjects of my lectures” (M2). Another pre-service teacher said: “I had difficulty using time effectively during lessons. I couldn't manage the time. I panicked when I felt that I was unable to complete the subject of the lesson” (F1). Another pre-service teacher said: “I don't think I had adequate opportunities to practice. I think that the course hours should be extended. I think that the student teaching course should be included in the curriculum starting in the first year so that we can do more practice” (M3).

4. Discussion and Conclusion

The student teaching course provides an appropriate environment for students to put the information they have learned into practice in order to improve their skills. Pre-service teachers should acquire more experience by spending more time student teaching (Hawley, 1993). Because their experience as pre-service teachers will reflect on their future professional life and contribute to their professional development. Determining the opinions of pre-service teachers about the student teaching course will yield information that is important for the course to achieve its purposes.

According to this study's findings, most pre-service teachers had generally positive opinions about this course. This finding is consistent with the findings of the studies reviewed in the literature, which have found that pre-service teachers generally find the student teaching course to be useful (Güven, 2004; Davran, 2006).

The pre-service teachers who participated in this study emphasized the benefit of this course in their future professional lives. They stated that they could not find adequate opportunities for practice, and that this course should be offered throughout their undergraduate educations. Another study stressed that the duration of student teaching should be increased, and that it should be considered more important (Dursun and Kuzu, 2008). This finding is in accord with those of this study.

Some pre-service teachers said that they could not effectively use class time. This finding suggests that pre-service teachers feel inadequate in time management, one of the most strategic factors in classroom management according to Aydın (2000). Classroom management is one of the basic skills that pre-service teachers should have. Another study emphasized the importance of the effective use of time on the effectiveness and efficiency of lessons (Erkılıç, 2007). This finding also supports this study.

This study also found that this course made the pre-service teachers feel like teachers, and that they valued the opportunity to get closely acquainted with the students. Brousseau (1988) indicated that the fact that pre-service teachers are perceived as real teachers by the students is an indication of their increased interest in the student teaching course. This finding is also in accord with those of this study.

5. Recommendations

The findings of this study suggest that:

- Both qualitative and quantitative studies of this subject should be conducted with a larger sample,
- The opinions of pre-service music teachers and pre-service teachers in other fields should be compared in future research,
- More practice for the student teaching course can make it more effective and useful,
- The duration of the student teaching course should be extended,
- Student teaching should be included in the curriculum for the entire undergraduate education, and
- The issues that make it difficult for pre-service teachers to put their theoretical knowledge into practice be investigated.

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A Case Study on the Importance of Secondary School English Lesson Committee Meetings

Sinem Dal, Pinar Yengin Sarpkaya

1.Introduction

As the input and output is human at schools, teachers are the most important architectures. Teachers should be open to sharing, learning continuously, working in collaboration, communicating effectively; namely they should be qualitative enough for both student and school success. Not only teachers but administrators ought to be qualitative enough to achieve organizational goals. Administration has been defined as the process of working with others to succeed their goals and the process of function. In order to survive all the schools must be concerned with achieving their goals, being adaptive. These are the essential responsibilities that must be assumed by administrators for their schools to function well (Sergiovanni, Kelleher, McCarthy & Wirt, 2004). One of the important goals of administrators is to help people involve the decision making process (Gorton & Alston, 2009). Katz (1955) has identified three basic skills for successful administration: Technical, Human and Conceptual skills. Technical skills necessitate proficiency in the methods, procedures, curriculum, learning and teaching techniques and assessment. Conceptual skills means school administrators' ability to view the school, the district and educational program. Human skills refers to administrators' ability to work with others effectively. This skill requires remarkable self-understanding, empathy, appreciation for others (Cited by Sergiovanni, Kelleher, McCarthy & Wirt, 2004). Administrators' human skills can determine how teachers are motivated. Therefore administrator participation in the meetings that should be held in schools is important to motivate teachers while taking decisions.

Throughtout the academic year, different committees have to come together and hold meetings. One of the examples is the teachers' committee meetings which are the most important group dynamic at schools and consist of the teachers who teach the same branches come together and plan joint studies to be carried out throughout the year (Ada, Akan, Albez & Sezer, 2014). With these meetings the same branch teachers are supposed to work as a team in cooperation with each other. Therefore they can learn continuously and come more efficient for more sufficient schools.

Working as a team can increase job satisfaction more than working individually. It can increase school success accordingly. Common energy should be emerged in order to reach the success (Senge et al., 2012). In schools, organizing in a democratic way can help teachers and the other workers work more effectively and efficiently. The cooperation, involvement and fellow-feeling usually facilitates the staff working. In addition the interpersonal relations and human interactions promote the effectiveness of the staff (Mohanty, 2005, 341). Teacher effectiveness is the key to increase effectiveness of schools. How much teachers share and learn from each other, they improve themselves professionally as well. Successful teachers are the ones who feel responsible for students' and school's success and who are qualitative enough in their fields (Sünbül, 1996). To Belbin (1993) a well educated group never uses the term 'big boss'. In order to be successful teachers ought to consult and interact with each other while taking decisions (Cited by Stott & Walker, 1999). Teachers can be more qualitative by sharing and working in cooperation with the other teachers (Feldman, 1996). Moreover to be able to be a good team, people should praise each other's abilities and speciality for higher motivation (Maymon, 1998). At schools as being social organizations, teachers are supposed to display their performances by working together and motivating each other. At schools, teachers'

committee meetings are considered to be as good teamworks for better results. According to the Regulation on Primary Education Institutions (MEB, 2009);

- The same branch teachers often come together in order to instruct the lessons in accordance with curriculum,
- to compromise on homework topics, methods and techniques, they use and share ideas.
- They are responsible for implementing the decisions which they take jointly after the headteachers' approval.

As it is stated in the regulation teachers are expected to show effective performances by working in collaboration with a team spirit. To increase success and to help students learn how to work as a team teacher ought to work as a team first (Çetin, 1998). With this cooperation they can be models for the students too. In literature there are various studies on the importance of working as a team at schools. For example Mulford, Sillins and Zarins (2002) revealed with their research that working in cooperation with colleagues were not that common and this prevents organizations from being successful. Şahin, Maden and Gedik (2011) found out in their research about the effectiveness of committee meetings that the meetings were held as a matter of form without purpose. Similarly Küçük, Ayvacı and Altıntaş (2004) found out that decisions taken in the committee meetings generally stayed in the paper and also their research revealed that teachers did not believe the necessity of the meetings. Committee meetings can increase cooperative working spirit and help teachers become teams in their schools. In order to be effective teams, open communication, listening to the team members attentively and listening to different suggestions are essential. With effective teams it can be easier to cope with problems on motivation, communication and to reach success (Ünal, 1998). Thus with this study the importance of the committee meetings was aimed to reveal. With this aim the following questions below were tried to be answered:

1. Are the meeting decisions implemented in both academically successful and unsuccessful schools?
2. Why are the committee meetings important for teachers and school success?
3. How do Committee meetings affect teachers' professional improvements?
4. Do the meetings have inadequacies?

2. Method

As this research aimed to examine a current fact within its own conditions and to get deeper findings a qualitative research method was preferred and designed as a multiple case study. This research is considered as a case study because it is not evident from the context of border phenomenon (Yin, 1984, 23; Robson, 2015, 167). In case study researches discussed phenomenon is a phenomenon that can occur in a limited context. The conditions of the schools selected for the study and English departments and considered were considered as context and the work of these groups / meetings are discussed as cases. Miles and Huberman (1994, 25) define a case "as a phenomenon of some sort occurring in a "bounded context" and they add, "studies may be just one case or of several."

it would be wrong to think of holding these meetings independently from school administrators, teacher preferences, their professional maturities, students' expectations and school environment. Therefore, each school and that the school English committee meetings have been recognized as a separate case. As case study is a pattern that can determine the reason and effect

(Cohen, Manion & Morison, 2005, 181), it was possible to see how teachers define these meetings and effects on their works in schools.

The study group consisted of ten English language teachers from four schools in total. Two socioeconomically different (one with high and the other with low socioeconomic status but successful schools and two socioeconomically different but unsuccessful schools) were chosen as extreme or deviant case sampling. With this kind of sampling it was aimed to get a rich data to make readers understand the aim of the research in a better way (Şimşek & Yıldırım, 2005). Additionally it was aimed to observe the different perspectives of teachers working socioeconomically different schools. In this research school successes were determined according to the results of an exam carried out by Ministry of National Education.

3. Data Collection and Analysis

As researchers desired to capture real world events from participants' perspectives (Yin, 2011, 12) they made qualitative interviews. What is taken as real world event is holding English committee meetings and their functions

According to Stake (2010, 102) the most essential instrument for qualitative research is the researcher's experiencing an event or listening to a person by observing the environment as well or audiotaping the data. This personal research ought to be planned and structured open and adaptive. The research question is the compass point more than a standardized procedure. Therefore a face-to-face semi-structured interview was preferred as a data collection. A seven-question interview form was prepared by the researchers. During the preparation process, two experts from Adnan Menderes University, Faculty of Education were asked for their views about the form. A pilot interview was made with two teachers. Then the last shape of form was given. All the interviews were audiotaped and recordings were given without any changes in the research. The interviews lasted nearly half an hour. The recorded interviews were edited on computer. The data was coded by the researcher first. During the coding process two researchers often come together to exchange ideas. In addition, views of a lecturer in Adnan Menderes University Department of Educational sciences for codings were taken. Coding was found coherent. While coding, the conceptual framework in literature was taken as a basis and this framework formed the approach of teamwork.

While analysing interviews this process was followed: Analysing was begun when interviews continued. All interview notes and texts were read severally and the similarities and differences between different cases were tried to capture. With open coding meaningful statements about the aim of the research were coded (Punch, 2014, 200). Then themes were formed and previously made codings were categorized according to these themes. The themes are as follows:

Implementation of decisions

Importance of meetings for teachers

Effects of meetings on teachers' professional improvements

Inadequacies of meetings

During the data analysis process researchers realized that teachers in successful and unsuccessful schools evaluated meetings in a different way. Therefore two cases were taken into consideration rather than four different cases while analysing: English class committee meetings in successful schools and English class committee meetings in unsuccessful schools.

4. Findings

Findings of the research are given below with figures and direct quotes of the participants.

4.1. Implementation of Decisions Taken in the Meetings

In order to find answers to the first subproblem the question below was asked:

'Can you implement the decisions taken in the committee meetings?'

Themes and categories were formed according to the given answers in figure 1:

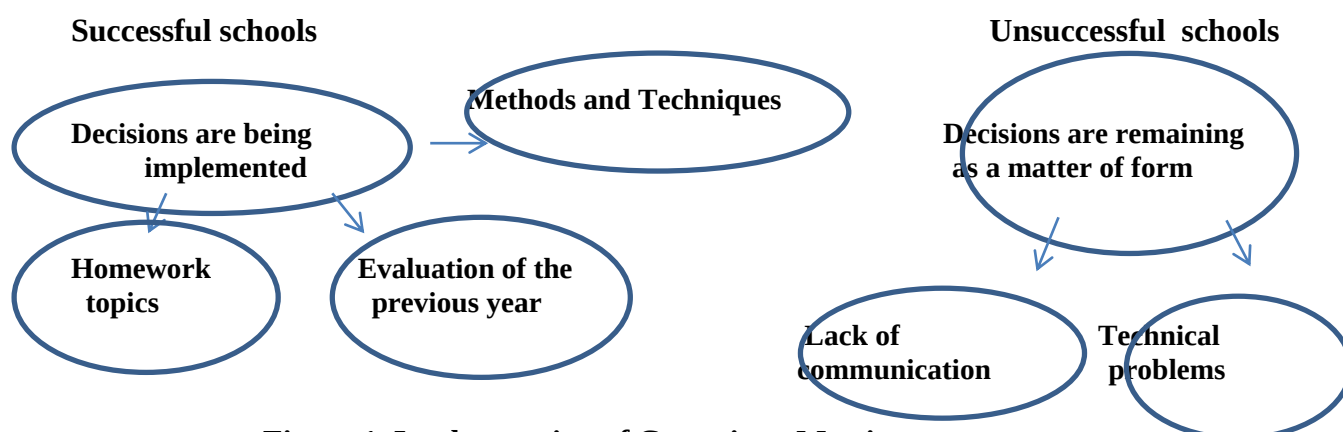


Figure 1. Implementation of Committee Meetings

Participants(5) working in successful schools stated that they could implement the decisions taken in the committee meetings whereas the participants in the unsuccessful schools stated they couldn't.

Sample answers by the teachers in socioeconomically different but successful schools are as follows:

I think we can. For example we share ideas about methods and techniques, assignment topics, assessment and evaluation and so on' (F. 9 successful school).

First of all we evaluate the previous year. We are crowded as English language teachers, we are 9 in total. Each teacher can use different methods. So it is advantageous for us to be crowded to be able to share ideas. Especially we discuss about how successful are the 8th graders, our deficiencies and we decide on what we will do throughout the year in the committee meetings at the beginning of the year.'(F5).

Sample answers by participants (5) working in socioeconomically different but unsuccessful schools are as follows:

'We cannot come together as the same branch teachers. There is lack of communication between us' (F3 Unsuccessful school).

'We took decision to apply DYNED (Dynamic Education) but we cannot because of technical problems at school' (F1, Unsuccessful school).

4.2. Importance of Meetings For Teachers

In order to reveal how much these meetings supply help and why they are important the following question was asked:

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'Why are the committee meetings important for teachers?'

Themes and categories were formed according to the given answers in figure 2:

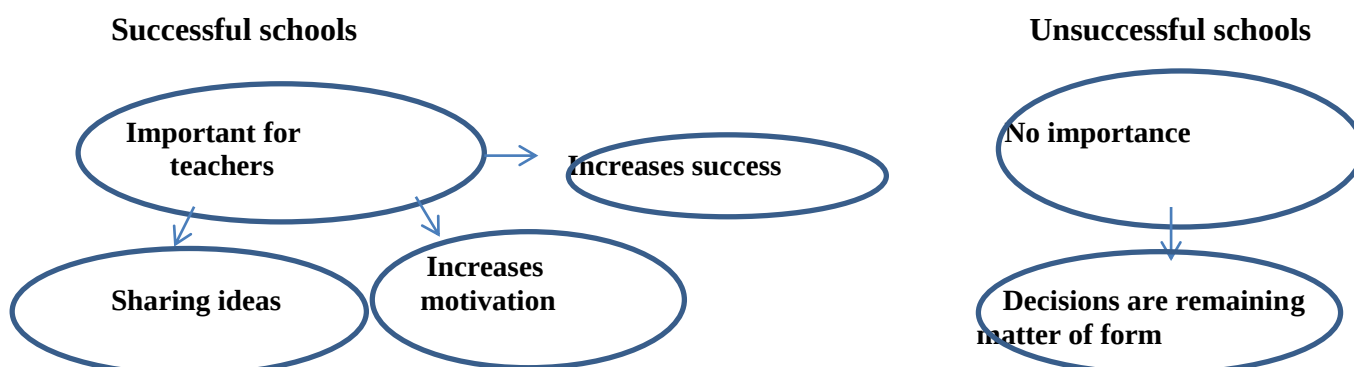


Figure 2. Importance of Committee Meetings In terms of Teachers

7 out of 10 participants stated that with these meetings they can find opportunities to share ideas and the meetings increase their motivation as well. 2 of these teachers were from unsuccessful schools. However they said if the meetings were held with a purpose they will be useful otherwise they will not. 3 of the teachers from unsuccessful schools stated that the meetings remained as a matter form so there was no importance. So they were not important for school success too. Sample answers given by the teachers are as follows:

'Of course there are positive sides because we come together and work in collaboration as English language teachers. And this makes us stronger I think. We talk, share and get better ideas when we come up with difficulties' (F.10 successful school).

'As these meetings remain as a matter of form for us I do not think that they are useful and necessary and we do not need them' (F.1, unsuccessful school).

4.3. Effects of Committee Meetings on Professional Improvement

Following question was asked to reveal if committee meetings have effects on teachers' professional improvement: *'How do Committee meetings affect teachers' professional improvements?'*

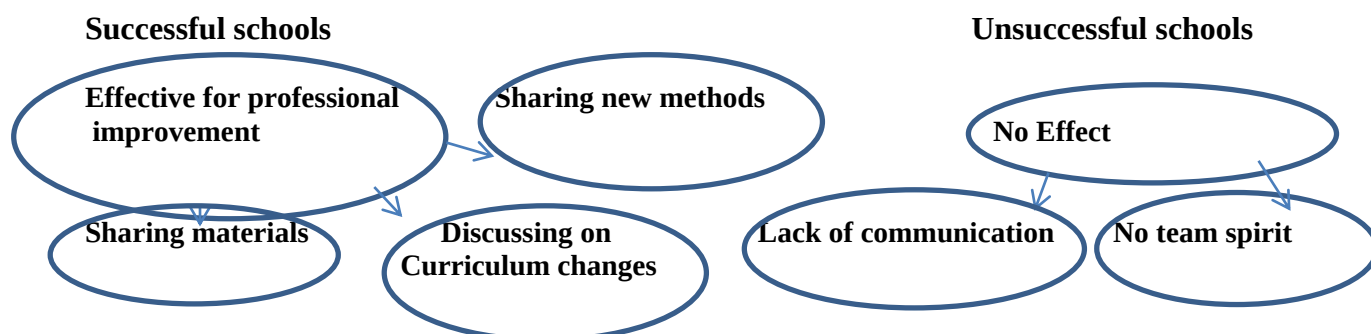


Figure 3. Effects of Committee Meetings on Professional Improvement

Sample answers given by the participants are as follows:

We are sharing different words, exercises, games which can be useful for students too. For example one of us learned a word game and shared it. We played the game in the classes. All the students tried to participate' (F. 10 successful school).

'Of course we should discuss on changes or renewals on the curriculum but we have never done this' (M. 8, unsuccessful school).

4.4. Inadequacies of Committee Meetings

In order to reveal the deficiencies of the meetings the following question was asked: *'Do you think that there are inadequate sides of the meetings?'*

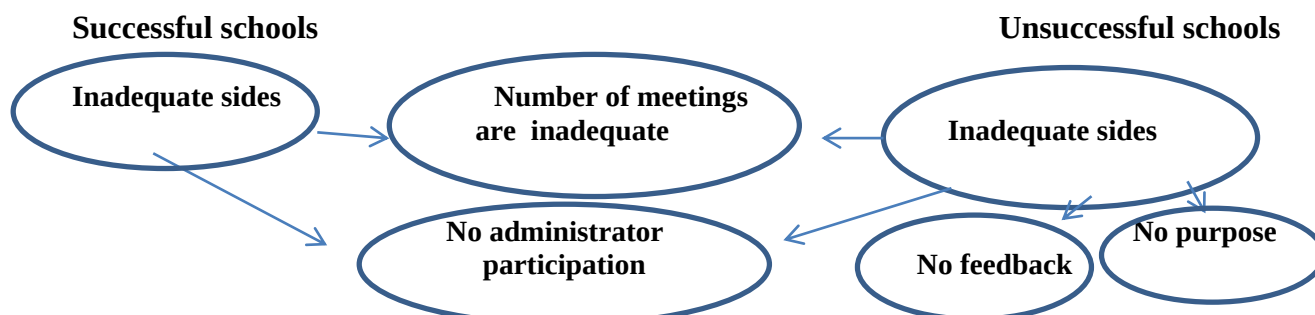


Figure 4. Inadequacies of Committee Meetings

Participants working both in successful and and unsuccessful schools stated that there were inadequate sides of these meetings. There emerged common views like number of meetings and lack of administrator participation. Sample answers given by the participants are as follows:

'These meetings should be taken in seriously and be held purposefully. We shouldn't come together as we have to, we should meet for a purpose' (M. 3, unsuccessful school).

'Administrators should take part in the meetings because they can motivate, help us take decisions, share ideas and maybe support us when we want to do different exercises' (F. 9, successful school).

5. Discussion and Conclusion

According to the findings of the research it was found that implementation level of decisions changes according to school successes. In successful schools decisions can be implemented however in unsuccessful schools they cannot be implemented. Participants stated that because of lack of communication, technical problems, and they said meetings remain as a matter of form. In previously carried out researches it is possible to encounter similar results. Küçük, Ayvacı and Altıntaş (2004) found out that committee meetings remain as a matter of form, decisions cannot be implemented. With this study especially participants working in unsuccessful schools said meetings just stay in the paper and decisions cannot be implemented and this is because of lack of communication between teachers in their schools.

According to the findings for the theme 'Importance of Meetings In Terms of Teachers'' in successful schools coding was made as 'increases motivation', 'help sharing ideas' 'increases success level' However participants in unsuccessful schools said there is no effect as there is lack of communication between teachers and decisions stay in the paper. With the research Doğanay (2013) 'The Importance of Cooperation Among Group Teachers and Analysis of Common Topics in Geography Teaching' suggested that cooperation among the same branch teachers must be informal and the importance of the committee meetings must be improved to increase success.

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With the light of the findings for the theme ‘Effects of Committee Meetings on Professional Improvement’ in successful schools codes as ‘sharing new methods’, sharing materials’, discussing on curriculum’ were emerged. However in unsuccessful schools codes are as ‘no feedback’, ‘no purpose’.

When findings for the theme ‘Inadequacies of committee meetings ’ were analysed. According to the participants’ answers from both successful and unsuccessful schools categories emerged as ‘meetings are inadequate in number’, ‘lack of administrator participation’, ‘decisions stay in the paper’ ve ‘no feedback after meetings’. With their research Güler, Altun and Türkdoğan (2015) found out that most of a great number of teachers think committee meetings just stay as a matter of form and they are not necessary since neither administrators give feedbacks from the administrators about their decisions taken in the meetings nor they participate in the meetings. Mncube (2009) found with his research that principals(administrators in schools) can contribute greatly to school governance issues, since they are usually at an advantage in terms of their familiarity with official regulations, provincial directives and knowledge of educational reform measure. In another research Sciarappa (1997) found that administrators can facilitate relationships among teachers in schools by enlisting them in improving professionally, selecting materials and engaging the staff in collaborative work. Annette (2012) found that administrators demonstrated effective use of school improvement team, utilization of multiple professional development opportunities, communication through conversation and developing a vision for school success in order to increase success in their schools. Çakmak (2008) found out that participants think number of meetings are inadequate. These findings support this research with the similar results.

With the lights of all these findings it is possible to conclude:

1. Whether socioeconomically high or low level in successful schools Committee meetings are held effectively. Teachers help each other use new methods and techniques, curriculum changes, share materials and homework topics. Committee meetings are thought to affect student success positively. On the contrary situated in socioeconomically high and low areas in unsuccessful schools it was found that there is lack of communication between teachers. They prefer working individually rather than working as a team.
2. In both academically successful and unsuccessful schools, it was found that administrators do not participate in the committee meetings and they do not give feedback about the decisions taken in the meetings.
3. In both successful and unsuccessful schools it was stated that number of meetings should be increased.

5.1. Research Suggestions

Based on the findings of this research the following recommendations for researchers and practitioners can be as followings:

Suggestions for researchers

- ✓ In-depth researches can be carried out in order to reveal how administrator participation will affect the efficiency of the meetings and implementation of the decisions
- ✓ Researches can be carried out in order to reveal how increasing number of the meetings will be effective to achieve the objectives of the meetings.
- ✓ Quantitative and qualitative researches concerning different branches can be carried out to demonstrate the impact of committee meetings on academic success.

Suggestions for practitioners

- ✓ By participating in the meetings and giving feedback to the meeting reports administrators can make these meetings more effective and efficient.
 - ✓ Works can be carried out for more frequent meetings.
 - ✓ Administrators of the unsuccessful schools taken as a sample ought to take the results of this research into account and work to promote the teachers for a good teamwork.
- Moreover teachers working in unsuccessful schools are supposed to take the results seriously and improve communication between each other

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Examination of Relationship Between Human Values and the Level of Forgiveness of Teacher Candidates

Bulent Dilmac, Zeynep Simsir

1. Introduction

The concept of value is expressed as virtuous life and unsolvable philosophical opinions about moral issues in old times. The scientific studies on human values has a long tradition in sociology and psychology. (Debats & Bartelds, 1996). The concept of values has been one of the central concepts of the social sciences since started to be investigated (Schwartz, 2012). The concept of value is an abstract concept that can not be observed directly (Ersoy, 2006; Fırat, 2007). So there are a lot of discussion about the concept of values exactly it does means. This debate is about, the definition of value, whether it is absolute or relative, the source of the value, whether it is possible to make a sequence by importance, who will protect and how to protect, the importance in terms of individuals and society, which methods appropriate for teaching of values (Yazıcı, 2013). Diverse definitions of the term value exist in literature. Santrock (2014) defined the value as “attitudes and beliefs that need to be done. According to Schwartz (2008) value is a concept that what is good and desirable and refers to cultural ideals. Dilmac (2007) interpret the concept of values as All of belief that include features and fundamental characteristics specific to humans differentiating them from other living creatures. According to another definition, value is a tendency choosing a status other cases (Erdem, 2003).

Value is one of the basic life functions and thus is an important place where the life of the individual (Dilmac, Deniz & Deniz, 2009). Values directly affect people's choices and the most important determinants of behaviors. Values have internal structure that motivate person's behavior (Uzunkol & Yel, 2013; Güngör, 1998; Karababa & Dilmaç, 2015). Values may influence behavior through mechanisms does not require conscious like habits (Bardi & Schwartz, 2003). In order that people can happy, the values and behavior must be compatible with each other (Hefferon & Boniwell, 2011).

There are values required for better quality of life in society. These values are handled by various researchers and evaluated (Uzunkol & Yel, 2013). Values are both inherently and acquired from the environment. Needs and values are in a hierarchical and developmental relationship with each other in terms of power and privilege (Maslow, 2001). Values that people have is a stable. Namely, the value of individual preferences ranking does not change much over time. Even if there are a number of changes in society's values priority, this process is very slow (Zhao, He & Lovrich, 1998). Values are dynamic as structure and it is difficult to distinguish between the value fields (Güngör, 1998). Values have a large area. For example, this includes love, respect, integrity, accuracy, science, philosophy, arts, equality and freedom (Kuçuradi, 1996). The concept of value handled by many disciplines were studied by the science of psychology (Rokeach, 1973; Filiz, 1998; McDonald, 1993; Güngör, 1998; Dilmaç, 2015). In recent years, positive psychology has begun to focus on the values term.

Another variable of the present study is forgiveness. The concept of forgiveness is a concept which included in the scope of values and contained in the working area of positive psychology. Forgiveness can be addressed within the scope of the concept of moral values. Because forgiveness refer to moral virtue in philosophy and religious literature and coincides with the concept of compassion and conscience (Saricam & Bicer, 2015; Isler & Dilmac, 2016). Forgiveness trait has been associated with positive character features for centuries (Isler & Dilmac, 2016). The topic of forgiveness don't have a long history to be subject of study by psychologists. The topic of forgiveness have been neglected by scientists for years but recent studies actually 20th century scientists often emphasis on this issue (McCullough, Pargament

& Tuhoresen, 2000). Rokeach (1973) one of the scientist dealing with values in a systematic way, handles forgiveness as instrumental value his classification of value. Various definitions of the term forgiveness exist in literature. For instance, Baskin and Enright (2004) defines forgiveness as deliberate giving up of hatred in the face of another (or others) substantial unfairness and replying to kindness to offender although that offender has no right to forgiver moral goodness. According to another definition; replacing the angry, painfull feelings of vengefulness often arising from a damage with positive feelings of good intentions against the offender (Wade, Bailey & Shaffer, 2005). According to McCullough (2001), Forgiveness is positive motivational social change that occur after person has exposed to injustice.

Forgiveness is a process that takes place firstly person in his inner world. In this process, people aware of negative thoughts and feelings and acknowledges that the event live. Compromise may not the forgiveness process. People can forgive forgetting experienced events and considering the possible consequences of anger (Wade, Bailey & Shaffer, 2005; Andrews, 2000). Forgiveness process includes empathy for the offender, assesment concerning transgression and transgressor, rumination about the offense, generous attributions (McCullough, 2001). People who have empathy skill can forgive more easily (Macaskill, Maltby & Day, 2002).

The forgiveness of offender provide overcoming hatred and reducing revenge and repairing of the deteriorating relationships (Hankel & Vauclair, 2016). Forgiveness has a intrapersonel and interpersonal dimensions. The behavior of forgiveness allow the possibility of existence and future of interpersonal relationships and facilitates internal relationships. People hasn't healty life and future without capacity of forgive self and others (Sahin, 2013). Forgiveness trait positively affects people in terms of psychological well-being (Dilmac, Eksi & Simsir, 2016). In addition, forgive the level of social sense facilitates the process of reconciliation between nations and agreement in working life (Hankel & Vauclair, 2016).

College studens can make a mistake regarding the emotional and friendship relations, career choice and important decisions about the future. In this context, perspective of young for errors arising from it and around influence the level of adaptation and forgiveness (Capan & Aricioglu, 2014). Since values directly affect on human behaviors, it is possible to affect forgiveness trait. So it is important to examine the relationship between the human values and the forgiveness in university student.

2. Method

2.1. Research Model and Study Group:

The aim of this study is to reveal the relationship between human values and the level of forgiveness in teacher candidates. The sample of the research consists of 455 teacher candidates, of which 255 are females and 200 are males. This study was conducted in relational screening model (Buyukosturk, Kilic-Cakmak, Akgun, Karadeniz & Demirel, 2008).

2.2. Data Collection Tools:

Forgivingness Scale: Forgivingness Scale adapted to Turkish by Akın, Gediksiz, and Akın (2012) compost of 1 dimension and 10 items. It has a five level scoring system as; strongly agree, agree, undecided, disagree and strongly disagree. Items 1, 3, 6, 7, and 8 are reverse scored. The highest score to be obtained from the scale is 50; and the lowest is 10. Higher scores indicate tendency for forgivingness. Ten item Trait Forgivingness Scale is a sub-scale of 15-item scale of Berry, and Worthington (2001).

Values Scale: Values scale developed by Dilmac, Aricak, and Cesur (2014) is based upon scoring the statements related to values which best reflect the ideas and feelings and in harmony with their meaning and importance in the participants' lives. It compost of 39 value statements and 9 sub-dimensions. These are "Social Values", "Career Values" as the second factor, "Intellectual Values" as the third factor, "Spiritual Values" as the fourth factor, "Materialistic Values" as the fifth factor, "Honour of Humanity" as the sixth factor, "Romantic Values" as the seventh factor, "Freedom" as the eighth factor, and "Futuwwat/munificence&courage" as the ninth value. The higher scores show the importance of the value in the individual's life and the lower scores for a value on the scale show that, that value is not important for the individual life.

Cronbach Alpha internal consistency coefficients of the Values Scale were calculated on the basis of factors. Internal consistency coefficients were calculated .90 for "Social Values", .78 for "Intellectual Values", .80 for "Career Values", .78 for "Materialistic Values", .61 for "Honour of Humanity", .81 for "Spiritual Values", .65 for "Freedom", .66 for "Romantic Values and .63 for "Futuwwa". Consequently, first psychometric findings of Values Scale show that the scale is a valid and reliable measurement device.

2.3. Procedure

The Pearson correlation coefficients analysis was used for measuring the correlation between human values and forgiveness level. Regression analysis was used for measuring the predictive level of human values on forgiveness level. SPSS version 18.00 was used in the analysis of data.

3. Findings

Descriptive statistics of the *Values Scale* and the *Trait Forgivingness Scale*, correlation analysis between the human values and the level of forgiveness, and regression analysis to examine the predictive level of human values on level of forgiveness are given below.

Table 1. Results of Relationship Between Forgiveness and Human Values

Variables	Social Values	Spiritual Values	Materialistic Values	Futuwwat	Forgiveness
Social Values	1	,367**	,226**	,604**	,167**
Spiritual Values		1	,111**	,256**	,114**
Materialistic Values			1	,152**	-,150**
Futuwwat				1	,175**
Forgiveness					1

*p< .05 **p< .01

Table 1 shows that correlation analysis between the the level of forgiveness is positively related to Social Values ($r=.17$, $p< .01$), Spiritual Values ($r= .11$, $p< .01$), and Futuwwat ($r= .17$, $p< .01$). The the level of forgiveness is negatively related to Materialistic Values ($r= -.15$, $p< .01$). There is no statistically significant relationship between forgiveness and sub-dimension of the values scala such as career values, intellectual values, honour of humanity, romantic value, freedom.

Tablo 2: Results of Predictive Level of Human Values on Forgiveness

Predicted variables	Predictive variables	B	Std. Error.	Beta	t	p	Result of Regression
Forgiveness	Social Values	,164	,048	,224	3,381	,001	R= ,342 R ² = ,117 F= 7,869 p< .01
	Career Values	-,205	,068	-,206	-2,995	,003	
	Intellectual Values	,075	,070	,074	1,079	,281	
	Spiritual Values	,174	,062	,131	2,797	,005	
	Materialistic Values	-,157	,053	-,143	-2,943	,003	
	Honour of Humanity	-,367	,120	-,156	-3,051	,002	
	Romantic Values	,090	,055	,077	1,645	,100	
	Freedom	-,066	,111	-,033	-,601	,548	
	Futuwwat	,292	,123	,125	2,369	,018	

Results given in Table 3 show that sub-dimension of the values scala such as Social Values ($\beta=.164$, $p<.01$), Career Values ($\beta=-.205$, $p<.01$), Spiritutual Values ($\beta=.174$, $p<.01$), Materialistic Values ($\beta=-.157$, $p<.01$), Honour of Humanity ($\beta=-.367$, $p<.01$), Futuwwat ($\beta=.292$, $p<.01$) combined have a significant effect on Forgiveness level and account for 12% of the forgivenes level variance ($R= .342$, $R^2= .117$, $F= 7,869$, $p< .01$). In sum, human values significantly predicts forgiveness levels of university students.

4. Discussion

The purpose of the present study is to examine relationship between human values and the level of forgiveness and whether or not values significantly predict forgiveness level teacher candidates. According to the results of the analysis; there are significant positive relationships between forgiveness and sub-dimension of the values scala such as social values, spirituality and futuwwat and there are meaningful negative relations between forgiveness and materialistic value. In addition, values are statistically significant predictor of forgiveness level. Sub-dimension of the values scala such as social, career, intellectual, materialistic, human dignity and romantic values have a positive impact on forgiveness. Namely, increase in the value of university students would also increase the level of forgiveness.

Related literature review has shown that there are studies supporting the relationship between value and forgiveness (Isler, & Dilmac, 2016; Saricam, & Bicer, 2015). Isler and Dilmac (2016) studied that predictor relationship between social anxiety, forgiveness and values among convict-prisoners in penal institutions. That research found that the most important independent variable that affected values was forgiveness. Similarly, Saricam and Bicer (2015) examined the predictive role of moral value and self-compassion on forgiveness in teacher candidates. According to result of analysis, moral values and self-compassion are statistically significant predictor of forgiveness and moral values and self-compassion account for 56% of the variance of forgivenes. Ayten (2009) studied that relationship between forgiveness inclination and religiousness and demographic variables (age, gender, social environment etc.) in adults. According to result of analysis, religiosity positively affects forgiveness inclination and negatively affects revenge feelings. Meantime pride and forgineves are negatively correlated and humility and forgiveness positively correlated. Also there is no relationship between demographic variables and forgiveness inclination.

The term of values and concepts of forgiveness have a lot in common. For example; both sources is based on religion (Ayten, 2009; Kara, 2016). The holy book of Islam (Quran) mention and praise forgiveness trait many times as well as Christianity and Judaism refer to in the holy books number of times (Enright, 2014). Religion is a structure shaping individual and social life so it is most important source of values besides it is an important value (Dam, 2016). Another common feature of the value and forgiveness is that both of them are moral behavior (Gungor, 1998; Roxas, David, & Caligner, 2014).

Values and forgiveness frequently mentioned in the psychological literature and their impact on the psychological and physical well-being of people have been studied by researchers (Sheffield, 2003; Krause & Ellison, 2003; Bono, Mc Cullough & Root, 2007; Sahin, 2013). For instance, according to a study carried out by Krause and Ellison (2003), forgiving others tends to increase psychological well-being. Similarly, Capan and Aricioglu (2014) examined correlation between forgiveness and psychological resilience in university students. According to result of research, forgiveness is positively related to psychological resilience. Cardak (2012) studied that effect of psycho-educational program to increase the inclination of forgiveness psychological well-being and anger management level, uncertainty intolerance and persistend anxiety in university students. According to result this psycho-educational program increase psychological well-being, anger management level and decrease persistend anxiety, uncertainty intolerance in university students. In addition, human values affect on well-being. Seki and Dilmac (2015) studied the predictor correlations between the values of adolescent, subjective well-beings and appearance anxieties. The findings showed that values values significantly predicts appearance anxiety and subjective well-being.

5. Research Suggestions

University students studying in the faculties of education must have a human values and forgiveness trait. Because they are teachers of future and have responsibility raising the students. When considered in this context, human values education will be useful for teacher candidates. In addition, Values education may be put the curriculum as a compulsory or elective.

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Examination of perceptions of secondary school students on science course and science teacher through metaphors and drawings

Gulcan Donmez, Hilal Aktamis

1. Introduction

By Ministry of National Education, Head Council of Education and Morality, Primary Education Science and Technology Education Program is revised and put into practice under the name Science as of 2013-2014 education year. The program is structured to put the student in center, focus on development of skills, associate information and concepts with life, support cooperative learning and aims for students who can learn and understand natural world, be curious about scientific developments and follow, understand the relation between science, society and environment, construct new information by using research, discussion, problem solving and scientific process skills, aware of its own learning, care about natural environment and logic (MEB, 2013). Primary education is important in terms of students encountering systematic education for the first time and learn how to learn and study by developing a positive attitude against it (Cekici & Yildirim, 2011). Primary education stage is an education stage which establishes the foundation of all education life due to reasons such as being the first step of education process, having an important effect in shaping of the future lives of individuals, etc. In this process, the way teachers, who are responsible of organization of education environment students encounter and is considered by students as a model overall, is important (Cerit, 2008).

Thought process of humans is mostly metaphorical. Theories, actions are structured metaphorically and understood. Metaphors are usually based on the connections intersecting within our experience and creates similarities perceived between the two meanings within the metaphor (Lakoff & Jahson, 2005). Metaphors stand out as powerful mental mapping and modelling mechanism oriented to individuals understanding and structure their own worlds (Arslan & Bayrakcı, 2006). According to Lakoff and Jahnson (2003), abstract concepts are restructured in metaphors through concrete concepts that are easier to understand and familiar. In this context, the purpose of the research is to identify the perceptions of primary education second stage students on science course and science teacher via metaphors.

2. Method

This study is a survey model study. Survey model is a model aiming to describe a situation which is still present or was present as is. The event, individual or object that is subject of research is tried to be described as is; no effort is made to change or affect the events in anyway (Karasar, 2000).

Phenomenology, which was used in qualitative research methods was used for the purpose of examining metaphors created. "Phenomenology is focusing on facts we are aware of but don't have a deep and detailed understanding of." (Yildirim & Şimşek, 2006)

In the study, metaphors were used to obtain data. Metaphors are used in researches for two purposes; description and speeding or improving the process. Data collection tools, which put the metaphor in the center, are similar to individual or focus group interviews based on open ended questions as a process. However, the metaphor alone cannot provide the full power of metaphor, therefore the questions of why and why not should be asked (Şimşek & Yıldırım, 2006).

2.1. Study Group

In creation of the study group, simple (random) sample method was used. 490 students studying in 4 different secondary schools in İzmir province during 2015-2016 education year were selected and as a result of inspections, a total of 434 students consisting of (52%) male and (%48) female students were included in the study. Different metaphors oriented to each concept were obtained.

2.2. Data Collection Tool

To determine the opinions of teacher candidates participating in the research oriented to science course, science teacher, science and scientist concepts, a paper containing the phrases "Science course is like.....; because.....", "Science teacher is like..... Because....." and they were asked to complete the sentences. A small explanation about the metaphors was made to students. They were asked to construct only one metaphor and write down their opinions.

2.3. Analysis of Data

Content analysis is a technique that allows working with indirect ways to determine human behavior and nature. It is performed to determine the existence of words or concepts in a certain group formed of text or texts. Researchers determine the existence, meaning and relations of these words and concepts and make inferences on the messages in the text by analyzing them (Büyüköztürk, 2012). The basic process in the content analysis is gathering and interpreting the similar data within framework of certain categories and transferring to reader. This process is analyzed in four stages; (1) encoding data, (2) finding themes, (3) organizing codes and themes, (4) identifying and interpreting findings. (Yıldırım &, Şimşek 2006). When the categories are created, encodings made oriented to previously determined concepts were utilized. For the reliability of the work, categories and metaphor names, which were created by individual inspection of both researchers, were harmonized.

3. Findings

In this section, metaphors used by primary education students who participated in the study oriented to the concepts of "science course", science teacher" and the categories these metaphors fall into are given as tables and interpreted.

Table 1. The categories of metaphors oriented to the concept of "science teacher" that secondary school students have

Categories	Metaphors	Categories	Metaphors
1) Distributing information (39)	Octopus	3) Researcher	Apprentice of scientist
	Exhorting	reader (63)	Scientist
	Transferring		Scientist (female)
	Information source		Warehouse
	Information box		Educator
	Scholar		Laborer
	Science books		Life teacher
	Dede Korkut		Literate
	Doctor		Student
	Science book		Professor
	Newspaper		Guide
	Hodja		Calm

Examination of perceptions of secondary school students

	Internet Book Teacher Salesperson		Bundle of questions Dictionary Telephone
3) Expert (4)	Idea Cell nucleus Leader Member of Parliament	4) Having a place in life (64)	Justice Man Family Mother Parents Our hodja Precious stone Friend Honest Our life Peace Lamp Matic Diesel Oxygen Cotton candy Cake Love Affectionate Irritating Drinking water Candy Sweet Spice Life style Life coach Pathfinder
5) Creator (31)	Engineer of a building Experiment cube Invention owner Human Kind Inventor Music Clown Tangible object Arguing Technology Letter	6) Struggling person (27)	Plus question Abundant question Insect Crossword Life Hardworking Turtle Hot fire Our arm Motor Candle Punctuation marks Exam Eraser Overflow jar Technical support Test book Traffic Green plus Time Time traveler
7) Entertaining (9)	Too entertaining Entertainment expert Electric hair Funny Happy Joy Game sister	8) Very knowledgeable (8)	Bomb Cloud Nature teacher Beautiful Cell Kindness Secrets

			Space
9) Hard occupation (2)	World Shining star	10) Intelligent (11)	Bright box Genius Brain box Smart
11) Systematic (2)	Formula Solar system	12) Illuminating (11)	Flower Lantern

Category 1 : " Distributing information"

"Science teacher is like an octopus. Because her knowledge is big."

Science teacher is like an information box. Because she answers to many questions in daily life"

Science teacher is like Dede Korkut. Because she tells us the facts with stories"

Science teacher is like a newspaper. Because she follows the daily developments.

Category 2 : "Researcher reader "

In this category, metaphors were created.

Science teacher is like a scientist. Because she works systematically

Science teacher is like a dictionary. Because she answers no matter you ask

Science teacher is like a professor. Because she makes experiments

Science teacher is like a telephone. Because she knows everything just a click next to you.

Category 3:"Expert"

Science teacher is like a leader. Because she leads us in the activities.

Science teacher is like a member of parliament. Because she has authority in the school.

Category 4:" Having a place in life "

Science teacher is like a mother. Because she loves us much

Science teacher is like a friend. Because she always wants the best for us

Science teacher is like an overflow jar. Because she shows us the facts by experiments

Science teacher is like a pathfinder. Because she tells us what to do

Category 5: "Creator"

Science teacher is like an engineer of a building. Because it is the work of teacher

Science teacher is like an inventor. Because we do different activities

Science teacher is like technology. Because she is open to innovation

Category 6:"Struggling person"

Science teacher is like a plus question. Because we determinedly solve questions in each lesson

Science teacher is like a hot fire. Because the subjects enlarge as researched

Science teacher is like time. Because she is continuous.

Science teacher is like traffic. Because she determinedly ensures you reach your destination

Category 7:"Entertainment"

Science teacher is like very entertaining. Because she is open to innovation

Science teacher is like joy. Because experiments make us smile.

Science teacher is like a game sister. Because we learn having fun

Category 8:"Very knowledged"

Science teacher is like a cloud. Because she is always with us.

Science teacher is like cells. Because the subjects she will teach are much.

Science teacher is like space. Because she waits to be discovered.

Category 9: "Hard occupation"

Science teacher is like world. Because she has a lot of work.

Category 10: "Smart"

Science teacher is like a bright box. Because she is very smart.

Science teacher is like a genius. Because not everyone can

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Category 11: "Systematic"

Science teacher is like a formula. Because she can be reached as a result of certain works

Science teacher is like solar system. Because she works systematically

Category 12: "Illuminating"

Science teacher is like a flower. Because wherever she touches gets beautiful

Science teacher is like a lantern. Because she illuminates our way



Figure 1. An example for science teacher drawings

Interpretation: As the student has drawn the teacher larger than himself, it shows the importance the teacher has in his life. As he holds his hand from above, it shows that he finds support and trusts him.

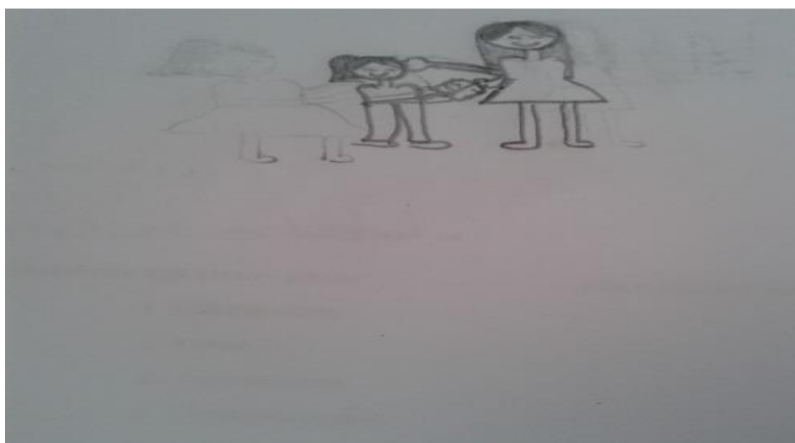


Figure 2. An example for science teacher drawings

Interpretation: The student shows that she finds the family warmth in her teacher.

Table 2. The categories of metaphors oriented to the concept of "science course" that secondary school students have

Categories	Metaphors	Categories	Metaphors
1) Science in stages(14)	Puzzle	4) Developing (72)	tree
	Crossword		smart board
	Equations		research
	Apple seed		documentary
	Nested storage box		information
	Evidence		science
	Mixture		scientist course
	Book reading		scientist
	Russian nesting dolls		plant
	Performance		chameleon
	Picture		

	Time		salvation ignorance ruler, cell , internal organs interesting story, human, construction, skeleton, Book, convenience learner, teacher, explosion, Project, technology medicine, space, body, life style, life philosophy, writing, food, Intellect,	from
2) Interdisciplinary Science(22)	Discipline Science box Tzatziki Heaven Multi-functional Element Physics Formula News show Sibling Amusement park Mathematics Note Mildly sweetened coffee Playground Numeric,park Turkish lesson Jigsaw puzzle	5)Troublesome/Requires labor (26)	Difficult Zeayat Boring Skating Deadlock Lizard Get drunk Memorization Thinking Getting beaten	
3) Entertaining(63)	other world Riding bicycle bomb mad,enchanted, entertaining, beautiful, exciting, adventure, Incredible, game toy, colors magic, joke, watching tv, eating, Enjoyable,	6)Need(13)	Living Drinking water Organ School Oxygen Magnesium Source	

Examination of perceptions of secondary school students

7) Very knowledgeable(19)	Crumbling bread Infinity Infinite mark Eraser Love Getting lost Light Universe World Sea Heaven Atom	8)Any time any where(12)	Worm Dream Window Substance Chemistry Sky Bacteria
9) Researched(54)	Secret Semicolon Inquisitive Examination Laboratory Discovery Invention Glasses Planet Prove Future Doctor Nature guide Nature Lesson Experiment tube Experiment Trial-error	10)Valuable(17)	Diamond Freedom Exit from dark room Potion Gift Mystery Energy Precious Moon
11) From life(19)	Slices of life Codes of life Life Dream Our house Foundation of building Nursery class		

Category 1. 'Science in stages '

Science course is like a puzzle. Because we progress by solving.

Science course is like a nested storage box. Because the subjects progress by expanding.

Science course is like a Russian nesting dolls. Because it progress by growing in each class.

Science course is like time. Because it develops in steps.

Category 2."Interdisciplinary Science"

Science course is like tzatziki. Because there are more than one thing

Science course is like a news show. Because we learn many different things

Science course is like a mildly sweetened coffee. Because it is a mixture.

Science course is like a jigsaw puzzle. Because it forms the parts of each other.

Category 3:"Entertaining"

Science course is like riding a bicycle. Because it is very entertaining.

Science course is like mad. Because interestingly beautiful experiments are made.

Science course is like a toy. Because it is enjoyable.

Science course is like watching tv. Because we learn by enjoying

Category4."Developing"

Science course is like a tree. Because it grows.

Science course is like a construction.Because the more you put effort the more you get in turn.

Science course is like medicine.Because it is open to research.

Science course is like space.Because it is infinite we find new things as we search.

Category 5. "Troublesome"

Science course is like difficult. Because it is complicated

Science course is boring.Because it required hard work.

Science course is like thinking.Because you can't find a solution.

Category 6. "Need"

Science course is like living.Because it is needed in every point.

Science course is like oxygen.Because it is inside the life.

Science course is like an organ.Because we feel the lack of it.

Category 7: "Very knowledged"

Science course is like infinity.Because it is very large

Science course is like universe.Because it is more than we dream

Science course is like heaven. Because its blessings are much

Science course is like crumbling bread.Because its crumbs are enough for many creatures.

Category 8. Any time any where

Science course is like a bacteria.Because we encounter it everywhere

Science course is like a window.Because wherever you look you see something about science

Science course is like sky.Because it comes with you wherever you go

Category 9. "Researched"

Science course is like discovery.Because we learn new things

Science course is like a planet.Because it is not limited with the world we live in.

Science course is like nature.Because it is mysterious

Science course is like a secret.Because it needs to be solved.

Category 10. Valuable

Science course is like a diamond.Because it is valuable.

Science course is like freedom.Because it is priceless

Science course is like moon.Because it shines a light on darkness.

Category 11. From life

Science course is like codes of life.Because it makes our lives easy.

Science course is like our house.Because we don't feel out of place

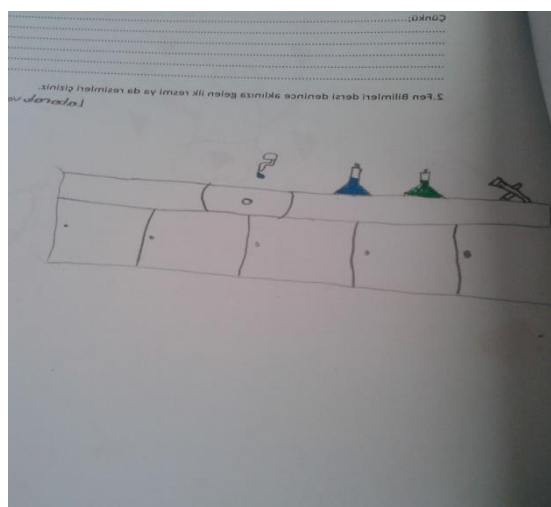


Figure 3. An example for science course drawings

Examination of perceptions of secondary school students

Interpretation: Student may not be feeling adequate in this field because he draw the laboratory and not himself.

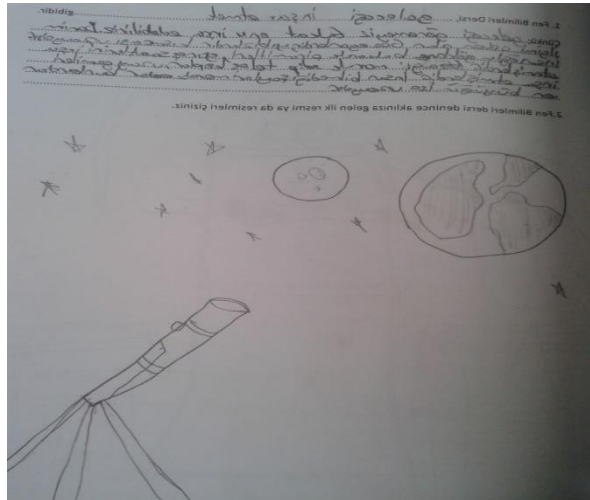


Figure 4. An example for science course drawings

Interpretation: We can say that the student is open to changes and innovation about the universe.

4. Discussion

According to the results of the research, when the metaphors used by the secondary school students on "science course" are examined, most of them compared the science course to structures with many components, such as "*science, nature, experiment, life*". This comparison reveals that science course is a course which accommodates very large fields for students. The sentence given by a student; "*Science course is like life. Because it includes the subjects within life and we always encounter it*" confirms the finding. We can reach to the opinion of secondary school students having intense desire to discover from the definitions such as "*research, puzzle, enjoyable*". When the metaphors of secondary school students on the concept of "*science teacher*" are examined, they generally define as a person providing information, such as "*scientist, doctor, book*". "*Science teacher is like a book. Because he knows too much.*" sentence is one of the most appropriate sentences for this.

Studies may be increased in secondary schools oriented to metaphorical thinking and learning approaches. Discussing such studies in education lessons may be helpful in developing thoughts, changing and create judgement in questioning of students. Course may be made more enjoyable by using different education methods and techniques.

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Learning by Design and Technology Integration Processes of Teacher Candidates

Okan Durusoy, Ayşen Karamete

1. Introduction

The 21st century, which is called the age of technology, has brought about many inevitable changes in the name of education. Along with meaningful and permanent learning approaches, the rapid rise of technology necessitated different structures and reforms in education systems. In particular, the “scientifically literate person” qualities required by teachers at the maximum level are defined by various institutions and organizations (for example Ministry of National Education, teacher education accreditation institutions, education-related associations and foundations etc.). In general terms; educating scientifically literate students, who can research and inquire, reach their own knowledge, able to make effective decisions, who are confident, open to cooperation and able to communicate effectively has become the main target of education systems. It is aimed to enrich education and training environments with appropriate and diverse technologies and to design these technologies so that both students and teachers can use them both inside and outside the classroom. When the whole structure of education is taken into consideration, it is undoubtedly a very important and equally challenging process to put all these goals into practice at the same time. In view of the educational reforms made in the European Union (EU) countries and the United States (US), it is seen that the qualifications of teachers are redefined and transferring present-day technologies into classrooms is among the basic objectives (Kaya & Yılayaz, 2013). Also, the curriculums that were put into practice frequently emphasize the use of technological resources.

It is known that well-trained teachers have great importance in the system (Yüksel, 2008). The characteristics of qualified teachers and the training of these teachers have been the focus of many researches. Defining the concept of “qualified teacher” based on a single model or perspective can have some limitations. However, Technological Pedagogical Content Knowledge - TPACK, which has been used in the re-shaping of teacher training programs in the education faculties of many universities in the US and EU countries in recent years, has become a main concept and offers opportunities to overcome these limitations (Abell, 2008; Koehler & Mishra, 2008). TPACK is a teacher information model created by Mishra and Koehler (2006) in the form of integration of technological knowledge in parallel with the present technological developments into the concept of Pedagogical Content Knowledge, which developed by Shulman (1986, 1987).

2. Relationship between TPACK and Teacher Training

In today’s age of information and technology, where innovations are rapidly advancing, it is important for teachers to follow technological developments for a sophisticated society and successful education system and to use technologies meaningfully to support students’ learnings, that is to say that teachers should have adequate TPACK and constantly improve that throughout their professional lives. Unfortunately, the “ICT in schools survey” conducted by the EU in April 2013, with a total of 190,000 students from 27 countries, teachers and schoolmates, showed that many students do not get what they need in technology use. In this direction, it is stated that teachers need more education and support (European Commission, 2013). Experts and authorities on teacher education policies and strategies emphasize that the

integration of technology into learning environments can be achieved through an effective reform of the pre-service teacher training process (Hur, Cullen & Brush, 2010).

The most precise and low-cost way of educating teachers on technology is through various researches that will be done during pre-service teacher education in education faculties (Hur et al., 2010). These findings highlight the notion that education faculties, where the number of prospective teachers, teacher candidates and classrooms are too small to be compared with in-service training, should be the first and concurrently of the major national projects focused on technology integration to education. It is necessary for the education faculties to plan how to integrate technology into teacher education programs in a very effective way and to keep this plan constantly changing and developing. Therefore, having enough teachers in terms of TPACK within the system, it is possible to train teacher candidates who know how to use technology in education faculties.

3. Systematics of TPACK

Researches on TPACK (Mishra & Koehler, 2006), which is seen as a basis for effective teaching with technology, is rapidly increasing. However, as pointed out by Koehler and Mishra (2008) in the Handbook of Technological Pedagogical Content Knowledge for Educators, TPACK is not a new concept. The concept of TPACK was first schematized in Pierson's (1999) doctoral thesis study. Pierson (1999) describes TPACK as a combination of content knowledge (CK), pedagogical knowledge (PK) and technological knowledge (TK) in the simplest form. After Pierson's (1999) definition of TPACK, Keating and Evans (2001) made a broader definition of TPACK, emphasizing the necessity of matching the technology used in the teaching process. According to Keating and Evans (2001), TPACK provides the opportunity to present information on the subject using technology in the most appropriate way. A teacher with TPACK has the ability to use technology in a logical way and is aware of the effect of technology on learning concepts that his / her student has. Margerum-Lays and Marx (2003) termed the TPACK as pedagogical content knowledge of technology that is derived from the teaching-learning situations in which education technology is used and is expressed as applicable information. According to the researches, a teacher with technological pedagogical content knowledge; knows how to use certain technologies in teaching, how much time needed for teaching with these technologies, how to solve possible problems of students with specific technologies, and how teaching and learning should be organized according to technological possibilities (Mishra & Koehler, 2006; Keating & Evans, 2001). The studies of Mishra and Koehler play a major role in the conceptualization and the theoretical structure of TPACK in today's researches. According to Mishra and Koehler (2006), TPACK is an important type of information that goes beyond its three components; these are knowledge of a discipline that a field expert may have, technological knowledge that a technology expert may have, and general pedagogical knowledge that a teacher may have. The field of technological knowledge includes knowledge and skills related to the use of ICT tools and programs, content knowledge includes knowledge and skills related to teaching discipline such as history or mathematics, pedagogical knowledge includes knowledge and skills related to educational dimension such as teaching methods, educational psychology, and classroom management. TPACK is a kind of information that is generated by the interaction of these three information fields and forms the intersection of them (Mishra & Koehler, 2006).

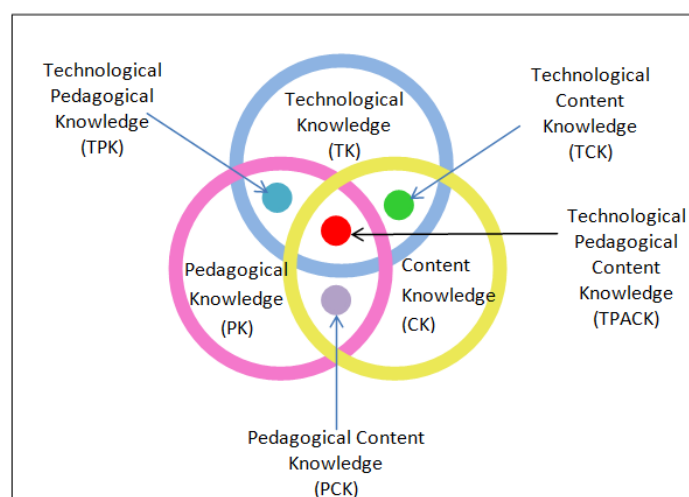


Figure 1. Scheme of TPACK (Mishra & Koehler, 2006)

The TPACK approach predicts that the knowledge and skills required for ICT-supported teaching in any teaching field are different from those required for other areas (Harris, Mishra & Koehler, 2009). For example, the knowledge and skills teachers should possess for ICT-supported mathematics teaching are quite different from the knowledge and skills required for ICT-supported chemistry or language teaching. As a result, ICT-assisted instruction cannot be reduced to ICT knowledge and skills alone; (Koehler, Mishra & Yahya, 2007), which includes the specific characteristics of the teaching field, teaching methods and approaches, teaching environment and characteristics specific to the students.

4. ICT in Teacher Training Programs

Difficulties in acquiring the necessary knowledge and skills for teaching ICT-assisted instruction to teachers have led to questioning of the models and approaches commonly used in teacher training programs. According to Harris et al. (2009), practices and approaches dominated by teacher education programs are usually focused on providing prospective teachers with technical knowledge and skills related to the use of ICT tools. These practices and approaches aim to provide similar ICT knowledge and skills to all prospective teachers, largely ignoring the characteristics of the teaching field and the situations related to the target student group. It is assumed that teachers can successfully implement ICT-supported teaching by gaining the ability to use ICT tools. However, using only ICT tools and programs is not enough to successfully implement them in the teaching of any field of knowledge. According to Harris et al. (2009), the models that will prepare teachers for ICT-supported teaching effectively need to integrate the ICT knowledge and skills and knowledge and skills of teaching area and knowledge and skills related to teaching methods in a good way. A significant part of the teaching models suggested in the literature for improving the TPACK of the teacher candidates are based on the design-based learning approach.

5. Learning by Design

According to the approach that Koehler and Mishra (2005) described as “learning technology by design”; teacher candidates need to fulfill tasks and objectives similar to real life learning-teaching environments in order to develop information and communication technologies (ICT)

-supported teaching knowledge and skills. The design and implementation of ICT-based instructional materials enable teacher candidates to carry out the works they will do and the knowledge and skills they will use in their professional life. In addition, teaching materials include all of three basic types of information fields (knowledge of technology, content knowledge and knowledge of pedagogy) that the teachers need to know about ICT-assisted instruction and provide a good learning environment to incorporate these information fields.

The Learning by Design (LBD) approach, which has been developed by using the approaches of Kolodner, Crismond, Gray, Holbrook and Puntambekar (1998)'s Cased Based Reasoning and Problem Based Learning, offers important opportunities to develop the TPACKs of teacher candidates. LBD process, which enables teacher candidates to gain design knowledge, to develop their self-decision making mechanisms and participating in collaborative learning processes enables to learn by living in systematic steps. During the process, prospective teachers have to collaborate with their colleagues and instructors, share their ideas and discuss the results.

The basic principles of the LBD process can be summarized as follows:

- Provide “science-making” experiences to prospective teachers to ask questions, do research, and apply what they learn.
- Teacher candidates should be assisted in learning scientific concepts in depth by enabling them to confront and explore their own conceptualizations and misconceptions.
- Teacher candidates should be provided with links between their own experience and science.
- Help them understand what they want to learn and what they need to learn.
- Ensure that they learn real-life skills as part of their core scientific experience, especially in order to decide, defend, discuss, and describe complex problems (Kolodner et al., 1998).

Kolodner, Gray and Fasse (2002) modeled the Learning by Design - LBD process and charted the steps to be followed with Figure 2.

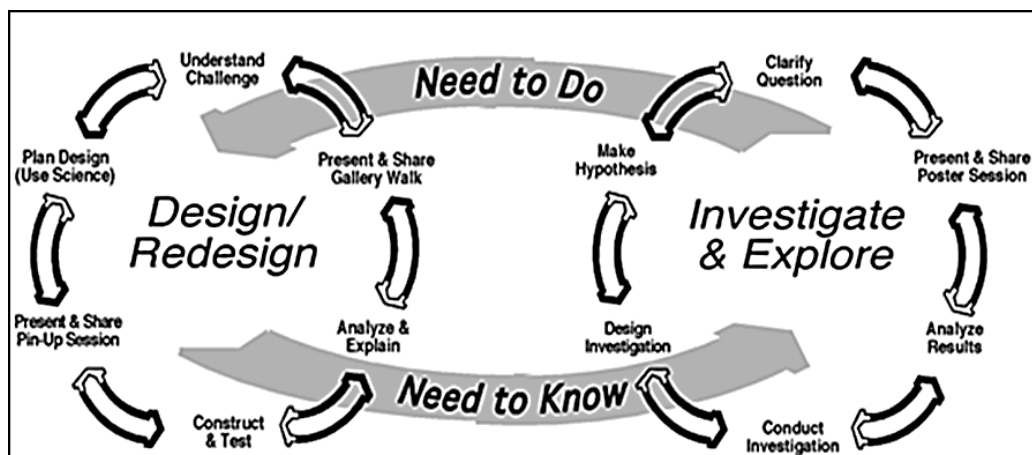


Figure 2. Learning by Design Scheme (Kolodner et al., 2002)

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Lu, Johnson, Tolley, Gilliard-Cook, and Lei (2011) suggest a five-stage design-based learning model for TPACK development in pre-service teacher education based on the LBD model of Kolodner et al. (2002):

1. Understanding design goals,
2. The making of the design plan,
3. Design and production of teaching objects,
4. Testing of the object in the teaching environment,
5. Analysis and disclosure of results.

In this process, candidate teachers have to collaborate with their colleagues and teacher trainers, share their ideas and discuss the results. Lu et al. (2011), detail the design stages of the LBD model of Kolodner et al. (2002) for pre-service teachers. The stages are shown in Table 1.

Table 1. LBD stages for pre-service teachers (Lu et al., 2011)

LBD Steps	Sample Instructional Activities	Application in the Context
Understand challenges	• Frame project in context of classroom applicability/course goals. • Reading discussion. • Model technology integrated lessons (preservice teachers • Take on student role).	• Instructors model or demonstrate effective use of technology in classroom contexts, reflecting aloud on teacher's planning / implementation process. • Students experience lessons from student point of view.
Plan design	• Discussion with group members during mini-project planning/creation. • Feedback from peers and instructor.	• Participants engaged in solving authentic instructional tasks. • Authentic scenarios require the integration of technology and alignment with content and pedagogy.
Construct / design	• Design and creation of the artifact. • Collaboration with group members. • Feedback from instructor.	• Focus on technology use for instructional purpose in authentic contexts.
Test	• Feedback from peers and instructors. • Peer artifact testing for instructional/grade level appropriateness.	• Focus on testing artifact based on appropriateness of instructional solution. • Focus on helping participants articulate the relationship between content, pedagogy, and technology.
Analyze & explain	• Written feedback from instructor.	• Focus on helping participants articulate the relationship

	• Reflection on artifact's application in a classroom setting and application of instructional methods.	between content, pedagogy, and technology. • Reflection helps participants connect their in class learning experiences with their future teaching tasks.

The LBD allows design and production processes to put the knowledge and skills into practice, to see and evaluate the results of their thoughts and actions, to think again, to differentiate their actions, and to share their ideas with others. These activities create an efficient and constructive learning environment (Han and Bhattacharya, 2001). Learning by Design applications provides teachers with the opportunity to design very different kinds of teaching materials and to organize learning environments with different characteristics.

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The Views of the Teachers on Pre-Referral Process for Students at Risk

Yıldız Guven, Nur Akcin, Zekiye Tunc

1. Introduction

Evaluations and interventions carried out before a formal application for special education services in order to determine the eligibility to them is termed as pre-referral process (Salvia, Ysseldyke, and Bolt, 2009; Heward, 2006). Pre-referral process normally begins when the teacher notices that the student falls notably behind expected benchmarks in coursework (Hammond and Ingalls, 1999; Mastropieri and Scruggs, 2000; Turnbull, Shank, Smith, Leal and Turnbull, 2002; Smith, Polloway, Patton and Dowdy, 2004; Good, 2004). Through the process, the class teacher, school counselor, psychological consultant and any other professionals in school collect information about student and set up an intervention program for the purpose of reducing difficulties of the student and providing compliance to classroom activities (Ministry of Education, 2006; Gürsel and Vuran, 2010).

Primary objective of the pre-referral process is to get the student together with their peers in the general educational environment and to ensure compiling necessary arrangements for increasing success (Good, 2004). It is known that many students can overcome their behavioral problems and learning difficulties through simple adaptations in the curriculum or other interventions in classroom (McLoughlin and Lewis, 2005). These interventions also increase the ability to use appropriate ways of intervening and helps to prevent and to remove abusive labeling of the students (Fuchs, Fuchs, Bahr, Fernstrom and Stecker, 1990; Curry, 2007). Kargın (2006) gathers educational adaptations under five headings, as, organizing the classroom, forming student groups, selection of teaching materials, adaptation of teaching methods and other variables that are expected to affect learning process.

The criticism is directed to the class teachers as they are starting referral process without adequate study and written report to evaluate the children who, they thought, have different traits than their peers and who do not meet the regular class environment expectations (Strickland and Turnbull, 1990; KC, 2006). There are numerous researches in the literature examining pre-referral intervention (Meyers, Valentino, Meyers, Boretti and Brent, 1996; Hammond and Ingalls, 1999; Seibert, 2000; Weishaar, Weishaar and Budt, 2002; Lane, Mahdavi and Borthwick Duffy, 2003; Solonski-Fowler and Truscott, 2004; Truscott, Cohen, Palmeri, Sams, Sanborn and Frank, 2005; Laverty, 2007; Young and Gaughan, 2010). These researches provide information on issues such as, the goals of the pre-referral intervention teams, the effectiveness of intervention models and intervention model development, the contributions of interventions to the reduction of the number referring to the special education, the views of the educators on pre-referral process, identification of difficulties in maintaining the applications, ensuring sustainability of the intervention and the cooperation levels, and the reasons for applying intervention teams in pre-referral process. However, the number of the researches on pre-referral intervention process in Turkey is extremely limited.

2. Purpose

The purpose of this research is to determine the views of the class teachers on pre-referral process of the children at risk.

3. Method

3.1. Research Model

This is a qualitative research of which the data is collected using semi-structured interview technique.

3.2. Study Sample

Participants have been selected as purposive sampling by snowball sampling method. 7 males and 23 females, 30 in total, class teachers from 16 primary schools was participated in the study. Participants were aged between 26 and 53 ($M = 40.66$; $SD = 7.66$) with 4 to 33 years of professional experience ($M = 18.26$; $SD = 8.13$). A total of 26 (87%) class teachers including 19 undergraduates and 7 associate degree graduates and teachers from different branches such as biology, tourism, etc. participated the research. All participants agreed to take part in the research. Permission was obtained from all the participants after they were informed on maintaining the confidentiality of the names and data.

3.3. Data Collection

In this study, Interview Guide is used for determining the participants' views on students at risk in pre-referral process. With the "Interview Guide", besides questions for personal information of the participants, there are 15 open-ended questions prepared through the literature. Voice recordings of all the interviews are obtained based on the permission of the participants. Interviews had taken in the range of 20 to 52 minutes (average 29 minutes).

3.4 Data Analysis

The data have been analyzed through descriptive analysis. In the process of data analysis, first the voice recordings were transcribed faithfully. The transcriptions were transferred to the interview form prepared on the computer. In addition to the transcription, there are descriptive index, interviewer's comment and general comment sections in the form, by the way Bogdan and Biklen (2007) depicted. After the data was read repeatedly, an "Interview Codebook" was prepared in which there are possible responds categories under each question item. All responds of the participants were read and coded. After coding process is completed, all the codes were compared and the data with the same content were united under single title. Reliability among evaluators was calculated by the number of total consensus divided by the total consensus + total difference of opinion. Reliability among evaluators is determined as 87.8% on average (% 80-100).

4. Results

The results are separated under the two themes of "the initial identification phase studies" and "educational adaptations made for the students at risk". The things expressed under these themes are also separated to sub-themes and the frequencies of every sub-theme is given in parenthesis. Expression examples from sub-themes is not given in this article. It is possible to reach the examples of the views of the participants from the original thesis.

4.1. The Initial Identification Phase Studies

Issues that discerned the students from her peers (91). The participants list the factors that are efficient in discerning a student as different from the others in the class; academic inadequacies (17), socialization and adaptation difficulties (17), learning and perception delays (13), behavioral problems (11), attendance problems (9), mobility and attention problems (8), self-expression difficulties (6), anomalies in pupil reactions (5), physical differences (3), inability in doing homework (2).

Sharing the student status with others (86). When they first notice out such a student, participants mostly inform school counselor (28). In addition, they also inform family (26), other teachers (14), school administration (10), branch teachers (4), former teachers (3), and teachers council (1).

Works for identifying the student (64). Participant's activities for identifying the student are; meeting with the family (18), determining the level of knowledge and skills of the student (15), observation (12), comparison with peers (6), contact with the school counselor (5), one-to-one communication with the student (5), meeting with former teachers (1).

Determination of the student's knowledge level (38). The participants list their practices for determination of the knowledge level of the student; according to her grade levels and gains (11), by tests (11), verbally by question-answer method (6), by observation (4), by comparing with other students (3), according to homework (2), class participation (1).

4.2. Educational Adaptations Towards Students at Risk

Arrangements made in teaching methods (77). Participants list the methods they use to teach any topic to the student as; visualization (19), dramatization (16), using friends (13), making her repeat the homework (8), teaching by doing and living (5), simplifying (4), considering her learning style (4), using schemas (3), narration (3), question (2).

Arrangements made when the student fall behind the schedule (54). When the student fall behind the schedule, participants; make additional studies (20), choose programs appropriate to the level of the student (10), cooperate with the family (7), assign homework (6) make plan and program (5), make the student repeat practices (3), get help from friends (3).

Arrangement of tools and materials (54). The participants prefer the course tools such as; visual materials and technological tools (17) concrete materials (11), materials according to the student's level (8), materials available in daily life (6), materials of the student's interest area (5), materials that will not cause harms (4), attention-grabbing materials (3).

Arrangements made in the classroom setting (49). Participants arrange the classroom setting for the student as; changing the student's seat (23), determining who will sit next to the student (15), giving classroom responsibilities (5), informing the other students (3), arranging how to use the tools (2), doing no arrangement in classroom (1).

Arrangements made to provide acceptance of the student (46). The participants list practices to ensure the friends of the student to accept her as; making explanations to other students (16), including group activities-games (10), bringing her to the fore where she is expected to be successful (7), making her participate the class (4), giving responsibility (4), as

a teacher, behaving as a role model for other students (3), doing conversation with the student (2).

Arrangements made when faced with behaviors that disrupts the class order (46). The ways that the participants prefer when the student disrupts the class order are that; warning the student (18), meeting her with the school counselor (4), rewarding (4), giving responsibility (4), meeting with the family (3) changing her seat (3), ignoring (3), making her do additional in-class study (3) teaching anger control (2), applying regular punishment like other students (2).

Homework arrangements (35). Participants state that they pay attention to assign homework appropriate to the student's level (21). In addition, they prefer to; collaborate with the family (7), assign engaging homework (3), give regular homework like other students (2) and do not give homework (2).

Determination of academic progress (43). The participants list doings for determining the academic progress of the student as; observation (12), oral examination (8), evaluation by test (8), evaluation according to the plan and program (8), evaluation according to the gains (4), using evaluation forms (3).

Determination of social progress (35). For determining the social progress of the student, the participants prefer to; make observations (19) peer relationships and participation to social activities (14), obtain information from the family.

Arrangements about examples of the student's works (40). Participants state that they; file and keep the examples of the student's work (19), share them with other teachers (8), not to keep them (6), exhibit them (5), register them in the computer (2). A teacher stated that she is sending them to the family.

5. Discussion and Conclusion

The class teachers who participated this study stated that they initially identify the students at risk firstly through their academic inadequacies and their having difficulties in socializing and compliance issues; which are in coherence with the findings of similar researches conducted by Saldana (2009) and Lane, Mahdavi, Borthwick Duffy (2004). Almost all the teachers stated that they firstly inform the school counselor when they identify the student at risk. This finding coincides with the finding of a former research conducted by Sütçü (2007). Informing family comes in second place. Many researches show that the teachers inform the parents (Lewis and Doorlag, 1999; Duhaney and Salend, 2001; Özgüven, 2002; Lane, Mahdavi and Borthwick Duffy, 2003; Good, 2004; Önder, 2007; Şahin, Işıtan and Gündüz, 2011). Then the school administration, the other teachers and the branch teachers comes. Türkoğlu (2007) study reaches similar findings. Lewis and Doorlag (1999) highlight the necessity of making conversations with other professionals about the student's educational problems.

Teachers first meet the family in order to identify the student at risk in the class. Then, determination of the level of knowledge and skills and observation appear in list. Some researchers also have pointed out to the importance of doing observation and conversations for identifying the children at risk (Üre, 2004). To determine the knowledge levels of the students, teachers make evaluations according to the grade levels and the gains. Some teachers make tests and some make observation in order to determinate the knowledge level of the student.

The Views of the Teachers on Pre-Referral Process for Students at Risk

According to Taylor (2009) in order to determine the levels due to the applied program, one should make evaluation through comparison of the existing level and program-based skills of the student.

According to the research findings, most of the teachers prefer to use visualized education. In addition, more than half of the teachers stated that they are using dramatization techniques in teaching. This finding is consistent with the views of Kırkkılıç, Kılıç and Topal (2005) that in the lessons where dramatization method is applied, students are more open to learn because they are more active in class. In addition, educating through peer relations that the teachers stated as they use seems important and consistent with some of the other research findings (Yıkılmış and Vural, 2008; Güven and Aydın, 2007).

More than half of the teachers stated that they use visual materials and technological tools and they choose the materials which are engaging ones according to the interest area of the students. This finding of our research shows consistency with the findings of the research conducted by Yıkılmış and Vural (2008).

Teachers prefer mostly to rearrange the seats of the students in the classroom. According to the researchers, changing the seat of a student may create significant alteration of the behaviors of some students in activities. Also the seating plan may increase the attention of the students, facilitate understanding instructions and ease providing individual support when necessary (Yönter, 2009; Batu and Kırcaali İftar, 2007; Strickland and Turnbull, 1990). From the perspective of the findings; albeit the arrangements related to the student seating is important for productivity of education, concentrating mostly on the seat placement in terms of class setting arrangements is insufficient.

Most of the teachers participated the interviews stated that they inform other students about the issues such as the status, behaviors, learning characteristics of the student at risk, they prefer talking with them and want help from them in order to ensure the acceptance of the student. This is also in coherence with the literature (Kargın; 2004). Some of the teachers stated that they try to include in group events and games in order to ensure the acceptance of them. In consistency with the literature, the teachers stated that they give opportunities to show themselves in the areas that they are capable of participate and have skills (Sucuoğlu, Ünsal, Özokçu, 2004; Baykoç Dönmez, 2011). Some teachers stated that they become role model for other students to ensure the acceptance of the student at risk. This finding also parallel with the Sucuoğlu, Ünsal, Özokçu (2004) and Özyürek (2006) researches saying that to exhibit a positive role model is an effective strategy for increasing interactions between special children and their peers.

More than half of the teachers who participated the research stated that they prefer to warn the student who have disruptive behaviors against the class order. Some teachers stated that the school counselor make conversation with the student against her disruptive behaviors. According to Çolak (2007) survey, when she faces with any problem related to special student, class teacher establishes cooperation with the counselor. This finding pictures that teachers seeking for support. Some teachers state that they ignore the disruptive behaviors of the students. This statement of teachers is parallel with the views that ignoring is functional for deflation of the unwanted behavior, (Başar, 1999).

Most of the teachers stated that they make arrangements in homework according to the level of the students, that is, they assign homework below the existing class level and have simpler

gains. They stated, in cooperation with the family, that they make arrangements on homework. Polloway, Epstein, Bursuck, Jayanthi and Cumbland (1994) stated in their research that, the cooperation between teachers and parents is important with regard to homework, and it is highly effective in primary school children.

Teachers prefer mostly observation to identify a student's academic progress. Teachers also use oral exams and tests in order to evaluate student, evaluate according to the program, and evaluate according to gains and evaluation forms. Many researchers have similar advices, too (Taylor, 2009; Ergül, 2009; Mastropieri and Scrugs, 2000; Rosenberg, O'Shea and O'Shea, 1998). Although some teachers stated that they make evaluations according to the evaluation forms and the goals in the plan they prepare properly to student performance, it is considered that the teachers don't work systematically while evaluating the students. According to the findings of a study on the implementation of pre-referral intervention teams as a school-based consultation approach, it is determined that teachers have inadequacies in, -especially- collecting data systematically, in works as class teachers and participating the process (Meyers, Valentino, Meyers, Boretti posed and Brent, 1996).

Teachers are using mostly the observation technique in order to determine the social progress of the students. In addition, they also try to determine the social progress through students' participation in social activities and friend relationships based on the information they receive from the parents. Observing the child in classroom setting and in the other environments is also recommended by professionals since it provides a rich source of information. In this regard, it can be said that the teachers are following a right way by making observations (Gürsel and Vuran, 2010; Bigge, Stump, Spagna and Silberman, 1999).

Most of the teachers keep and file the instances of the works of the students. Some teachers stated that they share them with other teachers, and some said that they exhibit while some others don't keep. The data collected in this process depending on the strategies to be used is important even it doesn't make any change in the student's performance. Because this data will help the special education teams when they need to make a decision on issues such as determination of eligibility to special education, intervention methods and placement options (McLoughlin and Lewis, 2005; Strickland and Turnbull, 1990). It is a negativity that some teachers do not keep the examples of student works. In addition, while trying to perform various educational interventions, it is expected from the teachers to document the change occurred in learning and behaviors of the student as a result of these interventions as a result of these interventions (Young and Gaughan, 2010; Üre, 2004; Wood, 2002; Tekin and Kırcaali İftar, 2001).

The first of the reasons to refer Counseling and Research Center (RAM) for students at risk is academic failure. Then they indicate the reasons such as student's behavior problems, teacher's feeling inadequate, wanting to determine the reasons of student's inadequacy, getting assessment of the experts, student's weak social relationships and wanting student to enjoy the legal rights set out in the special education service. It indicates a remarkable finding that some teachers are not in favor of referring RAM for students to review. Teachers stated that they don't want to refer because RAM evaluations did not solve their problems and the student was labeled. According to Batu, Kırcaali and İftar (2007) on the subject, the child and the family are faced many difficulties in the case of a needed student labeled due to applications conducted in our country. From this perspective it can be said that the teachers are not wrong in their concern.

As a result, in accordance with the findings of the opinions of the teachers, they are doing a lot of works needed for the students at risk as expressed in literature. The negative issues, such as not keeping the worksheet examples of the students, is considered as resulting from deficiency in knowledge. Therefore, informing teachers about the pre-referral process seems very important. This is possible primarily by taking additional lessons in the preschool and primary school teacher education levels. In addition, it is also true for the school counselor education. On the other hand, the need of special education experts to involve in the school system also is an important issue.

Determination of teacher opinions on the class teacher's works in pre-referral process keeps a light to the issue at a certain amount. However, a further evaluation of teachers' stated pre-referral practices (observation, classroom arrangements, program adaptations, evaluations etc.) as how right they are, how often they occur, and how they function, may be recommended to the specialists.

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Evaluation Of Supportive Levels Of Kindergarten Teachers On Creativeness Of Children Through Painting & Drawing Activities

Hatice Darga

1. Introduction

Creativity is defined in a number of different ways such as "*the talent of perceiving with different perspectives, bringing together things that seem irrelevant with each other to create something new and making a unique thing*". Torrance (1993) defines creativity as "*realizing the problems and gaps in given information, producing ideas or hypotheses and attaining results*". Individuals who can think creatively can correlate things that seem to be irrelevant (Fox & Schirmacher, 2008; Isbell and Rains, 2012). J.P. Guilford (1956) emphasized that creativity is important for an individual to reach his/her full potential and should be evaluated separately from the intelligence and said that creative personality and creative productiveness can be acquired through work. (Tuthcell, 2014; Artut, 2013). E. Paul Torrance (1964a,1969a) defines four processes of creativity as originality, rationality, flexibility and selectivity and say that children at the age of four are in their most creative period and defines them to be independent, curious, non-compliant, interested in learning new things, active players, playful and adventurous (Isbell and Rains, 2012).

Painting is the primary activity among art activities that reveal creativity of children. According to Friedrich Froebel, art activities are important since they enable teachers to recognize children with extraordinary talents and such activities support "full and versatile improvement" of each child. Froebel stresses that enjoying art works of other people and other cultures is crucial for all development areas of children while children make their own art works ((Isbell and Rains, 2012; Fox, and Berry, 2008). Theodotou (2015) has stated in his study that artwork participation of the children has a positive impact on their literacy activities and children continue their literacy activities without getting bored. Whether the children model by clay, make drawings by crayons or prepare collages by recycled particles, they feel an emotional satisfaction when they are included in artworks. This satisfaction is caused by the fact that the children has a command on the material they use and can decide what they do (Schirmacher, 1998; Seefeldt, 1993). Deciding what to do and which materials to use may be the first chance for the children to make selections and detections.

The significance of the preschool teacher on developing creativity and artistic abilities lies in effect of the teacher who ensures richness of motivational stimulant, estimate interests and skills of the children and gives them freedom (Svetlana, 2015). Discussions on how to perform artworks in preschool age still go on. Some of the approaches are as following: teacher-oriented, child-oriented, guide teacher or facilitator teacher. Guidance of the preschool teacher, their supportive approach for works of the children, their practises and different painting activities are very significant to developing creativities of children. Friendly environment to be created by the teachers, their allowing the children to select the material and theme to work with and providing different experiences such as tours and observations have a critical significance with regards to giving a creative point of view to the children. The teacher should lead the children without allowing them to fees it. The teacher determines the theme, expands an on-going activity or suggests a new technique. The teacher should observe the children and their using colours and figures freely and extraordinarily should be supported. The children should be ensured to try out what they like with an appropriate environment and rich materials. Various materials to be used for painting in the class should be located so as to be easily accessed by the children, should be changed often and interest of the children should be drawn

by these changes. In addition to general progress characteristics of the children, the teacher should also have a sufficient knowledge of linear progresses of the children.

On one hand, the teacher should not be worried about unusual use of the drawings and colours by the children, should observe and support the process and on the other hand he/she should support creativity of the children while teaching the concepts in line with the curriculum. Therefore, it has been planned to perform this research in order to determine what preschool teachers do to support creativity of the children via painting activities.

2. Method

2.1. Sampling

The study population consists of all teachers working in preschool educational establishments in Ordu city. Kindergartens in Ordu city are grouped by their socio-economic characteristics based on their accessibility and the sampling is selected through stratified sampling. Kindergartens located at the central region of Ordu city and children, aged 4-5, who attend kindergarten classes that are operated under primary schools are incorporated into this study. 34 teachers from 7 schools, one of which is a private kindergarten, one of which is a state kindergarten and the remaining 5 of which are state primary schools, participated in the study.

2.2. Method

Qualitative research method is used for data collection and analysis. Qualitative research is defined as a “research where a qualitative process is followed for setting forth qualitative data collection methods such as observation, interview and document analysis, perceptions and incidents in a realistic and holistic approach” (Yıldırım & Şimşek, 2013).

2.3. Data collection tool

It is a questionnaire form with 7 open-ended questions on personal information and 5 open-ended questions on the study subject matter. The form is created after literature review and opinions of five specialists, three of whom are from the field of child development and art education in preschool period and two of whom are from the field of educational sciences teacher training are asked. Necessary corrections are made depending on specialist's opinion. A pilot scheme was carried out on a group of five people in order to evaluate whether questions are thoroughly understood. After the pilot scheme, questions are reviewed and corrected.

2.4. Data collection and analysis

Questions are submitted to teachers in writing and a preliminary interview is conducted with each teacher to ensure that questions are thoroughly understood. Teachers give their replies in writing. Answers are subject to content analysis and codes are assigned to each answer and categories are created.

3. Findings

In this study that is carried out to reveal what teachers in kindergarten classes in Ordu city do in order to support creative power of children through painting and drawing activities, the following questions are asked to teachers:

1. Which practices and approaches do you display toward children **during** painting activities?
2. What do you tell a child when he/she shows you his/her painting?
3. How do you approach if the figure in the painting drawn by the child **cannot** be understood?
4. What kind of questions do you ask to the child based on the painting to help him/her to think in a **critical and creative** way?
5. How do you approach if the child draws an object or entity in his/her painting in **unusual** colours, shapes or intended use? What do you say and ask to the child about this? Please explain by using examples.

Table 1: Practices And Approaches Toward Children During Painting Activities

Main Category: Applications and approaches shown to children during painting activities					
Sub-Categories And Codes					
Unconstrained Style Of Painting	Code N.	Painting Activity With Theme, Directive And Pattern	Code N.	Award-Appraisal-Evaluation	Code N.
Making an activity for unconstrained style of painting by presenting material/ residue material in leisure time	11	Explaining the activity with theme to children and determining the material to be used	8	Appreciating the painting, saying it has been splendid	4
		Guiding the child who has difficulty in the painting with theme and helping him/her to complete the painting	6		
Supporting children to reflect their emotions and thoughts without directing them too much during unconstrained style of painting activity	7	Chatting before the tema style of painting activity, telling a story and showing figures	5	Talking with the child about the resulting painting and listening to the child when he/she describes it	2
		Giving directive for painting with pattern activity and asking them to complete their paintings with unconstrained style	5		
Allowing them to use any type of dye, color and paper that they wish during unconstrained style of painting activity	5	Supporting children to reflect their emotions and thoughts without directing them too much during painting with theme activity	3	Organizing an exhibition and evaluation the exhibition jointly	2
		Asking questions and giving directives about theme matter and material before the activity	2		
Making adequate material available on the shelf, offering children a choice of materials and ensuring a reliable and comfortable environment	2	Imitation activity based on a model	3	Asking them to show the painting to their friends	2
		Explaining them how the art activity with pattern will be carried out	2		
asking children before the activity what they will work on	1	Explaining the use of technique and dyes to be used	2	Exhibiting on board	1
Total Code Number	26		36		11

In Table 1, approaches shown by teachers to children during painting activities are listed in the categories of "Painting Activity with Theme, Directive and Pattern" (36), "Unconstrained Style of Painting Activities" (26) and "Award-Appraisal & Evaluation" (11).

The most coded three practices under "Painting Activity with Theme, Directive and Pattern" category are respectively "Explaining the theme to children and determining the material to be used (8)", "Helping the child who has difficulty in painting with theme activity

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to complete the painting (6)", "Chatting, story-telling and showing figures before the painting with theme activity (5)" and "Giving

directive for painting with pattern activity and asking children to complete with unconstrained style of painting (5)".

The least applied practices under this category are "explaining them how the art activity with pattern will be carried out (2) and "explaining the use of technique and dyes to be used (2)". The most frequently applied practices under unconstrained style of painting activity category are asking children to draw by presenting material in leisure time (11), supporting children to draw paintings in unconstrained style without directing them too much (7) and

allowing them to use any color, dye and paper that they wish (5). The least applied practice is "asking children before the activity what they will work on (1)". Teachers have expressed that their most frequent approach is "liking the activity and saying that the painting has been beautiful" (4) and their least frequent approach is "exhibiting on board (1)" under Award-Appraisal and Evaluation category.

Tablo: 2: Feedback given by the teacher when showing the child picture work

Main Category: Reactions (what is said) when a child shows his/her painting											
Sub-Categories											
General Approach	Code N.	Asking Questions	Code N.	Requesting Child To Narration	Code N	Award/Appraisal	Code N	Painting With Theme- Intervention	Code N	Evaluation	Code N
Liking paintings without criticism or judgment, evaluating according to development process and positive approach	12	Asking what he/she draws in the painting, the shapes and characters and what he/she is trying to express	10	Requesting from the child to narration the painting	11	Saying well done, this is well done, it looks nice and wonderful	17	Saying deficiencies and giving directions	7	Drawing attention to the details of the successful painting	2
		Asking what he/she wants to achieve and to express and what he/she wants to do differently	4	Requesting from the child to narration the painting to the class	1	Saying “I liked it very much”	4	Encouraging the child who has difficulty and making explanation and helping the child	3	Sharing the painting that go with the directive with his/her friends	1
						Saying that you have found the painting very successful	2				

Acting according to the compliance of painting with the directive	4	Asking the reasons for people drawn and colors used in the painting	3	Asking the child to narration painting that cannot be understood	1	caressing head and	1	Saying that he/she can draw better paintings	2	If necessary, making psychological evaluation	1
						saying thank you	1				
Total Code N.	16		17		13		25		12		4

According to **Table 2**, the main category of reactions given by teachers to children who show their paintings is divided into six categories: general approach of teachers, asking questions, story-telling, award-appraisal, intervention in painting with theme and evaluation. Two categories that teachers most frequently use are "award and appraisal (25)", "asking questions (17)" and "general

approach of teachers (16)". In award-appraisal category, teachers show most reactions by "saying well done, this has been very beautiful and looks very nice and it's wonderful" with 17 codes, while the least two reactions are "caressing head (1)" and "saying thank you (1)".

In the question-asking category, the questions that are asked most are questions about what the child has drawn, what he has tried to express as well as color, shape, line and characters he/she has used (10) while the least question codes are "Asking the reasons for people drawn and colors used in the painting (3)". In the category where teachers express their approaches in general, the code of

"evaluating children positively without criticizing them (12)" is the most frequently expressed reaction while "Acting according to the compliance of painting with the directive (4)" are the least reactions. The minimum feedback is evaluation category (4) and codes are expressed.

Table 3: Reactions shown by teacher when a figure in the painting drawn by a child cannot be understood

Main Category: Reactions shown when the figure in the painting drawn by the child cannot be understood									
Sub-Categories									
General Approach	Code N	Asking Questions	Code N	Narration	Code N	Award/Appraisal	Code N	Painting With Theme- Intervention	Code N
Negative criticism, reaction,	7	Asking questions such as what did you draw, what is this and what did you do? etc.	8	Asking the child to explain/dscr	9	Saying it has been very beautiful, appreciation	8	Saying you can do this in this manner as well; there is an alternative	4

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avoiding prejudice		Asking what he/she tries to achieve, what to express and what he/she imagines	8	ibe what he/she has drawn		Saying that it has been very different, how extraordinary you thought, creative	6	Presenting the original object or entity and visuals about the theme of the day	3
Accepting as normal, evaluating as part of individual difference	2	Asking why the child drew the painting in this way	6			Smiling and pretending to like	3	Even if the child has difficulty in painting with theme, appreciating the painting and saying that he/she can do better with more practice and as he/she gets older	3
		talking about the painting	1						
								Reiterating the activity	2
Total Code N	9		24		9		18		13

According to **Table 3**, the highest three categories that include reactions shown by teachers when the figure drawn by a child cannot be understood are asking questions (24), award-appraisal (18), intervention in painting with theme (13), general approach (9) and asking the child to tell the painting (9). In the question-asking category with the highest, two codes that are reiterated in the

answers of teachers are “asking questions about what the child has picture (8)” and “asking questions about what the child tries to achieve or express (8)”. The least reiterated codes are "talking about the painting (1)" and "making the child do minor corrections based on teacher's questions (1)"

Table 4: Critical and creativity-supporting questions of teachers based on the painting of child

Main Category: Questions supporting creative and critical thinking during painting activities									
Sub-Categories									
Asking Descriptive Questions	Code N	Asking Affective Questions	Code N	Asking Cognitive Questions	Code N	Requesting Child To Tell	Code N	Criticizing and warning	Code N
Asking the child about the theme, figures, colors and lines in the painting	17	Asking the child about his/her feeling	2	Giving the directive through cognitive questions	2	Asking the child to tell the painting	4	Reminding the child the deficiencies and errors in the painting and directing him/her with criticism, warning and directing	8
Giving the directive through descriptive questions	3	Painting activity for story completion and asking descriptive questions based on the painting	1	Asking cognitive questions about the figures in the painting where unconstrained style of painting is applied	1				
Asking questions about the material used	1								
Total Code Number	20		3		4		4		8

According to **Table 4**, the type of questions that teachers ask to children the most based on their paintings to support creative and critical thinking is “descriptive (20)”. In connection with directing the child with criticism and warning (8), two questions that are asked the least are "cognitive (4)" and affective (3)” questions. In the category of asking descriptive questions about the painting, the most frequently asked questions are those about the “colors, shapes,

In the cognitive question category, questions that are asked the most are “giving and in the affective question category, questions that are asked the most are “asking the child about his/her feelings about the painting (2)”, directive through cognitive questions (2)” figures and theme of painting” (17). "One of the least asked questions in this category are those related to material (1).

Evaluation Of Supportive Levels Of Kindergarten Teachers

Table 5: Approaches shown when the child draws the object or entity in a different color, shape or intended use

Main Category: Teacher's approach when figures are drawn in unusual colours, shapes or intended uses							
Sub-Categories							
Asking Questions	Code N	Requesting Child to tell	Code N	Comparison	Code N	Evaluation	Code N
Asking the reason for figures of different color, shape and size and different situations (e.g. Why did you draw the human head in rectangular shape? Why the sun and the moon appear in the same drawing? Why the apple is purple? Why do you paint the entire paper in black?)	10	Asking him/her to tell by asking him/her questions	6	Positive approach in unconstrained style of painting and comparing the painting with the reality (after the activity, explaining with visuals)	12	Accepting as normal, evaluating as part of imagination	8
Asking what he/she has drawn	4	Accepting as normal, requesting narration	4	In concept teaching, comparing the painting for which directives were given with the reality/original state, making explanation, helping in shaping, making corrections. (e.g. Do you think this shape resembles to the shape given? Requesting child to explain the original, making explanations based on visuals)	5		
Comparing the painting with the reality state	4						
Asking what he/she used the material as and whether he/she wants different materials	2						
Asking what he/she feels	1						
Asking what the product serves for	1						
Asking how he/she could have done that or which colour could have been used	1						
Total Code Number	23		10		17		8

According to **Table 5**, the approach that teachers show the most is "asking questions" (23) when figures are drawn in the painting in different colors, shapes or intended uses and the approach shown the least is "remaining without reaction" (8). In

the question-asking category, the most reiterated approach is "asking the reason" (10).

One of the least asked questions is what the resulting painting serves for (1). In the category of remaining without reaction, answers are gathered under accepting as normal and evaluating it as a part of imagination (8).

4. Discussion

According to the findings shown in Table 1, teachers instruct children most to make paintings with subject, directive, model and pattern activity (36). The second frequently used practice and approach of teachers are unconstrained painting activities (26). In unconstrained style of painting that is rather applied in leisure time, children are allowed to decide what to draw and which colours and materials to use. Literature knowledge and studies indicate that paintings and art activities that kindergarten children make do not support creativity and copycat, similar patterned and imitative works are intensively produced (Tutchell, 2014; Özler, 2009; Bredekamp and Copple 1997; Cherry and Nielsen, 1999; Lowenfold and Brittain, 1987, Akt. Fox and Schirmmacher, 2008).

The findings shown in Table 2 indicate that teachers praise, award and give feedback to the child who shows his/her painting most (25). Asking questions to the child about the painting (17), approaches with the general attitude of avoiding criticism (16) and urging the child to tell his/her painting (13) are intense and close to each other in terms of figures. Intervention in painting activities with a specific theme (12) is noteworthy. It can be said about Table 2 that teachers, in general, give positive reactions to the products of children that make them happy. Teachers give children feedback by asking them questions, having them describe their paintings and saying what they consider deficient in the painting after award and appraisal. The number of teachers whose general approach is to evaluate the painting according to the development process without criticism and judgment and express their liking and show positive attitude can be considered high (12). It can be said that teachers give feedbacks on paintings of children and act with interest toward children. They draw children's attention to the details of painting by asking questions about what they draw, what they want to express with the colors, shapes or other elements they use and by chatting on a figure that stands out in the painting and teachers ensure that children evaluate themselves while they are answering to the questions about their paintings or describing their paintings. Teachers restrict children to some extent in painting activities carried out by using a subject, directive, model or pattern to teach concepts. If children go beyond the subject, directive, model or pattern activity that is assigned and children have difficulty, they intervene and make the correction and help the children and continue or complete the painting. Schirmmacher (2008) emphasizes that comments or intervention by the adults in art works of children may hinder their artistic expression and correction strategy (e.g. your sun may appear blue but the sun is actually yellow or do you like painting purple apples?) may actually be negative and adults should intervene in art works of children only when children ask them to or when children ask a question by directing them open-ended questions or questions that will express the feeling. According to Schirmmacher, what should be avoided is to make a positive or negative evaluation (Fox and Schirmmacher, 2008). Thompson (2005) defines the activity of presenting a figure to children to paint and instructing them how to paint the figure and in which color they should paint it as teacher-centered art activity. Seefeldt (1995) stresses that asking children to complete pattern art works or making copies of adult art models may cause children to feel emotionally weak and giving children patterns and asking them to cut them or giving them shapes/figures and asking them to paint them may cause them to feel insufficient in terms of art (Fox and Schirmmacher, 2008). Mayesky (1995) 'e göre çocukların resimlerine "güzel olmuş" demek çocuğun çalışmasını yaratıcı ve eleştirel bir şekilde gözden geçirip değerlendirmesini engelleyebilir (Akt. Kalburan, 2012).

In Table 3, it is seen that teachers react most by asking questions (24) and award-appraisal method (20) if a figure in a painting drawn by a child cannot be understood. Awards and appraisals are in the form of expressions that the painting is beautiful, different and creative. Questions intend to understand what are drawn in the painting, what the child intends to express and why he/she has prefers to do this in that manner. Intervention and helping in painting with

subject also draws attention with the high number of codes (13). At this point, teachers intervene by making corrections and changes in the painting after explaining to child how to do it, showing how the figure in the painting should actually be and soothing and encouraging the child who experiences difficulty to continue. In general, positive approach and accepting the situation as normal (9) and urging the child to explain what he/she draws (9) are other reactions. Table 3: Mayesky (1995), çocuklara sorulan açık uçlu soruların onların yaratıcı şekilde düşünmeleri ve kendilerini özgürce ifade etmelerini desteklemek açısından çok önemli olduğunu vurgulamıştır. *Yaptığın resim hakkında bana neler söyleyebilirsin?* gibi açık-uçlu soru sormak, çocuğun yaptığı çalışmayı anlatmasını sağlayan önemli bir yaklaşımdır. Bu yaklaşım, özellikle eğitimcinin resmin ya da sanat çalışmasının ne hakkında olduğunu anlayamadığı durumlarda etkilidir (Akt. Kalburan, 2012). Sadece karalamadan oluşan bir resmin de oldukça ilginç bir hikâyesi vardır veya resimdeki otobüs sorulduğunda çocuk size onun köye gittiğini ve içinde dedesinin olduğunu söyleyebilir. Çocuk günlük yaşamı ve duygusal dünyasını özgürce denemeler yaptığı resmine ona sunulan olanaklar çerçevesinde yansıtabilir (ör: mor, yeşil saçlı çocuklar, güneş ve ay'ın aynı resimde yer alması, deniz kıznının sayfanın üst kısmında bulutların yanında yer alması). Çocukların sanat gelişimi resmin temel öğeleri çizgi ve işaretler, renk, şekil, form, doku, desen ve uzay üzerinden gelişir (Tuthcell, 2014). Bu öğeler çok çeşitli ve farklı etkinliklerle uygulamalı, çocuğun denemeler yapmasına ortam hazırlanmalıdır. According to Table 4, the type of questions that teachers ask to children most based on their paintings to support creative and critical thinking is descriptive (20). These questions describe figures, colours and lines in a painting. Reminding children the deficient and inaccurate points of the painting and directing them with criticism and warning is at a notable level (8) among the answers given by teachers. What teachers ask rarely are cognitive (4) and affective (3) questions to support creative and critical thinking. Formal descriptive questions are important since they enable children to evaluate themselves and their works with a critical perspective. Creativity and critical thinking will be supported if teachers ask more cognitive and affective questions to children about their paintings. Since intervention through criticism and warning to the child will cause the child to have negative feelings and discourage him/her, this approach should not be preferred. (Lynette, (2009), çocuğa “*eğer bu resmi yeniden yapabilseydin, daha farklı olarak neler yapardın?*” şeklinde bir soru ile çocuğun resim çalışmasını gözden geçirmesi ve üzerinde yeniden düşünmesinin sağlanabileceğini belirtir. Mayesky (1995), çocukların yaratıcı ve eleştirel düşünmelerini sağlayacak soruları; resmi tanımlayıcı, açıklayıcı, resmi farklı bir şekilde tekrar değerlendirci, çocuğun resim çalışması ile duygusunu açıklayıcı sorular şeklide tanımlamaktadır (Akt. Kalburan, 2012; Fox and Berry, 2008).

According to Table 5, the highest teacher category is asking the reason, asking (23) what children draw and asking questions to compare the painting and the original form when children paint objects or entities in **unusual colours, shapes and intended uses**. Secondly, in comparison category (17), they show a positive attitude in unconstrained style of painting and teaching concepts as well as approaches of comparing the painting with the original state, showing visuals in daily flow of education and making explanations. The number of teachers showing approaches of requesting from a child to explain by asking him/her questions or requesting from him/her to explain by accepting the situation as normal (10) and considering normal by accepting such figures as a part of his/her imagination (8) is also noteworthy. Approaches of teachers to ask questions to child about his/her painting and asking him/her to describe/explain the painting can be evaluated as correct and positive approaches. However, when answers of teachers are analyzed, both accepting the painting of child positively and comparing the painting with the reality are seen. Teachers instruct children to draw paintings with creative questions and directives in addition to unconstrained style of painting in order to support creativity. Making explanations or showing paintings/pictures during these activities

and after these activities are completed may cause children to feel that they are doing wrong and be confused. Teacher's approach such as "this is in your imagination but the original colour or shape of should be ..." may cause children to feel unsuccessful, keep away from painting, their creativity to be negatively affected and be trapped between their thoughts, wishes and imaginations and restrictions of teacher and thus, face dilemmas. Teachers should consider development traits of children and determine a proper approach. The impact of cognitive development and rich environmental stimuli on children's learning should also be remembered. It should be kept in mind that children can be creative as much as they are free. Engel (1995;1996) ve Mayesky (1995)'e göre, çocuk resimlerini tanımlayıcı bir perspektiften bakarak gözlemlemeli ve kullanılan materyal, içerik, görünüş, fikrin kaynağı gibi çeşitli açılardan değerlendirilmeli. Ayrıca çocuğun remindeki farklılıkları tercih nedeni yumuşak bir dil ve yüz ifadesi ile sorulmalı, yargılayıcı ve eleştirel yaklaşımlardan kaçınılmalıdır (Akt. Kalburan,2012; Fox and Berry, 2008; Tutchell, 2014).

5. Conclusion

Although kindergarten teachers mainly endeavour to support the creative power of children through unconstrained style of painting activities, they assign a subject, directive and pattern to children for painting activities to teach them concepts. It is concluded that approaches and practices of kindergarten teachers for enhancing the creative power in kindergarten children through painting and drawing activities have been supporting the creativity of children but participation of teachers in supportive training activities to achieve the exact purpose in full will enable them to apply painting activities more effectively to support creativity and it will positively influence their approaches toward concept teaching process.

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Examination Of Primary Student Teachers' Opinions About Preschool Education

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1. Introduction

A large number of behaviors which children acquire at the ages of 0-6, the critical years during which their development speed and learning capacity is the highest, shape their personality structures, attitudes, habits, beliefs and value judgments and form the basis of the development of their physical health. In this period, children become self-conscious and socialize by encountering other people and social rules (Oktay, 2010). Preschool education which requires guiding with a serious, scientific and systematic organization without letting go under the effects of coincidences is regarded as the vital step of all education. Therefore, with education given at preschool educational institutions, children can be made to acquire experiences which are suitable for their ages and levels and their development can be supported. For this reason, it is necessary to generalize preschool education given at institutions, try alternative models and reach all preschool age children (Basal, 2013).

At preschool educational institutions, children learn to identify colors and concepts like big-small, long-short in accordance with their age levels. They learn to listen, tell what they listen, observe, draw pictures. Through games, children gather information about their environment and peer group and prepare for primary school (Basal, 2013). Studies indicate that children having received preschool education have significantly higher levels of readiness compared to those who have not received preschool education (Oktay, 2010; Teke, 2010; Erkan, 2011; Tözar, 2011). Being prepared for primary school is more than academic knowledge and readiness is based on all domains of development multi-dimensionally. It is observed that although some children have strong language skills, they may have insufficient social skills; although some children are socially capable, they may be verbally weak. This variety existing in development may cause some difficulties in identifying children's levels of readiness for school (California Child Care Health Program, 2006). The Ministry of National Education Regulation on Preschool and Primary Education Institutions (2014) requires children completing their 66 months of age at the end of September of the year when registrations are made for starting primary school to enroll in school. Moreover, it is also included in the regulation that 60-66- month-old children with appropriate developmental characteristics can be enrolled in the primary school first grade with their parents' permission. However, it can be stated that there are great differences between preschool and primary education institutions in our country in terms of teacher attitudes, program contents and physical environments (Oktay, 2010). For this reason, the inclusion of children in primary school starting from the 60th month brings to mind the sufficiency of classroom teachers' knowledge and skill levels in relation to the characteristics of children at this period. As a result of their study, Yapici and Ulu (2010) determined that the first grade teachers expected high level of performance from the preschool teachers. Again, in a study made to determine classroom teachers' opinions about preschool education, it was determined that the classroom teachers found preschool education important, but they did not have sufficient knowledge about preschool education (Erden and Altun, 2014). Although there are some studies made on classroom teachers' opinions about preschool education, not a study made with primary student teachers was encountered. There is only one course aiming at preschool education under the name of “Early Childhood Education” in the Classroom Teaching undergraduate program. This course is given as an elective course at some universities and as a compulsory course at some others. However, it is considered that

supporting student teachers within the education process before they become teachers will affect their knowledge, skills and attitudes in the process after they start teaching. It is considered that this study is important in terms of determining student teachers' opinions about preschool education. For this reason, this study aims to reveal primary student teachers' opinions about preschool education.

2. Method

2.1. Sample of the study

The sample of the study is composed of 110 student teachers studying at the Classroom Teaching Division of the Primary Education Department of Uludag University during the 2015-2016 academic year. When determining the sample, "criterion sampling", one of the purposeful sampling methods, was used. In the sampling, not having received 'Early Childhood Education' was determined as a criterion. The main reason for this was that while the course of "Early Childhood Education" had been compulsory at the Classroom Teaching Division of the Education Faculty of Uludag University, it started to be taught as an elective course. In the study, it was aimed to determine opinions of student teachers who graduated without taking this course.

Table 1. Statistical data about the primary student teachers

		Gender				Total	
		Female		Male			
		f	%	f	%	f	%
<i>Did you receive preschool education?</i>	Receive	18	19.8	5	26.3	23	20.9
	Not Receive	73	80.2	14	73.3	87	79.1
	Total	91	82.7	19	17.3	110	100
<i>Is the preschool education necessary?</i>	Necessary	89	97.8	18	94.7	107	97.3
	Not Necessary	2	2.2	1	5.3	3	2.7
	Total	91	82.7	19	17.3	110	100

As it is seen in Table 1, 79.1% of the student teachers did not receive preschool education. Moreover, 97.3% of the student teachers think that preschool education is necessary.

2.2. Data collection tool

In the study, with the aim of determining the primary student teachers' opinions about preschool education, the "Perception Scale for Preschool" developed by Kesicioğlu (2013) and the "Questionnaire for Evaluating Student Teachers' Opinions about Preschool Education" were used.

2.2.1. Perception Scale for Preschool

In the study, the "Perception Scale for Preschool" developed by Kesicioğlu (2013) was used. In the development process of the scale, Kesicioğlu (2013) worked with 200 student teachers. The scale is composed of 27 items. In the analysis of the data, with the aim of calculating the scores of the answers given by the student teachers, the items in the scale were scored as follows: "agree" was scored 3, "neutral" was scored 2 and "disagree" was scored 1. In the scale, there

were no items to be scored inversely. The lowest score to get from the scale was 27 and the highest score was 81. The Cronbach's alpha reliability coefficient of the scale was calculated as .77. In the same way, the Cronbach's alpha reliability coefficient of the scale was calculated by the researcher as .77, too.

2.2.2. Questionnaire for Evaluating Student Teachers' Opinions about Preschool Education

The study included three close-ended questions in order to determine the student teachers' genders, if they received preschool education and their opinions about if preschool education is necessary and four open-ended questions prepared to determine their knowledge and opinions about preschool education. The questions were specified below:

- 1- In your opinion, what is preschool education?
- 2- In your opinion, what does preschool education aim at?
- 3- Do you know anything about education given at preschool education institutions? If you do, please explain.
- 4- What do you expect from a child having received preschool education?

2.3. Data Analysis

The data obtained from the questionnaire within the scope of the study were digitized and expressed in percentages and frequencies. With the aim of reflecting the student teachers' opinions more clearly, each student was given a code number (S1, S2) and direct quotations were also included. The pieces of data obtained from the study were coded separately by the researcher and an expert. The consistency of the data coded by the two researchers was calculated by using the formula of consensus/ (dissidence + consensus) (Miles and Huberman, 1994). The general coefficient of concordance between the researchers was determined as .86. Since a coefficient of concordance of .70 or above is regarded as sufficient, it can be stated that the study has a sufficient level of internal reliability.

The pieces of data obtained from the Perception Scale for Preschool were evaluated in terms of means. With the aim of determining the student teachers' opinions, a three-point scale, namely "Agree" (scores between 2.25-3.00), "Neutral" (scores between 2.00-2.24), "Disagree" (Scores between 1–1.99), was used.

3. Findings

The statistical data about the primary student teachers' perceptions in relation to preschool education was given in Table 2.

Table 2. Statistical data about primary student teachers' perceptions in relation to preschool education

Items	X	SD
Preschool education is important in terms of children's social development.	3.00	.000
Children receiving preschool education become more successful at mathematics.	2.02	.704
Children receiving preschool education have higher level of responsibility awareness.	2.79	.451
Children receiving preschool education are more creative.	2.55	.658
Preschool education is important in terms of children's acquiring academic skills.	2.68	.574
Children receiving preschool education become more successful at elementary science.	1.83	.740
Families are important for effective preschool education.	2.95	.228
Children receiving preschool education fit into society more quickly.	2.84	.439
Children receiving preschool education have more developed self-expression skills.	2.90	.330

Children receiving preschool education are more successful at solving problems which they encounter.	2.66	.579
Preschool education includes game activities.	2.99	.095
In preschool education, play grounds are important.	2.97	.163
Preschool education is important in terms of children's preparing for elementary school.	2.97	.212
Children receiving preschool education become more successful at Turkish.	2.05	.752
Preschool education includes art activities.	2.5	.581
For effective preschool education, classroom materials are important.	2.95	.209
Preschool education includes science activities.	2.36	.602
Preschool education is important in terms of children's cognitive development.	2.90	.357
Children receiving preschool education are more successful at establishing communication with their peers.	2.90	.330
Preschool education includes mathematical activities.	2.74	.519
Children receiving preschool education become more successful at art-music.	2.17	.776
Children receiving preschool education have higher self-confidence.	2.78	.457
Preschool education includes musical activities.	2.95	.209
Children receiving preschool education adapt to elementary education more easily.	2.95	.209
Children receiving preschool education learn to obey rules more quickly.	2.87	.334
Preschool education includes preparatory works for reading-writing.	2.59	.668
Preschool education is important in terms of children's self-care skills.	2.96	1.88

As it is seen in Table 2, the student teachers agreed with the item stated as "Preschool education is important in terms of children's social development" at a high rate ($X=3.00$). However, the student teachers "disagreed" with the item stated as "Children receiving preschool education become more successful at elementary science" ($X=1.83$). Moreover, it is observed that the student teachers were "neutral" about the items stated as "Children receiving preschool education become more successful at mathematics" ($X=2.02$), "Children receiving preschool education become more successful at Turkish" ($X=2.05$) and "Children receiving preschool education become more successful at art-music". It is observed that the student teachers generally "agreed" with the idea of receiving preschool education.

Table 3. Student teachers' opinions about preschool education

	f	%	f	%
A stage for preparing the child for school, school rules	54	32.1		
Education received at nursery school or kindergarten before starting elementary school	44	26.2		
Education having effect on physical, affective and mental development	16	9.5		
Preparation works for life with games and activities	14	8.3		
Transition stage softening the period between game and lesson	10	5.9		
Social skills training	7	4.2		
General name given to nursery class-nursery school	7	4.2	168	100
Education given in accordance with interests, developmental characteristics and abilities	4	2.4		
Education having children acquire knowledge and skill	3	1.8		
Education of children aged between 48-66 months	3	1.8		
Education developing the skill of self-expression	2	1.2		
Stage for preparation for reading and writing	2	1.2		
Education predominantly based on values education	1	0.6		
Education received starting from birth and until the age of compulsory education	1	0.6		

When Table 3 is examined, it is observed that 168 data were obtained from 110 student teachers. Primarily, the student teachers ($f=54$, 32.1%) stated that preschool education is the stage preparing children for school and school rules. 26.2% of the student teachers ($f=44$) defined preschool education as the one received at nursery school or kindergarten before starting primary school; 9.5% ($f=16$) defined it as the one having effect on physical, affective

Examination Of Primary Student Teachers' Opinions About Preschool Education

and mental development; 8.3% (f=14) defined it as preparatory works for life with games and activities; 5.9% (f=10) defined it as the transition period softening the period between game and lesson. Only 1 (0.6%) student teacher defined preschool education as the one received starting from birth and until the age of compulsory education. S3 stated that preschool education includes “*preparatory works for life with games and activities. Actually, it can be said that it is for preparing for primary school.*” Moreover, S6 explained that preschool education “*refers to the education which children receive before starting the 1st year. Preschool education helps children with many matters such as learning school rules, classroom, being away from family (being independent), making a circle of friends.*”

Table 4. Student teachers’ opinions about the aim of preschool education

	f	%	f	%
Preparing for school	44	17.2		
Supporting children’s psycho-social development	37	14.4		
Facilitating the process of adaptation to school	28	10.9		
Having children acquire basic knowledge and skills through games	20	7.8		
Supporting children’s psycho-motor development	19	7.4		
Helping children start primary school in a healthy way	15	5.9		
Supporting children’s cognitive development	14	5.5		
Teaching them their responsibilities	12	4.7		
Increasing their communication skills	11	4.3		
Having them love the school	8	3.1		
Developing children in different ways	7	2.7		
Having children obey social rules	6	2.3	256	100
Raising conscious, healthy children	6	2.3		
Developing children’s hand skills	5	2		
Helping children read more easily	5	2		
Instilling self-confidence	4	1.6		
Developing children’s self-care skills	4	1.6		
Meeting their need for play	2	0.8		
Having children see themselves as an individual	2	0.8		
Teaching them how to deal with problems	2	0.8		
Supporting children’s language development	2	0.8		
Having children acquire academic skills	2	0.8		
Developing children’s imagination	1	0.4		

When Table 4 is examined, it is observed that 256 data were obtained from 110 student teachers. 17.2% (f=44) of the student teachers stated that the primary aim of preschool education is to prepare children for school. Moreover, the student teachers also stated that the aim of preschool education is to support psycho-social development (f=37, 14.4%), facilitate the process of adaptation to school (f=28, 10.9%), have children acquire knowledge and skills through games (f=20, 7.8%), support psycho-motor development (f=19, 7.4%), have children start primary school in a healthy way (f=15, 5.9%), support cognitive development (f=14, 5.5%), teaching children their responsibilities (f=12, 4.7%). S2 stated the aim of preschool education like this: “*Preschool education aims to instill children self-confidence and teach basic knowledge through games. At the same time, it aims to speed up the brain-muscle coordination in accordance with the development process of the child.*” S5 held the opinion that “*Education which children receive before starting primary school both meets children’s needs for play and helps them learn. This type of education helps children in the stage of preparation for primary school.* Similarly, S11 explained the aim of preschool education like this: “*It aims to teach children through amusement, prepare them for school by performing works according to their ages.*”

Table 5. Student teachers' opinions about education given at preschool education institutions

		f	%	f	%
	Game-centered education is given.	42	23.2		
	Educational activities according to children's age levels	35	19.3		
	Children are made to perform artistic activities like coloring, cutting and glueing.	26	14.4		
	Children are made to do activities aiming at socialization.	12	6.6		
	Children are made to acquire self-care skills.	10	5.5		
	Children are made to perform mathematical activities.	9	5		
	Children are taught songs.	7	3.9		
	Children are made to perform activities supporting muscle development.	7	3.9		
There is	Children learn by entertaining.	6	3.3	181	84.2
	Children read story books, comment on pictures.	5	2.8		
	Children are made to perform reading-writing activities.	4	2.2		
	Children's skills of obeying rules are developed.	4	2.2		
	Cultural activities are performed.	3	1.7		
	Values education is given.	3	1.7		
	Children's communication skills are developed.	2	1.1		
	Children are taught their responsibilities.	2	1.1		
	Science activities are performed.	1	0.6		
	Activities supporting cognitive development are performed.	1	0.6		
	A foreign language is taught.	1	0.6		
	Healthy nutrition education is given.	1	0.6		
	There is not			34	15.8
Total				215	100

While 86 student teachers stated being knowledgeable about education given at preschool education institutions, 34 (31%) stated not being knowledgeable of it. 181 pieces of data were obtained from 86 student teachers having stated that they were knowledgeable about preschool education. 23.2% of the student teachers (f=42) stated that game-centered education was given at preschool education institutions; 19.3% (f=35) stated that educational activities were performed according to children's age levels; 14.1% stated that children were made to perform artistic activities like coloring-cutting-glueing. S75 held the opinion that “*Generally, children are grouped according to their levels. Since each age has its own characteristics, education given to these groups can differ. Children's psycho-motor characteristics develop while they entertain through games.*” Moreover, S93 stated that “*I went to nursery school. We continuously drew pictures, learned numbers, watched cartoons, sang songs and slept at sleeping hours. We ate 3 meals a day. Apart from these, we did nothing.*”

Table 6. Student teachers' expectations from a child having received preschool education

	f	%	f	%
They do not have difficulty in adapting to primary school	38	15.2		
They have developed communication skills	29	11.6		
They have developed social skills	24	9.6		
They have developed small muscles	20	8		
They can express themselves comfortably	15	6		
They behave according to rules	15	6		
They are ahead of children not having received preschool education	15	6		
They have developed sense of responsibility	15	6		
They are self-confident	12	4.8	250	100
They learn to read and write more quickly	12	4.8		
They are prepared to learn	11	4.4		
They can meet their personal needs	9	3.6		
They love school	6	2.4		
They can understand given instructions	6	2.4		
They can adapt to the environment in which they live	5	2		
They have developed readiness level	3	1.2		

Examination Of Primary Student Teachers' Opinions About Preschool Education

They know to count up to 10	3	1.2
They know how to behave in society	2	0.8
They can identify colors	2	0.8
They have learned shapes	2	0.8
They are creative	1	0.4
They are aware that they are an individual	1	0.4
They are more conscious	1	0.4
They have concentration difficulty	1	0.4
They are more sensitive	1	0.4

As it is seen in Table 6, 250 pieces of data were obtained from 110 student teachers in relation to their expectations from children having received preschool education. 15.2% of the student teachers ($f=38$) stated that they expected a child having received preschool education not to have difficulty in adapting to primary school. Moreover, 11.6% of the student teachers ($f=29$) expected children having received preschool education to have developed communication skills. S106 held the opinion that *"Children having received preschool education at least know how to hold a pencil when starting school. They are expected to come to school more prepared and eagerly."* Similarly, S93 expressed this opinion: *"I expect them to be more equipped compared to children not having received preschool education. For, giving some types of education at certain ages is important for later years."* Moreover, S109 stated this opinion: *"When they start the 1st year, I expect them to have had toilet training, be familiar with alphabet, writing, have more developed sense of responsibility compared to others."*

4. Discussion and Conclusion

As a result of this study aiming to reveal the primary student teachers's opinions about preschool education, it was determined that the student teachers generally have positive viewpoints related to preschool education. In the study, it was determined that the student teachers were "Neutral" about the opinion that "Children having received preschool education become more successful at art-music." However, in a study where the pictures drawn by primary first grade students were examined, differences were determined between the pictures drawn by the children having received preschool education and the pictures drawn by the children not having received preschool education in such areas as creativity, authenticity, visuality, dimensional perception and proportion and it was also determined that preschool education had great contribution in the area of art (Büyükekiz, 2008). Therefore, it can be stated that preschool education contributes to children's artistic activities, too.

As a result of this study, it was determined that the student teachers disagreed with the opinion that "Children having received preschool education become successful at science", but they were "Neutral" about the opinion that "Children having received preschool education become successful at Turkish." As a result of a study carried out to determine if the children having received preschool education were successful at Turkish, it was determined that preschool education affected their Turkish-language skills in a positive way (Erkan and Topcu-Bilir, 2015). Moreover, when the preschool education program is examined, it is observed that the program includes Turkish-Language and science activities. Therefore, even if teachers do not perform sufficient activities, awareness about this matter can be achieved. Moreover, it can be stated that children having received preschool education are more successful at reading-writing and all the areas of development. This makes us consider that children having received preschool education will be more eager to learn and, for this reason, become more successful at all lessons.

It can be stated that this study revealed that although the student teachers had not received a course on Early Childhood Education, they generally had a positive perception in

relation to preschool education. As a result of the study, Kesicioğlu (2013) found out that especially male primary student teachers did not have sufficient knowledge about kinds of academic skills which children had when they started the 1st year and, for this reason, they had incorrect expectations from children coming from preschool. Moreover, as class level increased, the student teachers' viewpoints of preschool education changed. This is related to the fact that the student teachers received the course of "Early Childhood Education" in the third year.

It was determined that the student teachers defined preschool education generally as the stage of preparing the child for school and school rules, the education received at nursery school or kindergarten before starting primary school, the education having effect on physical, affective and mental development, preparatory works for life with games and activities and the transition stage softening the period between play and lesson. In a similarly study, it was found that the preschool teachers defined the aim of preschool education as the preparation for life, but the classroom teachers defined it as the preparation for school (Einarsdottir, 2003). Being ready for school is a multi-directional concept which is based on the development of the social, affective, physical and mental development in every aspect (Childcare Health Program, 2006). Preparation for school means children's reaching a level at which they can perform tasks which they are expected to do at primary school by supporting all the areas of development within the time during which they attend preschool education institution (Polat, 2010). It can be stated that although preschool education prepares children for primary school, in fact, it prepares them for life with the education it gives. However, teacher attitudes between preschool education institutions and primary school, differences observed in program contents and physical environments affect the process of children's preparing for school. As a result of the study carried out to reveal problems lived in the transition from nursery school to primary school, Bay and Simsek-Cetin (2014) found that since preschool education is based on games, does not include many academic expectations and applies a more flexible program, but, on the contrary, a more structured program with a lesson hour of 40 minutes is applied at the primary first year, children have difficulty in the transition to the primary first grade. As a result of their study, Yapici and Ulu (2010) found that the classroom teachers expected the children to sit at their desks for a lesson hour at the primary first year. Moreover, they also expressed that the classroom teachers had high expectations from the children having received preschool education and, for this reason; there were problems between the classroom teachers and the preschool teachers. The most common of these problems is the expectations related to works for preparing to read and write. In this study, although the student teachers firstly stated that children having received preschool education should not have difficulty in adapting to primary school, for some reasons as the concept of adaptation for school's being a broad concept and not having been defined in detail, it makes us consider that the student teachers had expectations about preparation for reading and writing. Moreover, when the other statements expressed by the student teachers are examined, it is seen that there were statements like "They are expected to be ahead of children not having received preschool education" and "They are expected to learn to read and write more quickly". The difference between the preschool and the primary school programs brings along differences between teachers' expectations and increases expectation differences between teachers.

In relation to the aim of preschool education, the primary student teachers stated such opinions as supporting psychosocial development, facilitating the process of adaptation to school, having children acquire basic knowledge and skills through games, supporting psychomotor development, having children start primary school healthily, supporting cognitive development, teaching children their responsibilities. Preschool education aims to support the psycho-motor, social-affective, language and cognitive development of children attending preschool education institutions, have them acquire self-care skills and increase their readiness

levels for school (MEB, 2013). Works performed in the preschool period prepare children and their families for differences which they are expected to encounter and help children enter school easily (Saracho and Spodek, 2003; Fabian, 2007).

31% of the student teachers stated not having been knowledgeable of the education given at preschool institutions. However, the student teachers who stated having been knowledgeable of the education given at preschool institutions stated that generally a game-centered education was given at preschool education institutions, age-appropriate educational activities were applied, such artistic activities as coloring-cutting-glueing were performed. At a preschool education institution, through games, children gather information about their physical environment and peer group, identify colors and learn such concepts as big-small, long-short according to their age levels. They learn to listen, tell what they listen to, observe and draw pictures (Basal, 2013). In short, the education given at preschool education institutions makes children get ready for their future lives in every aspect.

In relation to expectations from children having received preschool education, the student teachers stated such opinions as not having difficulty in adapting to primary school, developed communication skills, developed social skills, developed small muscles, comfortable self-expression, behaving in accordance with rules, being ahead of children not having received preschool education and developed sense of responsibility. Previous studies indicate that primary first grade students having received preschool education are ahead of children not having received preschool education in such matters as starting and maintaining communication, working in groups, protecting self-control, being more eager to come to school, sharing their belongings with their friends, obeying school and classroom rules, obeying courtesy and propriety and being able to do works requiring self-care skills by themselves (Ogelman and Sarikaya, 2013; Toluc, 2008; Dockett and Perry 2004). Moreover, Erden and Altun (2014) found as a result of their study that the classroom teachers thought it necessary to achieve the integration between the preschool education program and the primary school education program. Especially, making preschool education country-wide is important in terms of these two programs' being in integrity and harmony. In order to go through the process of transition to primary school more successfully, the integrity and continuity between preschool education and primary school is important and it is suggested to use the same pedagogical frame (learning environment, family participation, teaching strategies, planning, evaluation, etc) in the training of preschool teachers and primary school teachers (UNICEF, 2012). As a result of this study, it was determined that the student teachers were generally knowledgeable of preschool education. However, determining student teachers' opinions in more detail is important in terms of examining their viewpoints in relation to preschool education.

In order for primary student teachers to have problems with the primary first grade students at the lowest level when they start their profession, it is considered that it is important that they should take at least one course on preschool education at the undergraduate level. It is also considered that in-service training programs and seminars to be given in relation to classroom teachers' perceptions about preschool education will be effective and hence cooperation can be achieved with preschool education.

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Identifying Preschool Teachers' Digital Empowerment Levels

Fatma Elif Kilinc, Guluzar Sule Tepetas Cengiz

1. Introduction

The concept of knowledge is defined as “the intellectual product or the fact obtained via thinking, argumentation, reasoning, reading, observation or experiment” (Öğüt, 2003; TDK, 2016). When our civilization's knowledge level that has been acquired in the last two decades is characterized based on scientific and technological developments, it would be deemed suitable to name the present era as information age and the period as the information society (Özden, 2002).

Being an information society requires ongoing developments and transformations in the manner in which knowledge is created, adapted, communicated and accessed (Kazu and Erten, 2014). Hence, present day concepts such as teacher, education, leader, student and program should be reviewed based on advances and technological improvements (Wildermuth, 2010; Kazu and Erten, 2014). With the help of innovative and dynamic elements, the system of education fulfils its duty of transmitting cultural heritage to new generations, transferring the spirit of socialization and solidarity and values to children and providing them with information related to different scientific branches. In order to successfully fulfil these tasks, schools are required to be institutions that regulate and accommodate these innovations during the process (Tezcan, 1992).

In the context of transformations in educational processes observed in the global era, it is necessary to follow educational programs that are based on knowledge. It is crucial to prepare and offer environments which provide more opportunities for children to think; do research, experience, discuss and do further research (Petrrou, 2011; Kazu and Erten, 2014). Trainings that include adults should also be provided to ensure their adaptation to technology. It should be ensured that lessons should be based on comprehension of events and subjects through reflection and critical thinking rather than based on density of information (Seferoğlu, 2007; Semerci, 2003). With the proliferation of information, the need for individuals who know how and where to access information, *i.e. learning how to learn*, is on the increase compared to individuals who know everything (Numanoğlu, 1999; Tyger, 2011; Mäkinen, 2006). It is crucial to use products of technology in the most productive manner in order to be compatible and competent in the information age. Therefore, competent individuals are the ones who are aware of their own needs, who can control their learning behaviours and who can develop the required skills and abilities with the use of suitable technological products (Akkoyunlu, Yılmaz Soylu and Çağlar, 2010). Digital Empowerment includes individuals' skills to use digital technologies in information society to strengthen capacities and to improve life skills (Makinen, 2006; Petrrou, 2011). The concept of digital technologies is comprised of computers, internet, electronic mail, cell phone and other mobile devices and video games that preserve and transmit information digitally and also web 2.0 technologies which are the communication tools that allow participants and users to prepare and publish content (blogs, wikipedia, social networks etc.) (Akkoyunlu, Yılmaz Soylu and Çağlar, 2010).

The basic requirements for digital empowerment are competence and awareness in the use of digital technologies (Mäkinen, 2006; Jones-Kavalier and Flannigan, 2006). Awareness means that individuals discover new paths in their relationships and lives and experience enrichment in their reaction to events. In terms of digital empowerment, awareness means comprehending and embracing the opportunities offered by the use of new technologies (Akkoyun, 2001). In order to acquire digital empowerment, individuals need to be competent and have necessary awareness. Then, individuals may use digital technologies as a tool to access

information and contribute to knowledge production by making sense of the new knowledge. This is regarded as an indicator that the individual has digital empowerment (Norris, 2001; Zhao, Grasmuck and Martin, 2008; Garrison and Anderson, 2003).

It is crucial for teachers in educational institutions to have these skills in order to raise individuals with digital empowerment. It is necessary to encourage teachers to contribute to digital empowerment endeavors that are compatible with the new educational programs so that a successful transformation process can be experienced at schools. Teachers should be transformed into lifelong learners to develop their digital empowerment skills. Formative systems that present opportunities about how to read and use information should be developed for teachers who will be voluntary participants (Akkoyunlu, Yılmaz Soylu and Çağlar, 2010; Petrou, 2011; Pruet, Ang and Farzin, 2016).

The fact that today's children are in contact with digital technologies since their birth increases the importance of correct and productive use of digital technologies. It is preschool teachers' responsibility at schools to ensure correct and productive use of digital technologies. It is a known fact that preschool teachers should continuously improve themselves and should include digital technologies appropriately in their classrooms in line with the requirements of knowledge age. Almost all children are introduced to digital technologies at early childhood period but they may be negatively affected by this exposure when they are not taught how to use these technologies appropriately. However, approaches that support learning are ensured when digital technologies are used accurately and appropriately and when children are provided with accurate communication regarding these technologies. Various projects, studies and research in our country focus on the use of technology during early childhood period. Encouraging and increasing the use of educational technologies in learning environments is included as a development goal of the country. Therefore, it is deemed significant in this study to investigate preschool teachers' digital technology use and to present drawbacks.

2. Method

Descriptive method was utilized in this study to present preschool teachers' digital empowerment levels. Collected data were analyzed with the help of descriptive statistics (frequencies, percentage etc).

2.1. Study Group

The study group was composed of preschool teachers employed in Bolu province. Interviews were held with 140 teachers working in all the kindergartens and preschools of Bolu province in 2015-2016 academic year. The study group was composed of 107 teachers who volunteered to take part in the study. It was identified that in the group composed solely of women teachers; 9.3% of the participants were 25 years old or younger, 18.7% were between the ages of 26-30, 29% were between the ages of 31-35, 26.2% were between the ages of 36-40 16,8% were 41 years old or older. In terms of their professional experience, 22.4% of the participants worked for 1-5 years, 37,4% for 6-10 years, 15% for 11-15 years, 12,1% for 16-20 years and 13,1% had 21 years or more seniority

2.2. Data Collection Tools

2.2.1. Digital Empowerment Scale

“Digital Empowerment Scale” developed by Akkoyunlu, Yılmaz Soylu and Çağlar (2010) was used in the study as data collection tool. Digital Empowerment Scale is a 7 point Likert type (1=strongly disagree, 4=unsure, 7=strongly agree) scale with a total of 45 items. Factor analyses conducted during scale development phase presented a structure with four sub scales: 1. Awareness (9 items), 2. Motivation (10 items), 3. Technical Access (10 items) and 4. Empowerment (16 items). Cronbach Alpha coefficient for scale reliability was calculated to be 0,86 for the full scale. For Awareness, Motivaiton, Technical Access and Empowerment subscales respective Cronbach Alfa Alpha coefficients were found to be 0,94; 0,84; 0,78 and 0,81. These results are regarded as the indicators of a reliable and valid measurement tool.

2.2.2. Personal Information Form

Personal Information Form included questions related to teachers' characteristics such as age and seniority.

2.3. Data Collection Process

All pertinent permits regarding the research were obtained from Bolu Provincial Directorate of National Education. Preschool teachers employed in the province were contacted to have them answer the questions in the measurement tool. 107 of the 140 teachers who were contacted volunteered to take part in the study and answered the questions in the study.

3. Findings

This section provides the findings and interpretations related to the study that was conducted to determine preschool teachers' digital empowerment levels.

Table 1: Arithmetic Means and Standard Deviations for Preschool Teachers' Digital Empowerment and Sub Scales

Digital Empowerment Sub Scales	N	$\bar{x}$	ss
Awareness	107	53,15	7,64
Motivation		55,65	10,61
Technical Access		53,79	9,48
Empowerment		83,85	20,37
Overall Average		246,46	36,41

Overall average for teachers' digital empowerment was found to be 246,46. The score teachers obtained from the Digital Empowerment Scale was in the range of 153–315. These findings show that preschool teachers' digital empowerment levels were high. When teachers' digital empowerment was investigated in terms of sub scales, it was found that teachers' awareness, motivation, technical access and empowerment levels were also high.

Table 2: Teachers' Mean Digital Empowerment Based on Age

Age	Awareness		Motivation		Technical Access		Empowerment		Overall Average	
	□	ss	□	ss	□	ss	□	ss	□	ss
25 years and- n=10	52,10	11,50	57,10	9,32	55,80	11,01	80,50	20,54	245,50	47,48
26-30 years n=20	52,90	7,87	57,20	7,15	55,55	7,39	94,10	10,44	259,75	16,87
31-35 years n=31	51,93	6,50	53,64	11,64	54,03	8,74	87,87	17,80	247,48	33,08
36-40 years n=28	54,46	7,69	57	10,30	53,96	10,06	81,92	23,94	247,35	43,23
41 years and+ n=18	54,11	6,97	54,50	13,26	50,05	10,90	70,44	20,41	229,11	36,43

When teachers' digital empowerment means were investigated in terms of sub scales, it was found that means in awareness, motivation, technical access and empowerment sub scales and overall means were high. However, it was found that the means for teachers who were 41 and older were medium in empowerment sub scale.

Table 3: Teachers' Digital Empowerment Levels Based on Age Variable

	Source of Variance	Sum of Squares	df	Mean Square	F	p
Awareness	Between Groups	122,98	4	30,747	,517	,723
	Within Groups	6065,31	102	59,464		
	Total	6188,29	106			
Motivation	Between Groups	268,50	4	67,127	,586	,673
	Within Groups	11679,69	102	114,507		
	Total	11948,20	106			
Technical Access	Between Groups	356,05	4	89,013	,989	,417
	Within Groups	9183,42	102	90,034		
	Total	9539,47	106			
Empowerment	Between Groups	6052,81	4	1513,203	4,067	,004*
	Within Groups	37948,08	102	372,040		
	Total	44000,89	106			
Overall Average	Between Groups	9014,43	4	2253,609	1,747	,145
	Within Groups	131582,19	102	1290,022		
	Total	140596,63	106			

* $p \leq 0.05$

Table 3 presents significant differences between teachers' levels in empowerment ($p < 0.05$) sub scale and age variable.

Table 4: Teachers' Digital Empowerment Based on Seniority

Seniority	□	ss	□	ss	□	ss	□	ss	□	ss
1-5 years n=24	54,33	8,59	58,62	8,01	57,41	9,04	90,58	17,84	260,95	36,72
6-10 years n=40	52,90	7,49	53,97	11,71	53,80	9,07	83,85	20,57	244,52	36,89
11-15 years n=16	49,25	6,71	51,75	11,09	52,12	8,53	86,06	19,16	239,18	26,90
16-20 years	54,76	6,72	54,84	10,55	54,07	9,26	81,23	21,20	244,92	38,17

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n=13										
21 years or more	54,85	7,46	60,57	8,86	49,21	11,32	72,28	21,72	236,92	39,99
n=14										

When digital empowerment means were investigated based on teachers' seniority, it was found that teachers with 21 years or more seniority has medium level technical access. It was also found that teachers with varying teaching experience had high awareness, motivation and empowerment levels and high overall means.

Table 5: Teachers' Digital Empowerment Levels Based on Seniority Variable

	Source of Variance	Sum of Squares	df	Mean Square	F	p
Awareness	Between Groups	354,34	4	88,586	1,549	,194
	Within Groups	5833,95	102	57,196		
	Total	6188,29	106			
Motivation	Between Groups	915,48	4	228,871	2,116	,084
	Within Groups	11032,72	102	108,164		
	Total	11948,20	106			
Technical Access	Between Groups	654,21	4	163,553	1,878	,120
	Within Groups	8885,26	102	87,110		
	Total	9539,47	106			
Empowerment	Between Groups	3127,86	4	781,965	1,951	,108
	Within Groups	40873,03	102	400,716		
	Total	44000,89	106			
Overall Average	Between Groups	7343,41	4	1835,853	1,405	,238
	Within Groups	133253,22	102	1306,404		
	Total	140596,63	106			

No significant differences were identified between teachers' digital empowerment levels and seniority variable.

4. Discussion and Conclusion

The world of technology has undergone an incredible explosion in the last five years and children can now have contact with digital technologies starting with their birth. Children have their first experiences with digital technologies at home or in preschool institutions. Teachers with high awareness and empowerment in the use of digital technologies can raise individuals with high digital empowerment starting with very early years. Rapidly advancing and transforming technology has increased the demand for programming and coding. For instance, it is possible in China to teach coding to children starting from age six. Therefore, it is crucial for parents and especially preschool teachers to be open to and empowered about the use of digital technologies. Since younger and younger children are exposed to technology; researchers such as Gruszynska, Merchant and Pountney (2013) have studied digital literacy in preschool children and how these concepts affect teachers. The results show that children's intimate ties with technology may also affect teachers' technological skills. The researchers have pointed to the significance of teachers' development and catching up with the students in

this regard. Focusing on the same need, this study also aimed to identify preschool teachers' digital empowerment levels.

Results of the present study showed that teachers' digital empowerment levels and awareness, motivation, technical access and empowerment sub scale levels were high. Similarly, in their study, Akkoyunlu and Yılmaz (2011) also found that teacher candidates' overall digital empowerment and awareness, motivation and technical access sub scale levels were high.

While a significant difference was observed between empowerment and age variable, it was found that teachers who were 41 and older had medium level empowerment. However, it was determined that awareness, motivation, technical access and empowerment sub scale means and overall means were high in different age ranges. In their study which examined digital empowerment levels in sub categories based on teachers' ages, Akkoyunlu and Yılmaz Soylu (2010) presented that teachers in the age ranges of 45 year and older, 40 – 44 years, 30 – 34 years and 20 – 24 years had high awareness and motivation levels. It was also found that teachers in the age ranges of 40 – 44 years and 20 – 24 years had high technical access and motivation levels along with high overall means.

While there were no significant differences between teachers' digital empowerment levels and seniority variable, examination of digital empowerment means in terms of sub scales and overall means showed that teachers with 21 years or older seniority had medium level technical access whereas teachers with varying levels of experience had high awareness, motivation and empowerment levels along with high overall means. In a study that support this finding, Kılınç and Tepetaş-Cengiz (2016) presented that preschool teachers' use of technological tools did not differ based on age or seniority, that 81,3% of preschool teachers used social media and 94,4% benefited from the use of information technologies in learning environments.

5. Recommendations

Considering the fact that future of societies evolves due to technology, the need for teachers with high level skills to access and use information and high level digital empowerment is obvious especially in educational institutions. Suggestions are provided below to keep up teachers' digital empowerment levels and ensure that they help students obtain these skills:

- Various studies can be undertaken by researchers to identify preschool teachers' work to improve children's digital empowerment
- Actions should be taken to provide training to teachers to obtain technology use skills to support effective use of digital technologies in their daily plans.
- Teachers should be equipped in higher education institutions prior to service with the awareness and skills that focuses on the fact that success will be ensured in teaching and learning when digital technologies are utilized. In this context, empowerment levels of instructors who are responsible from teacher training should be improved as well.
- Necessary information and practice regarding new technological implementations and applications should be provided during in-service training.
- Virtual societies can be created to ensure constant communication among teachers. Teachers can have the opportunity to share their experiences with fellow teachers without leaving their work environment.
- Especially in early childhood period, activities that can be implemented with children to ensure correct use of technological tools to access information should be included in the program. Correct use of technological tools such as computer, television, projector, camera, camcorder and printer in all state or private preschool institutions for different

activities and purposes requires urgency, care and effort. Planning these types of activities forms the basis for children's acquisition of digital empowerment skills.

- Activities to diversify systems such as Elektroy (Electronic Data Collection and Assessment System) and to make positive contributions to student learning with varying uses of these systems should be encouraged and improved.
- At early ages, it is crucial to learn multipurpose and functional languages that require fewer codes for programs that do not require complex functions, web design and software

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The Study of Preschool Teachers Attitudes towards Giftedness and Its Education

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Introduction

The most obvious feature of developed societies is that they invest in mental potential and ability of individuals within their society (Levent, 2011, p.15). In this context, special programs are needed to develop gifted children's talents and skills so that they can be of benefit to the country. To diagnose children as gifted, it is primarily very important to find out what kind of characteristics and behaviors should be expected in children. Therefore, there are different ideas about the concept of giftedness. Marland (1972) defines gifted children as demonstrating high level of success at least in one or more of the following areas such as general mental abilities, special academic skills, creative or productive thinking, leadership skills, visual or stage arts and psychomotor skills or performing potential talent.

Gifted children exhibit unusual awareness both during and after infancy. They learn how to walk, talk, read and write earlier than their peers (Davis and Rimn 2004, p.33; Şenol, 2011, p.13-14). Gifted children in preschool are extremely curious and good observers. They show rapid growth in developmental milestones (speaking, walking, etc.). They are unusually confident in infancy. They recognize their parents or caregivers early and they laughed at them. They need sleep less compared to peers. They learn fast and they like learning. Gifted children have an outstanding memory and their language development is early and incredible compared to their peers. Compared to their peers, gifted children have advanced verbal skills and have a high level of ability to learn. There is excessive interest for books. Their interests are very broad. They may be interested in something for a long time. They try to be perfect. They have abstract reasoning and problem solving skills. They tend to be leaders while playing with their friends. They are attracted to adults' materials. They want to be friends with children who are older than themselves. They are sensitive to telling the truth and being honest. They are very energetic and challenge the authority. They are creative. They are sensitive to criticism. In addition, these children deal with numbers, crosswords and puzzles (Goodhew 2009, 20-21; Text, 1999, p.12-13; Özbay, 2013, p.29-31).

Identification of gifted children at an early age is very important for their future success. In identification of gifted children, teacher's observation and judgment plays an important role. The information provided by the teacher is directly related to the attitudes (Al-Makhalid, 2012; Wang, 1998). In addition, in the education of gifted children, teachers' attitudes and perceptions towards them play an important role. In this context, the study aims to examine the pre-school teachers' attitudes towards giftedness and its education.

Method

The present study aims to examine the pre-school teachers' attitudes towards giftedness and its education. In respect to this, the study is in descriptive survey model (Karasar, 2013).

Study Group

Purposive sampling method is used while forming the study group. The study group formed with 280 teachers who are working in schools within the central districts of Ankara during the spring semester of 2014-2015 academic years. The schools are as follows: Ministry of Education (ME) Independent Kindergarten, ME Elementary/Kindergarten, Anatolian

Vocational and Technical High School Practice Kindergarten, Private Preschool, Elementary/College and Day Care and Nurseries.

Table 1. Teachers' Demographic Information

		f	%
School Type	Public	181	64,6
	Private	99	35,4
Educational Background	High School- Associate Degree	72	25,7
	Undergraduate- Post Graduate	208	74,3
Age Group	36-48 months	47	16,8
	48-60 months	110	39,3
	60-72 months	94	33,6
	Other	29	10,4
Having Giftedness Education	Yes	60	21,4
	No	220	78,6
Working with Gifted Ones	Yes	66	23,6
	No	214	76,4
	Total	280	100

Table 1 shows that 64.6 % of the teachers participating in the present study work in state institutions, 74.3 % of them has graduate or post graduate degree, 39.3 % of them work with children that are 48-60 months old, 78.6 % of them had no training in giftedness education and 76.4 % of them have never worked with gifted children.

Data Collection Tools

In order to collect the data of the study, "Personal Information Form" and "The Attitude towards Giftedness and Its Education Scale (ATGES)" are used.

Personal Information Form

Personal information form is developed by the researchers. There are 8 questions with multiple choice within the Personal Information Form. The questions they ask about are as follows: Gender, age, type of school where the teachers work, their educational backgrounds, the age group that they are working with, the departments that they are graduated from, their work experience and personal information. In addition, there are 11 questions in the form asking about giftedness and its training. Seven of these questions require yes/no answers, one of them requires short answer and three of them are with multiple choice.

The Attitude towards Giftedness and Its Education Scale (ATGES)

The Attitude towards Giftedness and Its Education Scale (ATGES) is developed by Gagne and Nadeau (1985). The scale is adapted to Turkish by Tortop (2014b). In the end of the study the scale has been reduced to 3 dimensions. These are: The Needs of Gifted Ones and the Support Dimension (NGSD), Being Against Special Services for Gifted Ones Dimension (BASSGD) and Creating Special Ability Classes Dimension (CSACD). The Cronbach alpha coefficient of these dimensions is found respectively as 0.72, 0.61 and 0.75.

Findings and Comments

The average score given to each statement in Table 2 is considered as Gagné and Nedam's (1991) scoring system. The average score over 4.00 represents a highly positive attitude; the mean score between 3.26 and 4.00 represents a positive attitude; the average score between 2.75 and 3.25 represents a neutral attitude; the average score between 2, 00 and 2, 74 represents a negative attitude and when the score is less than 2.00 it represents a higher negative attitude.

Table 2. The Average Scores of Dimensions of The Attitude Towards Giftedness and Its Education Scale and its Standard Deviation

Dimensions	Average Scores (X)	Standard Deviation (SS)	Attitude
NGSD	3,82	0,68	PA
BASSGD	3,59	0,73	PA
CSACD	3,13	0,75	NA

When Table 2 is examined, it is seen that the average score and standard deviation of Being Against Special Services for Gifted Ones Dimension (BASSGD) are respectively X=3,59 and SS=0,73. When the average score and standard deviation of BASSG dimension is examined it is seen that teachers are not against special services for gifted ones and they have positive attitudes towards special services for gifted children. The average score and the standard deviation of the Needs of the Gifted Ones and the Support Dimension (NGSD) are found respectively X = 3,82 and SS = 0.68. When the average score and standard deviation of NGS dimension is examined it is found that teachers have the idea of giving support to the gifted ones and fulfilling their needs. In addition, it was found that teachers' attitudes towards gifted children's needs and support are positive. It is seen that the average score and standard deviation of Creating Special Ability Classes Dimension (CSACD) are respectively X=3,13 and SS=0,75. When the mean score and standard deviation of CSAC dimension are examined it is

found that teachers were indecisive about creating special skill classes for gifted children. It is seen that teachers have neutral attitudes towards the creation of special skill classes for gifted children.

Table 3. The Average Scores of the Items of the Dimensions in The Attitude Towards Giftedness and Its Education Scale and their Standard Deviations

IN		M	SD	A
Being Against Special Services for the Gifted (BASSGD) Dimension				
1	It is wrong to create special programs for gifted children as they would cause elitism*.	3,55	0,85	PA
2	Special education services for gifted children is a sign of discrimination *	3,68	0,85	PA
9	If special support and attention are given to gifted children they can be arrogant or selfish.*	3,53	1,06	PA
Creating Special Ability Classes (CSAC) Dimension				
3	Creating special classes for gifted children might cause other children feel worthless.*	3,49	0,95	PA
7	As they assume intellectually stimulating role for other children, the gifted ones should study in regular classes *	2,85	0,92	NA
8	If children are separated as gifted children and other children, this will cause and increase many other labelings such as, strong-weak, adequate- inadequate.*	3,05	1,09	NA
Needs of the Gifted and the Support (NGS) Dimension				
4	Gifted children get bored at school as their educational needs are not fulfilled.	3,85	0,89	PA
5	Special educational needs of gifted children in our schools are neglected.	3,70	0,97	PA
6	Gifted children need special attention and support to develop their capabilities fully.	4,00	0,89	YPA
10	The same investment that is done for children with learning difficulties should also be done for the gifted ones.	3,97	1,01	PA
11	Regular programs of schools put out the gifted children's intellectual curiosity.	3,55	1,03	PA

* Reverse item, IN item number, PA positive attitude, HPA: highly positive attitude, N: Neutral Attitude, A: Attitude

In Table 3 it is seen that the teachers do not agree with the following items of Being Against Special Services for Gifted Ones (BASSGD) Dimension; *'It is wrong to create special programs for gifted children as they would cause elitism'*, *'Special education services for gifted children is a sign of discrimination'* and *'If special support and attention are given to gifted children they can be arrogant or selfish.'* Thus it is seen that teachers support special services related to gifted individuals. However, it is seen that teachers agree with the following items of Needs of the Gifted Ones and the Support (NGS) Dimension; *"Gifted children get bored at school as their educational needs are not fulfilled"*, *"Special educational needs of gifted children in our schools are neglected"*, *"Gifted children need special attention and support to develop their capabilities fully"*, *"The same investment that is done for children with learning difficulties should also be done for the gifted ones"* and *"Regular programs of schools puts out the gifted children's intellectual curiosity"*. In addition, it is seen that teachers agree with the item *'Creating special classes for gifted children might cause other children feel worthless'* of Creating Special Skill Classes (CSACD) Dimension. On the other hand, it is seen that teachers were indecisive with the following items of Creating Special Skill Classes (CSACD) *'As they assume intellectually stimulating role for other children, the gifted ones should study in regular classes'* and *'If children are separated as gifted children and other children, this will cause and increase many other labelings such as strong-weak, adequate-inadequate'*.

In Troxcla's (2012) study it is found that although the teachers demonstrate a positive attitude towards the gifted children's needs and the support given to these children, they have negative attitude towards grouping skills and special education services. Watts (2006) proved that teachers have positive attitude towards supporting the gifted children and providing them special education services and grouping skills but the study also showed that teachers have negative attitude towards acceleration. Chipeco (2004) found that teachers' attitudes towards special services for gifted ones, social values and social policies related to gifted children, towards their acceptance and adaptation were positive at a mild level. Teachers' attitudes towards acceleration and grouping capabilities were found negative at a moderate level. Perković Krijan and Borić (2015) found in their study that primary school teachers' attitudes towards fulfilling the needs of gifted children were positive but their attitudes towards ability grouping strategy have been indecisive.

The studies of Troxclair (2012), Watts (2006) and Perković Krijan and Borić (2015) supporting the findings of the present study in terms of teachers positive attitudes towards gifted children's needs and fulfilling these needs. While the studies of Watts (2006) and Chipeco (2004) were supporting the findings of the present study in terms of teachers' positive attitudes towards special services for gifted children, the study of Troxclair (2012) is not supporting it. While the studies of Troxclair (2012), Watts (2006) and Chipeco (2004) are not supporting the finding of the present study in terms of teachers' indecisive attitudes towards creating special ability classes, the studies of Perković Krijan and Borić (2015) are supporting the same finding. Moreover, it is thought that the indecisive attitude of preschool teachers towards the creation of the special skill classes might be due to the lack of their information about the subject. Besides, the fact that these kind of special skills class applications are not widespread in our country can be considered to be an important factor about teachers being indecisive.

Table 4. Mann-Whitney U Test Results of Test Scores of the Attitude Scale Towards Giftedness and Its Education According to the State of Working with Gifted or Not

Dimensions	Working with the Gifted	N	Mean Rank	Rank Sum	U	p
NGSD	Yes	66	158,09	10434,00	5901	.042
	No	214	135,07	28906,00		
BASSGD	Yes	66	134,89	8903,00	6692	.514
	No	214	142,23	30437,00		
CSACD	Yes	66	128,42	8476,00	6265	.162
	No	214	144,22	30864,00		
Total		280				

In order to determine whether there is a meaningful difference among the dimensions of the attitude scale of teachers' attitudes towards giftedness and its education considering their experiences with the gifted children, Mann-Whitney U test is applied and the results are given in Table 4. As a result of Mann-Whitney U test, the scores differ significantly depending on working with the gifted ones or not ($U = 5901$, $p < .05$) in terms of Needs of the Gifted Ones and the Support (NGS) Dimension. It is seen that teachers who have experience had more mean rank compared to those who have no experience. However, teachers scores in terms of Being Against Special Services for Gifted Ones (BASSGD) Dimension did not to differ significantly depending on having teaching experience with gifted or not ($U = 6692$, $p > .05$). However, it is observed that teachers with experience in working with gifted ones have less mean rank than those without experience. In addition, when teachers state of having experience with gifted ones or not is considered no meaningful difference was seen in teachers' scores regarding Creating Special Ability Classes (CSAC) Dimension ($U = 6265$, $p > .05$). However, it is observed that those teachers who have experience with gifted children have less mean rank than those without experience.

Polyzopoulou et al. (2014) found in their study that teacher's perception of gifted children and their education is affected by teacher's experiences of teaching gifted children. Moreover, in Al-Makhalid's (2012) study it is found that there is a meaningful difference between the attitudes of teachers who work with regular children and the attitudes of the ones who work with gifted ones regarding supporting gifted ones, providing special services and creating skill classes for these children have significant differences. Teachers of gifted children's have higher attitude than those teachers who are teachers of regular children. On the other hand, Rosemarin (2002) found no meaningful relation between the attitudes of teachers in regular classes and the attitudes of teachers who taught gifted students. Also, the study of Chipeco (2004) showed that

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there was no difference between the years that elementary school teachers spent with gifted children in teaching and their attitudes towards them.

Table 5. Mann-Whitney U Test Results of the Scores of Attitude Towards Giftedness and Its Education Scale In terms of Having Gifted Education or not

Dimensions	Having Giftedness Education	N	Mean Rank	Rank Sum	U	p
NGSD	Yes	60	156,42	9385,00	5645	.083
	No	220	136,16	29955,00		
BASSGD	Yes	60	131,96	7917,50	6087	.350
	No	220	142,83	31422,50		
CSACD	Yes	60	146,70	8802,00	6228	.500
	No	220	138,81	30538,00		
Total		280				

In order to determine whether receiving giftedness education or not causes a meaningful difference among the scores of dimensions of Attitude towards Giftedness and Its Education Scale Mann-Whitney U Test is applied. When Table 5 is examined Mann-Whitney U test results show that there is no significant difference between the scores of teachers according to their states of receiving giftedness education or not ($U=5645$, $p>.05$). However, it is seen that teachers who had giftedness education have more mean rank compared to those who had no education. Besides, no significant difference is found between the scores of teachers who had giftedness education and who had not in terms of BASSGD ($U = 6087$, $p>.05$). However, it is seen that teachers who had giftedness education have less mean rank than those without education. In addition, the scores of the teachers in terms of CSAC dimension did not differ significantly according to the state of the teacher having giftedness education or not ($U = 6228$, $p>.05$). It is seen that teachers who had giftedness education have more mean rank than those who didn't have.

In fact, it is expected that the attitudes of teachers who had giftedness education should differ significantly and also should be higher than those who had no education. The quality of the education plays a very important role in creating awareness. In the study of Tortop (2014a) it is found that in-service teacher training programs helped teachers improve their self-efficacy beliefs related to giftedness education. There is a significant positive relationship between positive attitude and in-service training (Lassing, 2003; Lassing, 2009). It can be said that the reason of the increase in the attitude is because of the increase in the level of teachers' knowledge and awareness (Tortop, 2014a). In the study of Şahin (2010) it is found that the education provided for assistant pre-school teachers about characteristics of gifted children

have an effect on increasing their knowledge at a moderate level. In the study of Şahin and Kargın (2013) it is identified that the education given to classroom teachers about determining gifted students caused a meaningful difference between their pre-test and post-test scores at high level in terms of their knowledge.

In giftedness education teacher training is one of the most important factors affecting the attitudes of teachers towards gifted children (Chipeco, 2004). Lassing (2003) determined that there is a meaningful relationship between the positive attitude of teachers and their participation in in-service training related to giftedness education. Likewise, Lassing (2009) found in another study that there is a meaningful cooperation among teacher's attitudes towards gifted children, participation of teachers in giftedness education and receiving giftedness education services. Although Al-Makhalid (2012) found no meaningful relation between having giftedness education and attitudes towards gifted ones, it is seen that, there is a meaningful relation between both having education about gifted ones and their education and teachers educational information and needs. Chipeco's (2004) study revealed that there was no significant relationship between staff development related to gifted ones and teachers' general attitudes towards giftedness education, special programs for the gifted ones, acceleration and social value of the giftedness. In their study McCoach ve Siegle (2007) determined that teachers training of giftedness education have no effect on their attitudes towards gifted ones. It can be said that preschool teachers state of having giftedness training caused no meaningful difference in their attitudes towards it is related with the quality of education received. It is seen that teachers who participated in the study participated in short-term trainings such as seminars and conferences. It is thought that this length of time would not create a significant awareness in teachers about giftedness and its education.

Conclusion and Recommendations

As a result of the present study, attitudes of preschool teachers are found positive towards special services for gifted children ($X=3.59$; $SS=0.73$) and towards gifted children's needs and support ($X= 3.83$, $SS = 0.68$). However, attitudes ($X=3.13$, $SS=0.75$) of pre-school teachers towards the creation of special skill classes for gifted children was found to be indecisive. However, pre-school teachers' attitudes towards gifted children's needs and support differed significantly depending on teachers' states of working with gifted ones or not ($p < .05$), it didn't differ significantly in terms of having giftedness education or not ($p > .05$). Pre-school teachers attitudes towards special services for gifted children did not differ significantly according to their state of having giftedness training or not ($p > .05$). Moreover, it is found that attitudes of pre-school teachers towards creating special ability classes for gifted ones did not differ according to any variable ($p > .05$).

According to the results of the present study the following recommendations can be done; the emphasis on giftedness and its education should be more and further studies should be conducted in this regard, teacher attitude scale which is appropriate with culture should be developed on giftedness and its education and qualitative studies should be carried out for both determining preschool teachers' opinions about giftedness and their attitudes towards it.

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Joint Effects of Anxiety and Mood Induction on Risk Taking Behavior for Elderly and Young

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1. Introduction

When we feel good, everything around us looks more bright and shiny. We can say that emotions that are pleasant are related to positive thinking and positive memories. It has been noted that pleasant events are recalled faster than unpleasant ones in states of happiness. According to the researchers who studies those effects, people in pleasant emotional states tend to have greater self-respect, a reduced sense of risk, and a milder attitude towards the changes (Berkowitz, 1993).

In a state of negative emotions, however, there is a tendency for different effects to appear. When they feel bad for some reason, people are found to be more likely to recall unhappy events, feel more self-centered, be more aware of the dangers and sense greater risks around them (Berkowitz, 1993). According to a study which examined the influences of the emotions on risk-taking behavior, negative (sad) emotions are associated with risk aversion, whereas positive emotions are associated with risk-taking behavior (Chuang, Kung & Yang, 2005).

People make a decision for every situation they faced throughout their lives and exhibit behaviors in line with those decisions. At least, this is generally the case. However, sometimes their behavior may not be in line with the decision they make or intend to make. Especially when they are about to decide about risky situations, their decisions will be influenced by many factors, such as age and emotional state (Kim-Spoon et al., 2016; Morrongiello et al., 2015; Rolison, Hanoch and Wood, 2012; Chou, Lee and Ho, 2007; Deldin, and Levin, 1986). There are studies in the literature which show that positive and negative emotional states affect the decision-making process in risky situations. In a study by Morrongiello et al (2015) on children at school ages, the probability of taking risk is observed to be greater in positive emotional states, than in negative emotional states. In a study by Deldin and Levin (1986), it has been observed that the riskiest decisions have been taken while positive emotions are dominant, whereas the least risky decisions are taken while negative emotions are in effect, and mildly-risky decisions are made in neutral emotional states. In yet another study, the tendency of choosing risky options are noted to be greater in positive emotional states, than in negative emotional states (Chuang, Kung & Yang, 2005). According to a 2007 study by Chou, Lee and Ho, both young people and older adults tend to take greater risks in positive emotional states than in negative emotional states. In another study which compared the risk-taking choices of young and older people, the choices of those two groups are found to be similar (Rolison, Hanoch & Wood, 2012).

In the study by Arkes, Herren and Isen (1988) positive emotions are observed to foster both risk aversion and risk seeking behaviors. In a positive emotional state, if the potential losses that will result from the risk are known, an effort will be made to avoid the risk, but if the potential losses are known to be minimized, risk will be accepted (Arkes, Herren, & Isen, 1988).

The states of depression and anxiety may also affect the tendency of taking risky decisions or behaving in risky manners. Huckley et al (2000) study on the influence of negative emotions on risk-taking behavior of students from 18 to 31 showed that a state of mild depression reduced the preference towards risky choices. On the other hand, the negative states of mind like anxiety and anger boosted the preference towards risky choices (Hockey et al.,

2000). In another study, people feeling anxiety were observed to make less risky decisions than those who are not feeling anxiety (Giorgetta et al., 2012). In a study by Michael and Ben-Zur (2007), on the other hand, the states of depression and aggressive behavior were found to be associated with taking greater risks among adolescents between the ages 16 and 18.

Depressive mood have been found to be associated with risk taking. There are also studies which showed that negative moods lead to different effects, depending on motivational influences. For example, anxious individuals who are more concerned with risks lean towards choices with less risks and reduced rewards, and sad people who are more concerned with rewards lean towards greater risks with increased rewards (Raghunathan & Pham, 1999). Another study examined how risk taking tendencies differed among young and older adults, judging from their cortisol reactions. They concluded that stressful states changed decision making strategies, especially among older adults. Among older adults, stress led to increased levels of cortisol and decisions related to risks were reduced (Mather, Gorlick & Lighthall, 2009).

Looking through the literature, one notes that the studies which compared the older adults and young people are about risky decisions the subjects make, not about the risk-taking behaviors of the subjects in particular situations (e.g. Rolison, Hanoch & Wood, 2012). For that reason, our study aims at studying the risk taking behaviors of the subjects. The main goal of this study is to analyze whether the risk-taking behaviors differed among young and older adults while in positive or negative emotional states.

2. Method

2.1. Participants

The subject pool for this study was formed by selecting 41 older adults between the ages 60-74, 14 middle or high school students between the ages 14-18, and 51 undergraduate students between the ages 19-21. Out of the 106 participants, 44 were female and 62 were male.

2.2. Measures

Beck Depression Scale (BDS) was utilized in this study. The validity and reliability study of this scale was done by Teğin (1980) and Hisli (1988). The scale contains 21 items about depression symptoms such as pessimism, dissatisfaction, feeling of failure or guilt, nervousness, fatigue, sleep disorders and social withdrawal. Each item consists of four-level self-evaluation expressions which determine a behavior particular to depression.

Another tool utilized in this study was *State-Trait Anxiety Inventory* (STAI). It was developed to determine the levels of continuous anxiety states (Spielberger, Gorsuch & Lushene, 1970) and adapted to Turkish culture by Öner and LeCompte (1983). It is a self-evaluation scale which is made up of brief statements. It contains 40 items, 20 of which are about how the subject feels under certain circumstances and with the remaining 20 are for the continuous anxiety scale. Each item is evaluated with numerical values from 1 to 4, with higher values corresponding to higher anxiety levels.

Anxiety Sensitivity Index-3 (ADI-3) is another tool developed by Reiss et. al. in 1986. It consists of three dimensions, namely, physical, social and cognitive. The validity and reliability study of its Turkish version was performed by Mantar, Yemez and Alkın (2010). This index was developed for determining the sensitivity to anxiety. It is made up of 18 items which allow five-level likert style measures. The items are evaluated with values from 0 (corresponding to

“none”) to 4 (corresponding to “too much”). The items 3, 4, 7, 8, 12 and 15 make the physical dimension. The items 2, 5, 10, 14, 16, 18 make the cognitive, and 1, 6, 9, 11, 13, 17 make the social dimension.

In this study, we also utilized the *Visual Analog Scale* (VAS), which was developed in 1988 by Albersnagel. The scale was adapted to Turkish culture by Aydın, Araz and Aslan, in 2011. The scale consists of adjectives about emotion which subjects use to mark the emotions they go through at the moment. In the 2011 adaptation study by Aydın et. al., the dimensions were arrived, Anxiety/Distress (corresponding to the adjectives anxious, tense, uneasy, nervous, depressed, sad, blue, despondent, tormented and lost), Positive Feelings (corresponding to happy, glad, pleased and cheerful), and Hostility (corresponding to annoyed, irritated, disagreeable and hostile). These factors explained 62.4% of the variance in the adaptation study. In the studies utilizing VAS, it was noted that all the items of the scale or just the items relevant to the study could be employed. In accordance with the purpose of this current study, 9 emotional adjectives (despondent, happy, blue, glad, sad, pleased, depressed, cheerful and tormented) of the VAS were utilized. For each adjective, a score value between 0 to 100 was assigned. Marks were made by each participant with a vertical notch along a straight, horizontal line and scores were obtained by measuring the location of the mark with the help of a straight ruler. The emotional adjectives found in the positive emotions category were opposite items (Aydın et. al. 2011). The ruler-measured values were between 0 and 15 centimeters.

BART Balloon Test is a computerized test which measures the risk-taking behavior. It was developed by Lejuez et al, in 2002. In the test, a participant is asked to blow a small balloon drawn on the computer monitor by clicking on a button labeled “Pump.” With each clicking of the button, the balloon image goes through a blowing animation which represent a volume gain, but each simulated pumping also creates a risk of blowing up the balloon. In each of the 30 trials that make up one run of the test, the balloon can blow up at any size, so the participant is given the choice of risking a blow-up by pumping more, or by clicking a button to end the trial and keep the points based on how much the balloon grew without blowing up. The sum of earned points determine the monetary reward for the participant and his/her risk-taking tendency is measured by the number of the balloons grown without blowing up or by the average count of the pumpings the participant has performed.

Risk Perception Questionnaire, in accordance with the purposes of this study, was constructed to be able to determine the risk perceived by the subjects while they were performing the BART test. It consisted of 13 questions 12 of which were likert of 7. Each question was to be answered with a value from 1 to 7, and the higher values meant the perceived risk level was higher. The questions 2, 3, 7 and 10 were opposite items.

Following from the Schaefer et. al study (2010) about the new tools for researchers investigating emotions, two video clips were utilized in this study to invoke emotions on subjects. To invoke happy emotions, a 3.10-minute segment of the movie “When Harry Met Sally” was shown, and to invoke sad emotions, a 2.16-minute segment of the movie “Schindler’s List” was played.

Taking cues from Mayer, Allen and Neauregard’s study (1995), music excerpts were employed in this study to ensure the maintenance of the subjects, moods. For maintaining the positive emotional state, Bach’s Brandenburg Concerto #2 was played. In the same manner, Prokofiev’s work of “Russia, from Alexander Nevsky” was played. These melodies were played from beginning of the game to its end.

2.3. Procedure

Among the older adults who volunteered for this study, 50% was randomly assigned to the happy-mood group, while the remaining 50% was assigned to the sad-mood group. Adolescents were also randomly assigned to the two groups in the same manner

Subjects were taken into the laboratory for the experiments individually. Each subject was first given an approval form to read and sign, and then asked to evaluate the Visual Analog Scale (VAS), Beck Depression Scale and the State-Trait Anxiety Inventory. Then each subject watched the video clip associated with the mood group he/she was assigned to. After the video clip, the subject was again asked to evaluate the VAS to state his/her current mood.

Each subject was then given the description of the BART balloon test and then proceeded to perform the test in the form of a game. During this task, each subject listened to the musical excerpt associated with the subject's mood group. At the end of completion of the BART task, the subject was again asked to VAS test, answer questions about risk perception and evaluate the Anxiety Sensitivity Index. Afterwards, the subject was given the money earned in the balloon test.

3. Findings

3.1. Manipulation of Emotion

In order to induce a happy or sad mood, each participant was asked to watch a movie clip chosen for the mood, after the mood measurements were taken via tests. Mood measurements were repeated after watching the clip. In order to determine whether the movie clip had induced the intended mood, the data were analyzed with the t-test for independent groups, using the SPSS statistics package program. In that test, the dependent variables were the differences of the score markings on each item of the VAS tests taken before and after watching the clip. The independent variable was the mood group (happy or sad) the clip belonged to.

According to the results of the analysis, the scores for the VAS mood dimensions of despondent, blue, sad, depressed and tormented were higher after watching the clip associated with the sad mood. On the other hand, after watching the movie clip of the happy mood, scores were higher along the happy, glad, pleased and cheerful dimensions. In summary, movie clips did create a measurable change in the subjects' moods in the intended ways. The results of the analysis are summarized on Table 1.

Table 1. Analyses of Differences Between Before and After Clips for Mood Induction

	Differences	Happy Mood		Sad Mood		T
		Mean	SD	Mean	SD	
Young	Despondent	0.0008	3.83	2.49	4.68	-2.55*
	Blue	-1.022	3.93	4.36	5.58	-4.88***
	Sad	-0.75	3.59	5.01	4.53	-6.17***
	Depressed	-1.13	3.41	1.46	6.03	-2.30*
	Tormented	-1.17	3.06	3.20	5.52	-4.26***
	Happy	-0.60	3.67	3.52	4.15	-4.62***
	Glad	-1.19	5.27	4.72	6.05	-4.58***
	Pleased	-0.84	5.16	4.71	4.64	-5.001***
	Cheerful	0.39	2.47	5.03	4.64	-5.42***
Older Adult	Despondent	-0.58	3.93	4.63	4.90	-3.74**
	Blue	-0.30	3.34	3.36	4.33	-3.02**
	Sad	0.11	3.72	5.19	5.70	-3.36**
	Depressed	-0.06	2.86	3.70	4.22	-3.32**
	Tormented	0.40	3.55	5.12	5.92	-3.08**
	Happy	0.48	2.64	3.97	5.75	-2.48*
	Glad	0.59	3.53	4.35	6.32	-2.33*
	Pleased	0.78	4.17	5.17	4.61	-3.19**
	Cheerful	1.32	3.00	4.67	6.10	-2.21*

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

3.2. Effects of Emotional States on Risk

In order to determine whether mood affected the risk-related behavior, depending on the age, a 2 (mood; happy and sad) X 2 (age; young and older adult) two-way factorial variance analysis (ANOVA) was performed on the data collected in the experiments. The dependent variable was the tendency to take risks, which was measured as the average of the number of times a subject pumped balloons without blowing them up.

According to the results of this analysis, mood and age had no main effects on risk-taking behavior (mood $F(1,116)=0.058$, $p=0.810$, partial $\eta^2=0$; age $F(1,116)=1.225$, $p=0.271$, partial $\eta^2=0.01$). However, mood and age of the individuals had interaction effect on risk taking ($F(1,116)=5.094$, $p=0.026$, partial $\eta^2=0.042$). In other words, individuals' ages and the mood they were in affected their tendency to take risks. According to the post-hoc analyses performed to investigate this joint interaction, older adults ($m=31.55$, $sd=17.04$) exhibited a reduced tendency to take risks than young subjects ($m=42.08$, $sd=17.31$) in happy mood ($t(56)=2.344$, $p=0.023$).

3.3. Effects of risk perception, depression level and anxiety level on Risk Taking Behavior

In order to determine whether mood affected the anxiety level, depending on the age, a 2 (mood; happy and sad) X 2 (age; young and older adult) two-way factorial variance analysis (ANOVA) was performed. Independent variables were the mood and the age group of the participant. The dependent variable was the anxiety level and it was determined by evaluating the Anxiety Sensitivity Index-3.

According to the results, neither mood, nor age had main effects on the anxiety level. On the other hand, the two factors had an interaction effect on the anxiety level ($F(1,116)=3.391$, $p = 0.038$, partial $\eta^2=0.064$). In other words, the mood a subject in was effective on the anxiety level, together with the subject's age. According to the post-hoc analyses done to better evaluate this interaction effect, young subjects ($m=28$, $sd=14.55$) deemed themselves to have higher anxiety in happy mood than the older adults ($m=22.24$, $sd=11.85$) in the same mood.

A Pearson Correlation Analysis was performed in order to determine which factors (age, the level of depression or anxiety) affect the risk taking behavior and in what manner. According to the results of the analysis, the relationship between age and risk-taking was negative. Age was also negatively related to the levels of depression and anxiety.

A Pearson Correlation Analysis was also performed to determine the relationships between the factors risk-taking tendency, age and the levels of anxiety and depression. According to the results of the analysis, perception of risk was significantly and positively related to the level of depression ($r = 0.303$, $p = 0.017$) and the level of anxiety (STAI $r = 0.357$, $p = 0.005$; ADI $r = 0.330$, $p = 0.009$), especially for the sad mood group. For the happy mood group, age was significantly and negatively related to exploded balloon count ($r = -0.259$, $p = 0.049$) and the average-adjusted risk-taking tendency ($r = -0.262$, $p = 0.047$), but positively related to the unexploded balloon counts ($r = 0.259$, $p = 0.049$).

4. Conclusions and Discussion

In this study, the effects of happy or sad mood on the risk-taking behaviors of the young and older adults were investigated. When the results of the analyses were analyzed, it was found that older adults differed from the young only when they were in happy mood. Young subjects exhibited a greater risk-taking tendency in happy mood, compared to older adults. This contrast was not observed in sad mood. The subjects of all ages in the sad mood group exhibited similar risk-taking behavior. The situation was also similar for anxiety levels. According to the self-evaluations of older adults, their anxiety levels in happy mood were lower, compared to young subjects in the same mood group. Judging from prior studies, less anxious individuals make less risky decisions (e.g. Giorgetta et al., 2012; Michael & Ben-Zur, 2007). The fact that this situation was observed only in happy mood invokes the thought that individuals experiencing positive emotions evaluate everything in their surroundings positively. It can be argued that, perhaps the individuals' anxiety levels have little effect on their risk-taking tendencies while they are happy, content or satisfied.

Young subjects' risk-taking behavior differed from the older adults only in the positive mood. In a prior study by Rolison, Hanoch and Wood (2012), it was noted that both young people and older adults made similarly risky choices. This situation was observed in this study only for the participants in the sad mood group. If risk-taking behavior are measured in different ways to determine the effects of the mood and age factors, the risk-taking tendencies of young and older people will be better explained.

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School-Based Nutrition Promotion: Nutrition Friendly School Program in Turkey

Nazan Aktaş

1. Introduction

Nutrition-related health problems in children are among the increasingly significant causes of disability and premature death worldwide. While under nutrition continues to be a major problem in many developing countries, the problem of overweight and obesity have reached epidemic proportions globally, and affected both developed and developing countries seriously. In some countries, the epidemic of obesity sits alongside continuing problems of under nutrition, creating a double burden of nutrition related ill-health among the population, including children (WHO, n.d.). Body image concerns, weight loss behaviours and eating problems pose a serious and increasing threat to the short- and long-term physical, psychological and social health of children and adolescents (Jennifer, 2005). There has been a rapid rise in the numbers of children affected by excess body weight, both in developed countries and in countries in economic transition. Some groups of children may be at particular risk of obesity due to their social, economic or ethnic status (WHO 2006a; WHO 2006b). The nutritional status of Turkish people differs according to regions, seasons, socio-economic status and urban-rural settlement. With respect to nutritional status, Turkey has the view of including problems of both the developing and developed countries together. The main reason for the difference is the inequality of income distribution which affects the frequency and characteristic of nutrition problems. Also, the lack of knowledge about nutrition causes people not only to choose wrong type of food, but prepare, cook or store food in a wrong way as well, which increase nutritional problems (Pekcan, 1998). In the 6-18 aged children group across Turkey, 8.2% of children are obese, 14.3% is overweight, 14.9% is lean and 3.9% is very lean (Sağlık Bakanlığı, 2014). Improving the nutritional status of school-age children and adolescents is an effective investment for the future generation, as well as for combating the development of obesity and other nutrition-related chronic diseases later in their lives. Interventions targeting healthy nutrition need to occur early in childhood or adolescence in order to prevent or reverse the adverse health effects of overweight and poor eating habits (Onge, Keller & Heymsfield, 2003). The school environment and overall ethos were more supportive for a healthy diet after the intervention, with an associated curriculum component and engagement of parents and community. Target population (students, school staff and parents) participated in the intervention at different levels and the majority of the participants were satisfied with the intervention (Wang & Stewart, 2013). Cluster-randomized studies provide increasing evidence for the idea that school-based nutrition interventions can positively impact the eating patterns of children and in some cases even indicators of health status. Schools can be useful settings for behavioural interventions targeting school-aged children. A number of studies have also shown that the school meals offered tend to be more in compliance with current nutritional recommendations than alternatives brought from home or outside the school. This growing evidence base has helped spawn a new interest in school-based nutrition strategies among policy makers (Mikkelsen, 2014).

Schools offer many opportunities to promote healthy dietary and physical activity patterns for children and are also a potential access point for engaging parents and community members in preventing their own and school-age children's and adolescents' malnutrition in all its forms, i.e. under nutrition, micronutrient deficiencies, and obesity and other nutrition related chronic diseases (WHO 2006a; WHO 2006b). Nutrition programs in schools can help children and adolescents participate in full educational potential; improve academic performance and

health quality (Yabancı, 2011). Proper nutrition in school children; with the intake of nutrients that are required by the child provides growth and development; with healthy nutritional habit adopted reduce the risk of chronic diseases to be met in the future (Sormaz, 2013). The universality of the school setting for gaining access to children makes it highly relevant to global efforts to combat the increasing public health problems of the double burden of nutrition-related ill-health (WHO n.d.). As majority of children spend a considerable amount of time at school, and being healthy is a prerequisite to learn well. A healthy school environment, that is, schools which successfully combine instruction and health services can improve not only the education, but also the health of future generations. It is a fact that the school has almost as much influence as family in educating children to make wise decisions and prevent behaviours that lead to mortality and morbidity. School environment is a wise option to maintain a productive educational and social environment, for the school community involves a variety of stakeholders including parents, teachers, staff, and students that can work together to influence and improve the health of all students (FAO, 2007; Glanz, Lankenau, Foerster, Temple, Mullis & Schmid, 1995; WHO, 2006b).

In low- and middle-income countries in particular, school-age children are a priority target for health and nutrition interventions. School feeding programs have been in existence for a long time, with evidence of impact on energy intake, micronutrient status, and both school enrolment and attendance (Jomaa, McDonnell & Probart, 2011). Schools have been proposed worldwide as a major setting for tackling childhood obesity it is essential that future policy evaluations measure the long term effectiveness of a range of school food policies in tackling both dietary intake and overweight and obesity (Jaime & Lock, 2009). Improving the nutritional status of school-age children is an effective investment for improving educational outcomes of school children, establishing healthy dietary and physical activity patterns among young people thereby promoting health and nutritional well-being and preventing obesity and various noncommunicable diseases, and improving nutrition among adolescent girls, which in a life course perspective, will benefit the health and nutrition of the future generation (WHO, n.d).

School settings offer many opportunities to promote healthy diet and physical activity habits for children. They act as access points for engaging parents and community members in the prevention of diseases associated with poor child nutrition. The universality of educational institutions makes them highly relevant to combat the increasing public health problems of the double burden of nutrition-related ill health. Healthy nutrition improves child well-being and learning ability, leading to better academic performance (WHO, 2009). Many food-related environmental issues that influence youth food intake in schools need to be addressed by institutional policy action rather than, or in addition to, classroom education because the school food environment is challenging: food used in school fundraising, food is often used in the classroom as a reward or incentive, food advertising, contracts for beverage sales (Contento, 2011).

Many barriers exist to healthy eating and physical activity for children and adolescents, including factors in the school and community environments *in the school environment*. It is these modifiable school environmental factors that led to the development of the Nutrition Friendly Schools and Communities (NFSC) criteria and model to prevent the development of overweight in children and adolescents in USA. The purpose of the NFSC environmental intervention is to actively engage the school community to prevent overweight in students through a multi-level participative intervention that facilitates coordinated changes in the school environment in the following areas: health education, physical education, health services, food services, school policy, staff wellness, psychosocial services, and family/community

involvement. Barriers exist to healthy eating and physical activity for children (Vecchiarelli, Prelip, Slusser, Weightman & Neumann, 2005). The aim of this study is to describe Nutrition Friendly School Initiative and Nutrition Friendly School Program (NFSP) in Turkey.

2. Nutrition-Friendly Schools Initiative

School based nutrition interventions are considered as one of the crucial steps to be made to bring up healthy generations in future. Preschools and schools offer many opportunities to promote healthy dietary and physical activity patterns for children, and are also a potential access point for engaging parents and community members in preventing child malnutrition in all its forms (i.e. under nutrition, micronutrient deficiencies, and obesity and other nutrition-related chronic diseases). Based on the principle that effectively addressing the increasing global public health problem of the double burden of nutrition-related ill-health requires common policy options, the Nutrition-Friendly Schools Initiative (NFSI) has been developed as follow-up to the WHO Expert Meeting on Childhood Obesity (Kobe, 20–24 June 2005). The main aim of the NFSI is to provide a framework for designing integrated school-based interventions that address all forms of malnutrition that affect school-age children, building on the on-going work of various agencies and partners, including the UNESCO coordinated FRESH Initiative (Focusing Resources on Effective School Health), Child-Friendly Schools (UNICEF), Essential Package (UNICEF/ WFP), Health Promoting Schools (WHO), and Food and Nutrition Education Programs (FAO) (WHO, 2006b). FAO promotes activities within schools and communities that enable school children to access safe and nutritious food within the school environment, the family and the community, and provide information, education and skills needed to empower children, teachers, and families to choose healthy diets and practice lifelong healthy eating habits (FAO, 2007). NFSI builds on the experience of Health Promoting Schools and ongoing school programs in several countries to develop integrated intervention programmes to improve the health and nutrition of school-age children and adolescents. The agreed objectives of the NFSI are to: 1. provide a framework for designing school-based intervention programmes which address the double-burden of nutrition-related ill health; and 2. serve as a stimulating mechanism for inter-connecting the various on-going school-based intervention programmes addressing malnutrition in all its forms. It was further agreed that the ultimate outcomes of NFSI is to have school-age children and adolescents who: • enjoy healthy eating; • are fond of being active; and • feel good about her/himself (WHO, 2006).

A unique feature of the NFSI is the focus on the wider school community to help create a supportive environment conducive to improved health and nutrition. Local stakeholders include for example farmers, the media, retailers, local health services, local authorities, sport centers, and catering services. The NFSI was piloted in 2006-08 in eleven European countries including Croatia, Denmark, Georgia and Latvia. Schools involved are asked to assemble a core action group consisting of all concerned stakeholders, complete an assessment of the school and its services to understand the current status and identify the steps required to become nutrition-friendly. As a result, standards will be set to define schools as nutrition-friendly. The NFSI aims to serve as a stimulating mechanism for interconnecting the various ongoing school based intervention programs addressing malnutrition in all its forms. It is, therefore, considered that NFSI would provide the following benefits to participating schools (WHO/UNICEF/FAO, 2006; Delisle, Receveur, Agueh & Nishida, 2013).

- It helps schools build an enabling environment for promoting the overall health and nutritional well-being of children, which in turn contributes to children's improved learning and academic achievement;

- It strengthens the capacity of schools in addressing the health and nutritional problems of the children, their families and communities through use of a ‘whole school approach’, which acts both within and beyond the classroom;
- It strengthens the capacity of and network between the school community, including school personnel, students, parents, local community and local health and education authorities, to tackle the increasing double burden of nutrition related ill-health that is being faced by children in both industrialized and developing countries;
- It enables schools to become accredited as ‘Nutrition-Friendly Schools’, which will enhance the schools’ reputation for making an effective investment in the future generation.

The NFSI will encourage schools to make active efforts to improve the nutritional status of children and adolescents and increase their physical activity levels by meeting the following framework and its minimum criteria -develop a written nutrition-friendly **school policy** identifying objectives and setting timelines and milestones -develop an **action plan** identifying roles and responsibilities and methods for monitoring and reporting against the objectives - ensure awareness and capacity building of the **school community** (teachers, school staff, parents, schoolchildren, local community)- ensure **curriculum** development and modification regarding nutrition and physical activity education- provide a **supportive school environment** (healthy foods and opportunities for physical activity)- provide school **nutrition and health services** (WHO, 2006a; WHO, 2006b).

An earlier study conducted by Delisle et al (2013), stated that based on the experience and lessons learned from pilot-testing the NFSI in two capital cities in West Africa, the NFSI has the potential to mobilize schools and communities for improved nutrition and health, provided the approach is adapted to the local conditions of limited human and material resources. The other conclusion of their study was household poverty and lack of material resources at the school level appear as major barriers to achieving full impact of NFSI in low-income countries. Securing partnerships to address these infrastructure constraints first may provide the incentive needed for the schools to join the NFSI more constructively and sustainably.

3. Nutrition-Friendly School Program in Turkey

There has been a remarkable increase in the number of school-based intervention for promoting and maintaining healthy dietary habits in Turkey. Under the title “*Gaining the Habits of Adequate and Balanced Diet and Regular Physical Activity Against Obesity In Schools*” of Turkey Healthy Nutrition and Active Life Program which is published as Prime Ministry Circular in the official newspaper, it is aimed to increase awareness of healthy eating and active living issues in schools with "Nutrition Friendly School Project" and to improve school health by promoting good practices made in this regard. With the protocol signed on 21.01.2010 between the Ministry of Education and our ministry, Nutrition Friendly Schools Program was initiated in Turkey. The program is being carried out with the protocol signed on 20.09.2013 and revised in line with the World Health Organization’s “Nutrition Friendly Schools Initiatives” criteria to which 17 countries in Europe involves. Currently, under the Protocol in force, the Application Guide of the program was updated as a result of joint efforts of The Ministry of Health, School Health Sciences Board, the Ministry of Education and organization concerned Departments of Public Health Institution and on 09.02.2016 The Additional Protocol was signed with the Ministry of Education. Nutrition Friendly School Program is carried out from that date under the updated protocol and application manual. With the Nutrition Friendly

Schools program, to which schools participate voluntarily, 1423 schools were awarded the certificate (Figure 1) 'Nutrition Friendly School'. According to the data released by the Ministry of Health 393 schools in 2012, 326 schools in 2013, 481 schools in 2014, 413 schools in 2015 were found eligible to be included in Nutrition Friendly School in Turkey (Sağlık Bakanlığı, 2016; Sağlık Bakanlığı, 2016).

4. The Criteria of Nutrition Friendly School Program

Nutrition Friendly School Program involves pre-schools, elementary schools, middle schools and high schools attached to the Ministry of Education.

- It is required to have a “White Flag” certificate for a school to apply for Nutrition Friendly School Program. The school’s certificate must be up-to-date (unexpired), and must have White Flag inspection or it must be a school that is entitled to receive a certificate but its certificate has not been published yet.
- Before applying to the Nutrition Friendly School Program, the school must prepare an “Application File”.
- In the Application File; an example of the White Flag certification, Healthy Eating and Active Life Team member list, three year Nutrition Friendly School Plan that is specific to the school and prepared by a team and the documents (photographs, registration / participation lists, posters, brochures, etc.) of the activities carried out under the plan must be included.
- The school that completed the preparation of the file may apply. No school without the application file will be accepted.
- The schools which have both elementary and secondary school education should prepare separate files for both. The forms that are to be filled by the inspection team will be filled in separately for each academic program.
- The applicant school that applied to be a Nutrition Friendly School and its application file content is complete and appropriate is visited by a “Inspection Team” created with the participation of two authorized people from each of the Public Health Directorate and the Provincial Directorate of National Education with Nutrition Friendly Schools Audit Form when schools are still open in the period according to the academic calendar (Sağlık Bakanlığı, 2016; Sağlık Bakanlığı, 2016).

Nutrition Friendly Schools Audit Form, which is composed of 34 items in four dimensions. The Inspection is made in accordance with the titles, A. Management Activities (30 score) B.Training Activities and Raising Awareness (20 score) C. School Health Services (6 score), D. Creating Supportive School Environment and Physical Conditions (44 score). As a result of the inspection, the school that has 75 points at least is entitled to be a Nutrition Friendly School. The total score of form is 100. The certificate will be valid for three years. The schools qualified to have this certificate will be audited once in an educational year; the certificates given to the schools which could not maintain “Nutrition Friendly School Program” conditions will be taken back (Sağlık Bakanlığı, 2016; Sağlık Bakanlığı, 2016).



Figure 1. A sample of Nutrition Friendly School Certificate (MEB n.d.)

4. Conclusion

NFSI was launched by the World Health Organization (WHO) and its partners in 2006, as a means of preventing the double burden of malnutrition: the coexistence of under nutrition and over nutrition among school-children. NFSP is being held in Turkey by governmental with an aim to deal with the health and nutrition problems among school-age children. Within the scope of preventive health services, T.R. Ministry of Health put Nutrition-Friendly School Program (NFSP) into effect in the beginning of 2010 in order to encourage healthy nutrition and active lifestyle, increase awareness, support good practices and improve school health as part of the project "Promotion and rewarding nutritional behaviours and best practices".

It is a promising fact that inspiring improvement has been observed in the projects conducted in Turkey regarding the promotion of health and nutrition in school age children, which indicates that the developments made in the projects are satisfactory. Considering the increase in the number of the schools certificated during the period, it can be concluded that the Project has been successful. Offering certificate to schools which meet the requirements in the relevant projects is considered to be effective in increasing the motivation of schools in this matter. It is also very important to increase the cooperation between institutions in the relevant projects to obtain effective use of sources, and to enable coordination and dissemination. Further studies are recommended to investigate the awareness of students and all kinds of school environment regardless of the point whether the schools apply the projects or not.

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Determining and Evaluating The Most Popular Cartoons Among Children Between 4 and 6 Years of Age

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1. Introduction

TV is one of the biggest discoveries of 20th Century and it is considered the biggest revolution in entertainment, education and communication. Today, it is known at it broadcasts 24/7 for adults and children as a universal communication tool. TV plays an important role for children to socialize. They watch TV to understand the world. However, TV is not a communication tool designed to give accurate information to children about the real world and children can't tell the fiction from actual events. Therefore, most of the children get vulnerable in front of the TV (Capli, 2001). Watching TV is an important entertainment activity for children but it makes them stay at home, isolate themselves from the world, play prepaid games and get lonelier in future.

Considering children-oriented programs, cartoons are the most popular ones among children. Therefore, there are a lot of studies showing that cartoons have positive or negative effects on children's education. The first cartoon was Felix and the Cat, which was created in 1920s in USA. Afterwards, Mickey Mouse and Donald Duck were created by Disney Brothers (Kirsch, 2006). It is a fact that children in preschool period grow with cartoons. A research carried out in Turkey suggests that children pay a great deal of attention to cartoons before the age of 10 and then this attention starts decreasing (Cesur and Paker, 2007). Researches show that parents consider television as a caretaker that entertains the children while they are busy and children usually watch cartoons alone at home (Postman, 1995; Peters and Blumberg, 2002; Jordan, Hersey, Mcdivitt and Heitzler, 2006; Cesur and Paker, 2007; Beyens and Eggermont, 2014). Also previous researches manifest that they can't comprehend movies with violence scenes and they can't tell the difference between the behaviors of the beater and the defender, hence they always think that the beater is the powerful one. They also show that this violence is directly related with imitating and these programs legitimate the violence; so viewers get less sensitive and the programs change children's behaviors, beliefs and attitudes (Aral et al. 2011; Yorukoglu,2007; Capli, 2001).

There are many researches in Turkey about the effects of television and advertisements on children (Basal, 1999; Cesur and Paker, 2007; Celebi, 2014; Barbaroglu, 2015). However, the researches about cartoons are very limited (Oruc, Tecim and Ozyurek, 2011; Temel, Kostak ve Celikkalp, 2014;). We can find some researches (Turkmen, 2012; Yagli, 2013;Samur et al., 2014) on Pepe and Caillou, two of the most popular cartoons among children especially in recent years, but considering children watch many different cartoons, they seem insufficient. According to the results of a research made by Mete in 1999, when they don't do their homework, primary school students spend 77.3% of their time by watching TV. Another research of Basal (1999) also determined that 100% of preschool children between the ages of 3 and 6 watch TV. Hence, the quality and screen time of children oriented programs and especially cartoons are more important today considering their positive and negative effects on children.

More cartoons have been analyzed in this research by taking the preferences of children and parents into consideration. The aim of this research is to determine the favorite cartoons of preschool children between the ages of 4 and 6 and analyze the contents of these cartoons. Through this aim, positive and negative features of the cartoons were determined and these cartoons were analyzed.

2. Method

In this research, three episodes of six different cartoons chosen from among the ones pointed out by parents and children were watched and obtained data were analyzed and evaluated in qualitative research method.

2.1. Population-Sample

The population of the research is formed of 4-6 year old students from preschools of Bursa Directorate for National Education.

Instead of the whole population, easily reachable sampling method was preferred due to restrictions like time, cost, distance, aide and feasibility. Within this scope, the sample of the research was formed of 141 mothers of 69 girls and 72 boys from four different preschools in central districts of Bursa and 51 children of these mothers, 25 of whom are boys and 26 of whom are girls.

2.2. Data Collection

In accordance with the aim of the research, in order to see if there is a consistency between the favorite cartoons of children and the ones pointed out by parents and to analyze the most preferred cartoons, parents were interviewed in person and they were asked to name the cartoons most preferred by their children. Then, children in the research were asked to draw their favorite cartoon characters. Their most favorite cartoons were determined in this way. Obtained data were put in tables as frequencies and percentages.

Positive and negative effects of cartoons were determined by referring to some researches (Aile ve Sosyal Arastirmalar Genel Mudurluğu, 2008; Yagli, 2013; Temel, Kostak and Celikkalp, 2014; Barbaraoglu, 2015). A control list was used to analyze the cartoons in terms of language, image, values, violence and music. There are concepts in each episode and these concepts were graded as present/absent. After the evaluation table was developed by the researchers, three different expert opinions were taken and no negative results were found.

2.3. Analysis of Data

Parents were asked to tell the most favorite cartoons of their children and children were asked to draw their favorite cartoon characters. Presented cartoons were evaluated by document analysis method. A control list was used to analyze the cartoons in terms of language, image, values, violence and music. There are concepts in each episode and these concepts were graded as present / absent. For example, insulting or vulgar expressions go under negative features in language dimension and instructive expressions go under positive features and they are evaluated as present or absent. There are two sections in Language category and each section contains eight entries. Values category has also two sections; positive values (13 entries) and negative values (11 entries). Violence category has three sections; psychological, physical and verbal violence. Each section has three entries. Sound has six entries. Lastly, image category has five entries.

In order to increase the internal reliability of the research data, the data was recoded individually by two researchers and then two researchers came together to examine the consistency between analyses. The consistency of data that was coded by two researchers was calculated by using Miles and Huberman's (1994) formula (agreements / agreements + disagreements). General agreement coefficient between experts was determined to be .90.

Because values above .70 for agreement coefficient are considered enough, it can be said that internal reliability value of the research is sufficient.

The cartoon characters drawn by children were analyzed by researchers and they were put in tables as frequencies and percentages. Then, the opinions of parents were evaluated and they were also put in tables as frequencies and percentages. Six most favorite cartoons were determined by analyzing the opinions of parents and children. Three episodes of these cartoons were watched and they were evaluated through the evaluation tables created by researchers in terms of values, image, violence and language.

3. Findings

Five cartoons that were determined to be the most watched cartoons according to the data obtained from surveys sent to parents. These cartoons are Pepee, My Dear Sister, Bald Boy, Scooby Doo and Calliou. Moreover, 50 children were asked to draw their favorite cartoon character. 13,7% of children drew Teenage Mutant Ninja Turtles as their favorite cartoon characters. The cartoons watched by children; Mia and Me, Spiderman, Teenage Mutant Ninja Turtles, Scooby Doo are known to be suitable for 7 years or older. Although they are not appropriate for the ages of children, Scooby Doo (the cartoon that was stated by parents to be their children's favorite) and Teenage Mutant Ninja Turtles (the cartoon most drawn by children) were analyzed in the research.

Cartoon 1: Pepee

The cartoon Pepee introduces Peepe, his mother, his father, his grandfather, his grandmother, his sister Bebe, his friends Şuşu, Zulu, Maymuş, Zuku and his cousin Şila. It is specially designed for children in preschool period.

Pepee contains positive linguistic features at the rate of 100%, positive values at the rate of 69% and it has no negative value at 94,6%. It was determined that the cartoon has no violent feature. As of image, it has desirable features in terms of colors, design, content, the images of characters and dimensions at 100%.

It is seen that the cartoon is educative. And, since the cartoon is Turkish production, it presents some characteristic Turkish traditions. Scenes of halay, folk songs etc. are shown in some episodes. In some episodes with wrong behaviors, everything's settled Şuşu or other family members. The expressions can generally be understood by children. It was seen in the 3 episodes watched that polite expressions (thank you etc.) and terms of endearment (my dear friend, my dear sister etc.) were used frequently. The statement *"Thank you, I can share it with you."* is a polite expression and it may raise sharing among children. Again, *"There is enough for everybody, we can use it by sharing."* sentence may encourage sharing in children. Therefore it is thought that this cartoon contains education about social skills. There also rap songs in the cartoon and these songs are directly related with the subject. It is also appropriate for the age and level of children. It is a 3D animation. The general appearance of characters are appropriate for children. Only some parts are exaggerated (the heads are too big etc). But this is not anything to bother anyone. The colors are lively, attention-grabbing and the image is clear.

It was seen in the episode called "Pepee makes binoculars" where Pepee learns how to make binoculars that it raises imaginative ideas among children and it encourages them to create original works. Directions are told an expressions "left, right, front, back" are used. Expressions such as *"What is special? It is something that is made how you like it."* may increase empathy levels of children. Thus, children learn that everybody has feelings and they need to pay attention to the feelings of the ones they talk to.

In the episode “Pepee is a Toy Collector”, responsibility and cooperation senses are supported and presented to children. For example, expressions such as “*What do we do after we play with our toys? We pick them up.*” are used in the cartoon. And cooperation is encouraged by saying “*Everyone will pick a certain toy.*” However, there are also opposition and anger expressions in this episode. “*I will pick it. –No, I will! –I picked it first. –No, I picked it first.*” These expressions are common among 5-6 year old children since they are in an egocentric period, so it is normal to show them as a general feature of this period and it is important to show mothers, caretakers and adults that children in this period may be egoist and stubborn.

How important to eat three times a day is shown in the episode “We Need to Eat Three Times a Day” and values such as table manners, the importance of eating regularly, family togetherness and sharing the same table are supported.

Cartoon 2: My Dear Sister

The characters are Müge, her sister Mine, house cat Mıncır, their mother Lale and father Galip. Müge acts as her sisters big sister, friend and teacher. Mine’s imagination is great. The events are generally told by Mıncır with some interesting comments. It appeals to 7-12 year old children.

My Dear Sister contains positive linguistic features at the rate of 83,3% and positive values at the rate of 69%. However, the cartoon contains physical violence at 11,1% and verbal violence at 22,2%. It was determined that three episodes of My Dear Sister, which were watched by the researchers, contain musical elements at the rate of 55,6% and visual elements at the rate of 80%.

It was seen in the episode “I don’t want to go to the dentist”, that mocking and negative nicknames were used by using “*Coward, coward!*” expression. It can be said that there are nonsensical expressions like “*The princess of the tooth country will bring you a new tooth!*”. The expression “*How did bacteria get into my mouth? –I think you didn’t brush your teeth and bacteria liked your mouth and decided to build a home.*” supports imaginative expressions. There are also educative expressions. E.g. “*What are bacteria? – They are little things that decay your teeth.*” The sentence “*I went to the doctor and it didn’t hurt at all!*” supports courage. And it is thought that the dialog “*Why did you scream? –No, I didn’t!*” evokes lying. The sentence “*Spotless teeth need cleaning 3 times a day.*” encourages cleaning. The sentences “*I do this great! –I will make you the greatest omelet in the world.*” support self-confidence and sharing.

“*Slimy thieves!*” expression in the episode “*Oh no! There’s a Rat in the House!*” is considered insulting and vulgar. The sentence “*I would catch it by myself if you hadn’t been around!*” evokes solitude and courage. The dialog “*I have too much homework! –I can help you.*” supports help and cooperation. The expression “*It is impossible to catch this rat!*” is discouraging. The door is slammed and broken in the episode. This involves physical violence. The expression “*coward*” is also used in this episode.

In the episode “*Mine and her Band*”, the expression “*I’m a maestro. C-C-G-G-A-G-A... These are musical notes, we can’t play without these.*” is an example to educative expressions. “*I think we can do it if we do it in another way.*” supports being encouraging and original. They try to play “*twinkle twinkle little star*” in the episode. They try to play folk songs and different themes like rock, rap and pop. In this respect, this episode has positive musical features and they are appropriate. “*Hooray!*” is an expression of happiness. The expression “*my dear sister*” is used in every episode. It is a display of endearment and sharing.

Most of the expressions are meaningful and used in daily life. Classical and electronic music is used in most of the episodes. Colors are featured in this episode. It is seen that the environment is designed positively in every episode. When the content is examined, it is seen that interior and exterior environments have appropriate amount of materials, there are not many stimuli to tire children but it is not simple. The features of contents are positive. The characters are adorable, nice and simple and they are appropriate for the ages of children. However, they may have been a little more realistic.

Cartoon 3: Keloglan

The cartoon named Keloglan tells the adventures of a bald boy and his friends. The names of the characters come from nicknames. Honey Girl, Grumpy, The Tall, Wise Grandpa, Black Vizier are some examples. There are good and evil characters in the cartoon. The good ones (Bald Boy and his friends) are always kind, cooperative, sharing etc. and the bad ones are selfish, self-interested and rude. It can be said that the cartoon addresses to children aged 7 and older.

It is determined that “Keloglan” contains physical violence at the rate of 22, 2% and the psychological violence at the rate of 33, 3% and the verbal violence at the rate of 77, 8%. It is confirmed that “Keloglan” has musical features at the rate of 27,8% and display features at the rate of 100%. “Keloglan”, which as stated above contains physical violence at the rate of 22,2% and psychological violence at the rate of 33,3% and verbal violence at the rate of 77,8%, contains more violence than other Keloglan cartoons televised before.

In the episode “The Sad Tree”, Black Vizier constantly humiliates the spider. The spider succeeds to escape from dungeon. Vizier orders his men to catch the spider but they can’t. He clamors and reprehends his men, saying: *“You suck at this, fumblers!”*. As is seen humiliation, nicknaming, violence has been frequently used in the episode. As an example of offensive terms, these sentences can be cited: *“You suck at this, fumblers!”* or *“They forgot me here, fools!”* It can be stated that these sentences are also discouraging. *“The spider is coming, take me out of here, I’m scared.”* This expression shows fear. *“Don’t be scared, altogether we’ll take you out of here.”* And this sentence is an example of the encouraging expression, helping each other and collaboration.

In the episode “Ring”, Grumpy says: *“Then let me carry the ring.”* and Keloglan approves. When The Tall says *“Let me carry the ring for a while.”*, Grumpy doesn’t give the ring to him, saying: *“You can’t, you’ll drop it.”* (discouraging term). The episode includes collaboration and helping each other: *“Altogether we must take the ring to its possessor.”*

“The Help of The Clock”, includes expressions of anger. For example: *“Hand that thing over!”* *“Let me hang down, I’ll reach out and save Wise Grandpa.”* And this expression is an example of helping each other and collaboration. In the episodes of Keloglan generally events, involving aggression and tackle against these events manifest. Even though some values are tried to be given in these facts, these values wanted to be given are thought to be given with more positive subjects.

Generally, in the cartoon “Keloglan” simple and understandable expressions are included. For all the characters in the cartoon a nickname is used instead of a name. Opening theme is a pop style music. Apart from that, during the lap dissolves of the cartoon electro music is used. In the cartoon there is not any other musical feature. The cartoon is made in 3D. General look of the characters is suitable for children. Colors are vibrant and clear. It is seen that this cartoon, which doesn’t have so much educational and instructional points, has also characteristics that may affect children in a negative way. Especially rude expressions, used by evil characters (fool, fumbler, etc.) may lead children to use these words in their everyday life.

Cartoon 4: Scooby Doo Mystery Incorporated

Scooby Doo Mystery Incorporated is a cartoon that contains mysterious events experienced by the characters named Scooby-Doo, Shaggy, Fred, Daphne and Velma. It is thought that it appeals to 12 year old children and above.

Scooby Doo Mystery Incorporated contains negative linguistic features at the rate of 95,8%, physical violence at the rate of 22,2%, psychological violence at the rate of 66,7% and verbal violence at the rate of 40%. But it has also positive features at the rate of 48,8%. It is confirmed that three episodes of the cartoon “Scooby Doo Mystery Incorporated” have musical features at the rate of 36,8%. With regards to display features it is determined that the cartoon matches the required criteria at the rate of 20%.

The episode “Where Walks Aphrodite” tells about one of the thirteen ghosts, released from a box. The episode pretty much includes offensive terms and vulgar language like: “-They even fail to fly on a broom!”, “-Bat-brained!”, “-Now I’ll transform these parasites into worms!”, “-You’ve always been stupid!” Humiliating and slangy words like “-Those stupid witches...”, “-Idiot!” are used. Besides, in the episode it is seen that gibberish words are also used. For example: “-The television is jamming. -It isn’t a television, it’s the monitor, and that I watch the world of ghosts.” “-5 kilos of dodo feather, rattle of the golden cobra, taken out of the Pharaoh’s tomb...” “-Gnome, ghost, twilight, the box of dark magic...” In the episode aggressive expressions take place, like: “-We’ll capture the world!”. In addition to that, discouraging expressions are used, like: “-Let’s face it; your plans are always backlashing.”

In the episode “The Wild Brood”, a wild family, looks like creatures, comes into the town and from that day on incidents occur in the town. Scooby Doo and his friends try to crack the secret of this incident. Offensive terms “-Hold up scary things!”; slang expressions “-Hi, little chick!, -Calm down, old chap!, -Stupid engine!”; “-Toothy, booby!” express nicknaming in negative way and “-I’m allergic to the smell of adverse events.”, “-Labeling...” express using gibberish words. “-Bug off, you freak!” This sentence expresses nicknaming and humiliating. “-Drink your coffees and run along!” This sentence is scolding. And when examined the endearment and compassionate expressions, these can be the examples: “-I’ll never let you get harmed!” and “-Oh, this was so nice!” “-Splendid, hooray!” is an expression of happiness.

In the episode “Beware the Beast from Below”, the secret of a jellylike creature, which came from sewage, is tried to be cracked. At the end of the episode it surprisingly comes to light that the creature is the doctor. In this episode, examples of offensive terms are: “-Snotty creature!”, “-No, booby!” “-Plaguy dog!”; nicknaming in negative way: the word “-Booby!”; using gibberish words: “-Appeared, missionary, garrison, free radicals...”; aggressive expressions: “-You all smashed.”; encouraging expressions: “-Be daring, Fred!”. And the sentence “-You see, when they stick their nose into where it doesn’t belong?” expresses threat. When they go to school, they see a creature and give up going to school, saying: “It seems to me mysterious and I think it’s more important than the school.” It shows irresponsibility. “Scooby’s taking the food from the squirrel’s cage” shows disregarding the others. “-No, it’s no go, absolutely no go!” (Lies) shows lying.

Electro music is used mainly in most of the episodes. Horror and nerve-shredding music is used often. There are musical sounds that are not only a pretty negative case for children, but also may lead adults to get afraid. And it shows that the cartoon is pretty harmful for children. Episodes barely include colors. Generally the colors are the ones that are not used by children, dark, gloomy and pale. Considering the episodes, drawing is mostly made by the illustrator. But it is thought that illustrations are not eye-catching, compelling and supportive for visual spatial intelligence of children.

Cartoon 5: Caillou

Events in the cartoon take place around a 4-year-old boy named Caillou. Caillou's mother Doris; Caillou's father Boris; Caillou's sister Rosie; Caillou's grandmother Grandma; Caillou's grandfather Grandpa; Caillou's cat Gilbert; Caillou's close friends Clementine and Leo.

Events take place only around Caillou. It is thought that the case may support egocentrism in children. Besides, it is thought-provoking that not including negative cases, that can be lived in real life; characters' being always happy and meeting Caillou's every claim. It can be said that it is not improving problem solving ability of children. Generally it is given that the real life is smooth and problem-free (a bed of roses). But it will be suitable for children to see that sometimes there can be difficulty in the flow of events. So in comparison to Caillou, Pepe is not disconnected to the life, because it treats subjects about real life.

The cartoon "Caillou" involves positive linguistic features at the rate of 91, 7%, positive moral features at the rate of 64, 3%. It is seen that the cartoon does not involve violent features. But it is confirmed that watched three episodes of the cartoon have the characteristics of musical features at the rate of 14,3% and display features at the rate of 26,7%.

In the episode "Caillou Learns to Skate" his mother and teacher support Caillou to learn skating and encourage him. For example: While the teacher teaches children to skate, he says *"To learn to skate is like to learn to walk."* *"Sometimes we fall, but no problem, immediately get up."* For example of responsibility and helping each other: *"Skating teacher: Caillou, can you help your incoming friend to learn to skate? Caillou: Yes teacher, I do."*

In the episode "Caillou the Painter" involves educational and instructional expressions. For example: When Caillou and his sister go out, their father says to his sister: *"Let's put on sun cream and then go out."* and indicate to be protected against sun's harmful rays using sun cream. The sentence *"It is a very nice picture Caillou. Your Grandma will love it."* is an example of creative expression.

In the episode "Caillou Gets Hurt", while Caillou is playing with his plane, he falls and has a knee bleed. His mother treats him in a way he will be happy; applying a plaster too on his plaster, so she ensures that he loves his plaster. *"You have begun to be brave, like a real pilot, Caillou."* This sentence expresses encouraging. In this episode, sentences that express helpfulness, collaboration and responsibility take place, too. For example: *"Caillou's mother: Rosie, you are my nurse. Nurse Rosie, can you give me the cotton from that box?"* Caillou's mother: *"It can inflict pain for a while, honey. But it will stop soon."* This sentence expresses faithfulness-honesty and love-compassion. *"You are very good at finding the matches of the laundry."* This sentence is a positive, constructive expression.

In all of the episodes musical themes that addresses to children are used, and musical themes that are not suitable for their level are not preferred. Colors that are eye-catching for children and are not weary for the viewer are preferred. It has design features that fall behind of the level of 4 years and older children. Generally fill factor of the content is empty; because it involves less object and elements than the necessity. Character is designed in such a way that clear and is not complicated for children. Realism can be increased by bringing the characters and objects in the cartoon three dimension.

Cartoon 6: Teenage Mutant Ninja Turtles

"Teenage Mutant Ninja Turtles" mentions the war of 4 mutant turtles, which have comprehensive knowledge of martial arts with their "Master Splinter", the Mouse who fights against the evil. It is thought that it appeals to 12 year old children and above. But as seen, it is the most watched cartoon by 4-6 year old children.

The cartoon “Teenage Mutant Ninja Turtles” contains negative linguistic features at the rate of 70, 8%. In addition to that it is confirmed that the cartoon contains negative moral features at the rate of 18,8%, physical violence at the rate of 75%, psychological violence at the rate of 66,7% and the verbal violence at the rate of 55,6%. It is determined that three episodes of the cartoon “Teenage Mutant Ninja Turtles” that the researchers watched have musical features at the rate of 16,7% and display features at the rate of 40%.

The episode “Mill House” tells the struggles and battles of Ninja Turtles with their enemies in order to protect republic from the federation. It is determined that the episode contents offensive expressions and vulgar language like “-*Work your magic, cover boy. –It has become a show of freaks.*”; nicknaming in a negative way like “-*Hey, basket-headed, catch up!*”; angry expressions like: “-*You small-brained, see what you did my reptilian laboratory!*”; discouraging expressions like “-*Work your magic, cover boy!*”. The expression “-*I am so sorry Sensei Splinter.*” shows unhappiness, “-*You, mutant craps, know this better.*” shows rudeness and vulgar language; “-*I should have known I mustn’t trust you.*” shows distrust.

The episode “Shredder’s Attack” tells how the battle should be, features of battle equipments and enemies. The expressions “-*I’m a real stupid, I could have be dead. – Yes, you’re a real stupid.*” show vulgar language. “-*We’re losing time, kill him. –My attack worked, I left a mark on his face.*” These sentences contain offensive terms. The sentence “-*Shredder not only got my master Yoshi from me, but also killed him.*” expresses unhappiness and violence.

In the episode of “Rattrap” of Ninja Turtles, the sentence “-*He is a certified idiot!*” is an example of nicknaming in a negative way and offensive term; “-*But the Ninja soul inside me is shouting revenge.*” expressions of anger and power; “-*Look, at a pinch, I’ll give you a whacking.*” aggressive expressions. The scientists’ irresponsibility (selfishness) to capture the world can be shown as disregarding the others. “-*This robot is like a work of art, Sir. – Calm down, brother.*” These sentences show kindness.

In all of the episodes, Ninja Turtles fight generally concertedly and fearlessly. All of the episodes content physical violence like striking, harming with an object and killing; psychological violence like threatening, mocking and exclusion and verbal violence like insulting, scolding and nicknaming in a negative way. When the content of the cartoon “Ninja Turtles” is examined, Koknel (1996) indicates that this cartoon is bombardment of violence directed to the children. At the result of their observation, researchers indicate that the content of the cartoon televised in 1996 has more positive visuals than the one televised today. In the cartoon “Ninja Turtles” nerve-shredding musical themes are used mostly and sound effects are used extremely at the sections of strike and battle. Colors that are eye-catching for children and not weary for viewers are preferred. It has design features above developmental features of children. Characters were designed in a way that children may have difficulties in understanding and they are complicated for them.

4.Conclusion and Discussion

Today cartoons are watched a lot by pre-school children. Children constantly watch cartoons at school, at home, from computer, television, and the phone; in short from all media. This study has been made to determine how sufficient these cartoons for children are, the positive and negative effects on children, how often and when they watch the cartoons.

Families answered the question of “the most watched cartoon” by 86 different names. Considering that only 6 of these cartoons were evaluated, it was found that negative attributes and properties in cartoons examined are much more than positive attributes. It was determined that the cartoons other than Pepee and Caillou are suitable for older age groups. In his study, Kilicgun (2013) states that 3-5 year old children love real heroes of the cartoons while 6

year olds are tend to imaginary ones. But this case doesn't show children watch suitable and qualified cartoons in accordance with their age level.

In his research Yagli (2013) evaluated Pepee and Caillou and expressed that these two cartoons are suitable for pre-school children and has educational characteristics even though they have some missing elements. They also stated that compared to other cartoons, Pepee has not common factors that can affect children and is useful to put forward the cultural values. In this study, it was determined that the most watched cartoons, Pepee has more positive impressions than Calliour and because Caillou is a foreign cartoon, some features don't reflect Turkish Culture and, in this respect, Pepee reflects specific features of Turkish culture in a more appropriate way. But in other cartoons, many negative statements and features were found and they have were considered objectionable for children.

There are 80 other cartoons along with the 6 ones evaluated. Unfortunately there isn't any work related cartoon. Only two out of six cartoons were found positive. Observed cartoons contained too much violence and aggressive elements, in other words, children remaining under the bad stimulation can increase their aggressive attitudes and behavior (Basal, 1999). A child watching someone being beaten or subjected to violence can be stimulated to some extent. Also they can think that this kind of aggression is acceptable or even desirable in society. So it can lead children to act more aggressively in the future.

As a result of this research, it was determined that children not only watch the cartoons suitable to their age but also they tend to watch series like Kiraz Mevsimi (Cherry Season), Arka Sokaklar (Behind Streets) and Ninja Turtles. In short, they tend to watch every program. This indicates that programs they watch are not controlled by families. In their research, Cesur and Paker (2007) determined that children not only follow the programs for them but also the ones that adults watch. Gulay (2011) determined that children watching cartoons have more friends and positive social behaviors than the ones watching programs made for adults. In addition, aggression, exclusion, fear-anxiety, hyperactivity-distractibility levels in children watching programs for adults are higher than other children.

"What is your child's favorite cartoon" question was replied by parents with 86 different names. And the number of cartoons given by the children is 28. When these two groups were analyzed, it was seen that there are differences between the cartoons, indicated by parents and the cartoons that are children's favorite. It is seen that parents mostly indicate the ideal one; but children indicate the cartoons or series that they like to watch. In this respect, it can be precipitated that parent actually do not control their children adequately. Hence, researchers conducted indicate that common interactions between parents and children during and after watching television, contribute positively to learning and development of children (Van Vliet et al., 2013). Besides, after watching the movies or programs that have so much aggressive elements, children showing aggressive behaviors depend on the environment, where they are. If the children are in an environment, where they can show aggressive behaviors that they have got or learned from television, they may exhibit aggressive behaviors, even turn into crime (Yavuzer, 2011). Parents should be conscious about the effect of television and other mass media on children and should guide their children. It is thought that doing more and more extensive research about cartoons and teachers and families should be educated about it.

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The Academic Self-Esteem and Interpersonal Problem Solving Skills of Refugee and Non-Refugee Preschoolers

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1.Introduction

The number of people forced away from their homes due to various causes including war and conflict, political instability, state oppression, attacks by armed groups and gangs, geopolitical change, crises, ecological causes, etc. is increasing rapidly (Korkut, 2009). The Geneva Convention defines a refugee as "A person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it" (Tok & Korkut, 2010). Whether directly or indirectly, children are always the first to be impacted by armed conflict. Children do not initiate wars yet experience its deadliest effects. Even if they are not killed or injured, they face many adversities such as losing their relatives or friends, abduction, violence, physical and sexual abuse, displacement, being deprived of education and social support, and poverty. These adversities result in physical and psychosocial problems in children (Tokuç, 2014; Gözübüyük et al., 2015). According to Article 22 of the United Nations Convention on the Rights of the Child, States Parties are responsible for taking the appropriate measures to ensure refugee or asylum-seeking children within its borders enjoy all rights set forth in the convention, and should develop policies to protect children's rights, foremost the right to education.

The right to education is important particularly for refugee children. Research shows that refugee children deprived of the right to attend school are at greater risk of abuse and maltreatment, display post-traumatic stress disorder symptoms such as anxiety, stress, restlessness and despair more frequently, and that their physical and psychological development is negatively impacted (Emin, 2016; Seydi, 2014). Children's physical, emotional and social development occurs rapidly in the preschool period; it is an important period when their personality begins to take shape and they adopt basic habits. Considering the sensitivity of this period and of refugee children, supporting their physical, social, emotional and cognitive development, promoting social skills such as problem solving, preparing them for life, and raising them as accomplished individuals by improving their academic performance are of great importance. Past research indicates that the gains in the preschool period have long-term effects on child development (Erden & Gürdil, 2008).

Preschoolers experience interpersonal problems with the people around them in the process of socialization. Children solve these problems through constructive or destructive means. Raising children who have developed problem solving skills will enable them to cope with future difficulties, acquire alternative thinking ability, and become happier individuals. Academic self-concept is how one perceives oneself and one's academic ability. Academic self-esteem is indicative of the child's interaction with his/her environment at school, careful scrutiny of the environment, and thus effective adaptation to changes. Academic self-esteem is also one of the best determinants of school performance. Evaluating the level of preschoolers' academic self-esteem and the identifying the relationship between teacher, family, child and school contributes to raising successful individuals with a healthy level of academic self-esteem (Cevher, 2004; Cevher & Buluş 2007; Yavuzer, 2003). Therefore, the study was aimed at

comparing, and investigating the relationship between, the academic self-esteem and interpersonal problem solving skills of refugee and non-refugee preschoolers.

2. Materials and Methods

2.1. Research Design

The study was conducted descriptively to investigate the academic self-esteem and interpersonal problem solving skills of the refugee and non-refugee children attending preschools affiliated to the Ministry of National Education.

2.2. Study Group

The refugee children enrolled at and regularly attending preschools affiliated to the Ministry of National Education in Çankırı city center were identified. The non-refugee children who also attended preschool education and were the same gender as the refugee children were selected to the comparison group through simple random sampling. The study group comprised 40 preschoolers (20 refugee and 20 non-refugee children).

2.3. Data Collection Instruments

In the study, the “Demographic Information Form” was used to gather various data on the children and their families, while the “Academic Self-Esteem Scale” and the “Interpersonal Problem Solving Behavior Scale” were employed to evaluate their academic self-esteem and interpersonal problem solving skills, respectively.

2.3.1. The Demographic Information Form

Comprises questions on the children’s age, gender, birth order, number of siblings, family type, family income level, and ages, educational attainments and occupational statuses of their parents. In addition, the form also queries about the duration the refugee children had been living in Turkey and the difficulties they had experienced within this period.

2.3.2. The Interpersonal Problem Solving Behavior Scale (IPSBS)

Was developed by Özdil (2008) for the assessment of interpersonal problem solving behavior in preschoolers. The scale consists of two subscales, namely destructive and constructive problem solving, and 25 items. It uses a four-point Likert-type scale rated as “Never (1), Seldom (2), Often (3), Always (4).” The internal consistency coefficients (α) for the destructive problem solving and constructive problem solving subscales were 0.95 and 0.83, respectively (Özdil, 2008).

2.3.3. The Academic Self-Esteem Scale

Was developed using the Behavioral Academic Self-Esteem Scale constructed by Coopersmith and Gilbert (1982) for the evaluation of the level of academic self-esteem in preschoolers aged five-six, and the Informal Self-Concept Assessment Inventory constructed by Hamachek

(1995). The scale was adapted into Turkish by Cevher (2004) and the internal consistency coefficient (α) was computed as 0.96. The behavior observed by the teacher at the school is rated with a five-point Likert-type scale ranging between “Never (1),” “Seldom (2),” “Sometimes (3),” “Often (4)” and “Always (5).” The scale comprises 22 positively worded items (Cevher and Buluş, 2006).

2.4. Ethical Aspect of the Study

The necessary written permits were acquired from the Provincial Directorate of National Education for the study. The aim and methodology of the study were explained to the school administrators and their cooperation was procured. The teachers and parents were informed about the research and the study was conducted with their consent based on the principle of voluntary participation.

2.5. Data Collection Method

After the acquisition of the necessary permits, the teachers were asked to fill out the Demographic Information Form and the scales completely. The study data were collected at the beginning of the second semester of the 2015-2016 school year.

2.6. Data Evaluation and Analysis

The descriptive characteristics of the children and parents participating in the study were presented as percentages. The results of the Shapiro-Wilk test revealed that the children's the Academic Self-Esteem Scale scores had a normal distribution ($SW=0.984$, $p>0.05$) whereas their Interpersonal Problem Solving Behavior Scale scores were not normally distributed ($SW=0.775$, $p<0.05$). The t-test, the Mann-Whitney U test and the Pearson correlation coefficient were in used in data analysis (Büyüköztürk, 2008).

3. Results

Table 1. Distribution of the Sociodemographic Characteristics of the Children

Characteristic	Refugee		Non-refugee	
	n	%	n	%
Age				
5	5	25	12	60
6	13	65	8	40
7	2	10	-	
Gender				
Female(Girl)	10	50	10	50
Male(Boy)	10	50	10	50
Birth order				
Firstborn	8	40	8	40
Middle child	7	35	5	25
Lastborn	5	25	7	35
Number of siblings				
Only child	3	15	7	35
1 sibling	4	20	4	20
2 siblings	10	50	5	25
3 and moresiblings	3	15	4	20
Place of residence				
Shanty	9	45	3	15
Apartment	11	55	17	85

65% of the refugee children participating in the study were 6 years old, half were female, 40% were firstborn children, half had two siblings and 55% lived in apartments, while 60% of the non-refugee children were 5 years old, half were female, 40% were firstborn and 35% were only children, and 85% lived in apartments (Table 1).

Table 2. Distribution of the Sociodemographic Characteristics of the Families

Characteristic	Refugee		Non-refugee	
	n	%	n	%
Mother's age				
21-30	13	65	13	65
31-40	7	35	7	35
Mothers' educational attainment				
Illiterate	2	10	-	-
Literate	3	15	2	10
Primary school	5	25	2	10
Secondary school	1	5	1	5
High school	1	5	10	50
University	8	40	5	25
Mothers' employment status				
Employed	1	5	5	25
Unemployed	19	95	15	75
Father's age				
21-30	10	50	13	65
31-40	10	50	7	35

The Academic Self-Esteem and Interpersonal Problem Solving Skills

Fathers' educational attainment				
	4	20	4	20
Primary school	1	5	1	5
Secondary school	5	25	9	45
High school	10	50	6	30
University				
Fathers' employment status				
Employed	18	90	20	100
Unemployed	2	10	-	-
Family type				
Nuclear family	19	95	20	100
Separated family	1	5	-	-
Monthly income				
1000 TL and under	15	75	10	50
1001-2000 TL	1	5	1	5
2001-3000 TL	4	20	7	35
3001 TL and over	-	-	2	10

The majority of the mothers of the refugee children were 21-30-year-old unemployed university graduates. Half of the fathers of the refugee children were 21-30 years old and the other half were 31-40 years old. The majority of the fathers of the refugee children were university graduates and employed. The majority of the refugee families were nuclear families, had a monthly income of 1000 TL and below, 90% had been in Turkey for a period of one-three years and the majority experienced housing issues. The majority of the mothers of the non-refugee children were 21-30-year-old unemployed high school graduates, while the majority of the fathers of the non-refugee children were 21-30-year-old employed high school graduates. The majority of the non-refugee families were nuclear families and had a monthly income of 1000 TL and below (Table 2).

Table 3. Descriptive Statistics for the Children's Scale Scores

Groups	Academic self-esteem			Constructive problem solving			Destructive problem solving		
	X±S	Min	Max	X±S	Min	Max	X±S	Min	Max
Refugee	70.7±15.8	46	108	23.8±7.06	16	49	15.85±5.33	8	24
Non-refugee	72.9±21.9	27	107	28.75±11.92	17	61	19.5±4.61	10	27

The Academic Self-Esteem Scale and the Interpersonal Problem Solving Behavior Scale mean scores of refugee and non-refugee children are given in Table 3 with the minimum and maximum values.

Table 4. The t-test Results for the Children's Academic Self-Esteem Scale Scores

Group	n	X±S	sd	t	p	η ²
Refugee	20	70.7±15.8	38	0.364	0.718	0.003
Non-refugee	20	72.9±21.9				

There was no significant difference in the children's academic self-esteem between groups ($t_{(38)}=0.364$, $p>0.05$). The non-refugee children had higher academic self-esteem in comparison

to the refugee children. The computed η^2 value was 0.003, indicating that 0.3% of the variance observed in the academic self-esteem scores was dependent on group.

Table 5. The U Test Results for the Children's Interpersonal Problem Solving Behavior Scale Scores

Subscale	Groups	n	Mean rank	Sum of ranks	U	p
Destructive problem solving	Refugee	20	18.22	364.50	154.5	0.217
	Non-refugee	20	22.78	455.50		
Constructive problem solving	Refugee	20	16.50	330.00	120	0.028
	Non-refugee	20	24.50	490.00		

There was no significant difference in the children's destructive problem solving behavior between groups ($U=154.5$, $p>0.05$). According to the mean ranks, the non-refugee children displayed greater destructive problem solving behavior than the refugee children. However, there was a significant difference in the constructive problem solving skills of the non-refugee children and refugee children ($U=120$, $p<0.05$). The mean ranks revealed that the non-refugee children had greater constructive problem solving skills than the refugee children.

Table 6. The Correlation Between the Refugee Children's Academic Self-esteem and Interpersonal Problem Solving Skills

Scale	Pearson correlation	Academic self-esteem	Destructive problem solving
Destructive problem solving	r	-0.317	
	p	0.173	1
	n	20	20
Constructive problem solving	r	0.641**	-0.217
	p	0.002	0.358
	n	20	20

There was a moderate, significant and positive relationship between the academic self-esteem and the constructive problem solving skills of the refugee children (Table 6).

Table 7. The Correlation Between the Non-refugee Children's Academic Self-esteem and Interpersonal Problem Solving Skills

Scale	Pearson correlation	Academic self-esteem	Destructive problem solving
Destructive problem solving	r	-0.451*	
	p	0.046	
	n	20	
Constructive problem solving	r	0.598**	-0.441
	p	0.005	0.051
	n	20	20

Table 7 shows a moderate, significant and negative relationship between academic self-esteem and destructive problem solving skills, and a moderate, significant and positive relationship between academic self-esteem and constructive problem solving skills for non-refugee children.

4. Discussion, Conclusion and Suggestions

A child who feels inadequate in school work, cannot find the motivation necessary for maintaining his/her efforts and continuously experiences failure probably has a low chance of becoming an individual with the ability to think constructively, creatively and independently. Ensuring the development of an adequate level of academic self-esteem is one of the most important functions of education (Cevher and Buluş, 2006). The study results revealed that the academic self-esteem of the refugee and non-refugee children did not significantly differ but that the non-refugee children had greater academic self-esteem (Table 4). This might be due to the facts that the refugee children also attended preschool, their parents were university graduates and had a similar socioeconomic level as the non-refugee children. Some researchers propound that social class difference creates a significant difference in children's academic self-esteem (Rosenberg, 1989; Korkmaz, 2007). The study conducted by Yörükoğlu (1985) reported higher self-esteem in the youth from higher social classes than those from lower social classes.

One of the objectives of preschool education is to promote the acquisition of interpersonal problem solving skills based on the development of healthy human relations. Preschool education should not only be responsible for increasing academic achievement but also aim to raise social individuals capable of solving interpersonal problems (Anliak & Dinçer, 2005: p. 124). The study results showed greater constructive problem solving skills ($p < 0.05$) and destructive problem behavior ($p > 0.05$) in the non-refugee children in comparison to the refugee children (Table 5). The researchers believe that the problems the refugee children have had to face (traumatic journey experiences, distance from their families and environments, efforts to survive in a difference culture, language and literacy challenges, encountering racist behavior, losing the sense of social belonging, health issues, etc.) have resulted in less constructive attempts at conflict resolution. Halıcı (2005) reported that the child's place of residence affected his/her violent tendencies. Social skill deficiency or not knowing a better way to overcome a problem can lead to destructive problem solving behavior in preschool children. This is usually due to the inadequacy of the support for social-emotional development during this period (Durualp & Aral, 2015). Therefore, the evaluation of academic self-esteem and problem solving behavior in preschoolers is critical for evaluating their development, planning and implementing educational support programs, and providing intervention when necessary. From childhood, human beings learn how to cope with conflict by observing the role models around them. Parents, teachers, friends and heroes in books and films are good role models for children. People who solve problems through healthy means listen to others carefully, mind the needs of others, do not quickly retreat or accept superficial agreements, develop a series of solutions and ensure all concerned parties focus on solving the problem (Arslan, 2002). It is crucial to help both refugee and non-refugee disadvantaged children to acquire the skills to constructively resolve conflicts with their teachers and peers. The acquisition of constructive problem solving skills will ensure healthy relationships with peers, teachers and parents. In this sense, great responsibility lies with the parents and the teachers who provide education to children in the preschool period.

There was a moderate, significant and positive relationship between the academic self-esteem and the constructive problem solving skills of the refugee children (Table 6). In addition, the analyses revealed a moderate, significant and negative relationship between academic self-esteem and destructive problem solving skills, and a moderate, significant and positive relationship between academic self-esteem and constructive problem solving skills for non-refugee children (Table 7). In their study, White and Howard (1973) revealed the relationship between low self-image and low academic achievement. Hamarta et al. (2009) reported the

existence of a positive and significant relationship between problem-focused coping and self-esteem, and revealed that students' problem-focused coping behavior increased as their levels of self-esteem increased. The basic habits and skills acquired during the preschool period will be permanent and used throughout life. This is a critical period for the identification of problem behavior and implementation of preventive programs. In this context, supporting the development of positive problem solving skills and preventing problem behavior will also impact children's academic achievement.

In view of the study results, the researchers would like to make the following suggestions:

- Children's physical, social, emotional and cognitive characteristics should be recognized. Their social and psychological needs for achieving positive behavioral improvement and those that might arise from the difference in cultures should be taken into account.
- Necessary adjustments should be made to ensure children feel a sense of belonging toward their families, friends and other members of society.
- Activities aimed at developing problem solving behavior in children should be conducted at preschools.
- National policies should be developed and existing services should be made more accessible in order to support the development and education of refugee children.

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Development Of Spatial Abilities Of 7th Grade Students

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1. Introduction

The lectures of Mathematics and Geometry are considerably abstract. It is important for students to be able to envision these abstract concepts, especially during elementary and middle school periods. Therefore the importance of spatial visualization, three dimensional thinking and imagination skills have been emphasized in many studies. Gardner described intelligence as the ability of presenting an output that is valuable for one or more cultures or the ability of problem solving and one of these spatial visualization intelligence was described as the capacity of proper perception of the visual and spatial world just as a hunter or a guide, or the capacity of practising different figures on the impressions acquired from external world just as a decorator, an architect or an artist (Saban, 2004).

Mathematics classes, which are included elementary school mathematics curriculum, are approached as a process that the students can show their efficiency. The significance of providing an ambiance that the students particularly at these ages can form an interaction with their environment, concrete objects and peers; explore the concepts in the classroom; solve problems; share and discuss their opinions, solutions and attitudes was emphasized. The skills of being responsible of their own learning, questioning, researching, thinking and collaboration should be encouraged by the teachers with class activities, technological devices and materials.

During the learning-teaching activities, methods and techniques should be used by considering the students' cognitive levels, social economic status, physical condition of the class. In the process of acquisition, making students gain common and domain specific skills, and also affective and psychomotor skills should be considered as an important issue. Correlating abstract concepts with current life by using concrete objects and materials makes the program enrich. Using the convenient visual-audial equipment (projection, interactive board, computer etc.) that can help acquisition in the learning-teaching activities supports the acquisitions that constitutes the aims of the program.

New teaching methods have been used in classrooms to accomodate our education system with the technological advancements. By using modern teaching methods that alternative thinking of the mind, synthesising, performing and using imagination skills are used effectively and self-learning is considered; instead of the conventional methods that make teachers centre of education process and include ordinary teaching; the student is expected to interiorise the information and use it in daily life. Interactive boards have the potential of transforming the classrooms into an interactive learning environment. The aim here is to stabilize the student's attention at the highest level in the class with multiple stimulus (Gülcü, 2014).

Technology is essential for learning and teaching Mathematics, it is effective for teaching Mathematics and it gears up students' learning skills. Geometry has importance in the academies that the students learn the proofs of the geometrical theorems. In compliance with these standards; Geometry gives the students a broad point of view to analyse the features of geometrical figures and to make mathematical discussions related to geometrical association by using spatial visualisation and modelling to solve problems. Geometry is a subsistent field of Mathematics that makes students understand the causal link and improve their evaluation skill [NCTM, 2000].

A lot of studies show the importance of making students develop positive attitude for Mathematics to reach the expected levels to be successful at this class (Erkin and Nazlıçiçek, 2002; Akgün, 2002; Başar, Ünal and Yalçın, 2002). In this regard, contributing the learning

environment with the activities that can serve different types of intelligence has a great importance in terms of making students look the subject from different aspects. Multiple Intelligence Theory presents new developments to design appropriate learning environments that each individual can learn the related topic easily in the matter of teaching Mathematics as in teaching all other disciplines. This will make the students perceive Mathematics as a class that is not that difficult to learn, in fact it can be amusing with the activities; and also help the students develop positive attitudes by making them gain their self-confidence after they increase their success with the activities that appeal to their intelligence (Şengül and Öz, 2008).

In the elementary curriculum of teaching Mathematics, the importance of making students gain the skill of using information technologies was emphasized. The skill of using information technologies includes skills such as researching, finding, processing and evaluating the information. It also includes sub-skills of giving the right decision in respect of using the information technologies, planning during the usage of information technologies, having the necessary skills to use these technologies, reaching information from these sources, detecting and distinguishing availability of scanned information, analysing the distinguished information, selecting convenient ones, evaluating the selected information, drawing the conclusion, presenting the conclusion properly and using them in new fields (MEB, 2009). Therefore it is essential for the teacher to activate the interactive board in the classes. In this study, different methods (ordinary teaching, interactive board, concrete materials) were used to make the seventh grade students acquire the learning outcomes that are necessary for them to use spatial skills in the elementary curriculum of teaching Mathematics. The main aim of this study to seek an answer for the problems below:

- a) Is there any significant difference between academic achievements in compliance with the different methods that are applied in the sub-dimension of drawing the two dimensions of the three dimensional objects from different perspectives?
- b) Is there any significant difference between academic achievements in compliance with the different methods that are applied in the sub-dimension of creating the structures whose views are given from different perspectives?

2. Method

Quasi-experimental research has been employed as the method of the study. The main features of all experimental researches are to control exogenous variables that affect dependent variables but cannot be tested in researches, to increase the variance that experimental processes caused, and decrease the intragroup variance. The independent variable of this research is its teaching method. Four groups of students were arranged for this research. Some measurements on these groups were performed before and after the related education. In order to seek an answer, both in-group and inter-group comparisons were made. As seen on the Table 1, the experiment design of the research was configured agreeably from multi-subject and multi-factor to complex designs (Büyüköztürk, 2001).

Table 1. Experimental Design of the Research

Groups	Pre-Measurements	Learning Environment	Last Measurements

Development of Spatial Abilities of 7th Grade Students

1.Group 7-A	▪ Math 1.Exam ▪ Math 2.Exam ▪ Math 3.Exam	Interactive Board	▪ PTDOT ▪ Observations
2.Group 7-B	▪ Math 1.Exam ▪ Math 2.Exam ▪ Math 3.Exam	Interactive Board + Unit Cubes	▪ PTDOT ▪ Observations
3.Group 7-C	▪ Math 1.Exam ▪ Math 2.Exam ▪ Math 3.Exam	Interactive Board + Unit Cubes + Building blocks Program	▪ PTDOT ▪ Observations
4.Group 7-D	▪ Math 1.Exam ▪ Math 2.Exam ▪ Math 3.Exam	Interactive Board +Building blocks Program	▪ PTDOT ▪ Observations

PTDOT in the Table 1 that shows experimental design means Profiles of Three Dimensional Objects Test.

The practice group of this study consists of 7th grade students of Bornova Doktor Cavit Özyeğin Ortaokulu (Middleschool) of spring term of 2015-2016 school year. To form the groups, the classes that are already exist in the school are used. It was observed that the classes are equal statistically in accordance with the 3 mathematics exam of spring term and the grade point averages of these exams. The issue of which teaching method will be held on which classes was determined objectively by drawing lots. The number and gender distribution of the students in the classes can be seen on the Table 2 below.

Table 2. The Comparison of the Student Numbers in Classes

Class	Gender	N	Total
7-A	Male	15	28
	Female	13	
7-B	Male	15	29
	Female	14	
7-C	Male	11	20
	Female	9	

7-D	Male	13	29
	Female	16	

2.1. Determining The Research Group

The grade point averages of the 3 mathematics exams that were held in spring term of 2015-2016 school year were examined. By analysing the Table 3, it can be seen that the grade point averages of mathematics of these four classes were close each other before the practice and there was no significant difference between these four classes.

Table 3. Testing the Classes upon their Grade Point Averages of Mathematics

Variance Source	Total Squares	sd	Average of Squares	F	p	Significant Difference
Intergroups	476,670	3	158,890	,292	,831	-
Ingroups	55528,990	102	544,402			
Total	56005,660	105				

In this part of the study, the strategies that had been followed during the period of experimental study are mentioned. All the studies were performed in compliance with the principles of constructivist approach. The related topic was taught to first group by interactive board whereas it was taught to the second group by unit cubes besides interactive board; for the third group, interactive board, unit cubes and Building blocks Program and for the fourth group interactive board and Building blocks Program were used. The activities that enable students to find out the concepts that were targeted to teach on each of four groups. Besides, the students was made to explore how three dimensional objects can be seen from different profiles and to draw on isometric papers. These isometric papers were collected for evaluation. The behaviour of the students during classes related to the topic was observed by the researchers.

The topic was presented by using only interactive board on the first group. The topic was conveyed by associating them with real life problems. The presentation about three dimensional objects with the help of interactive board were made and various three dimensional obbjects formed by unit cubes were shown. The class environment and students' drawings were given below (Figures 1and fotograph 1-2-3).

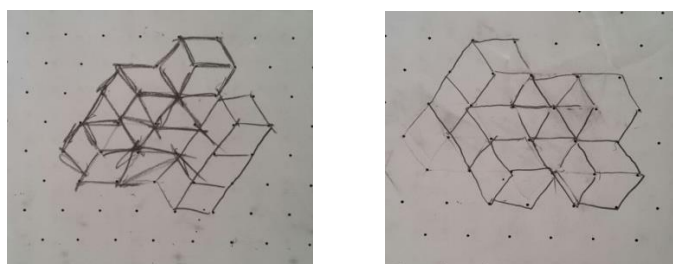


Figure 1 Samples of the students' three dimensional objects drawings

Development of Spatial Abilities of 7th Grade Students

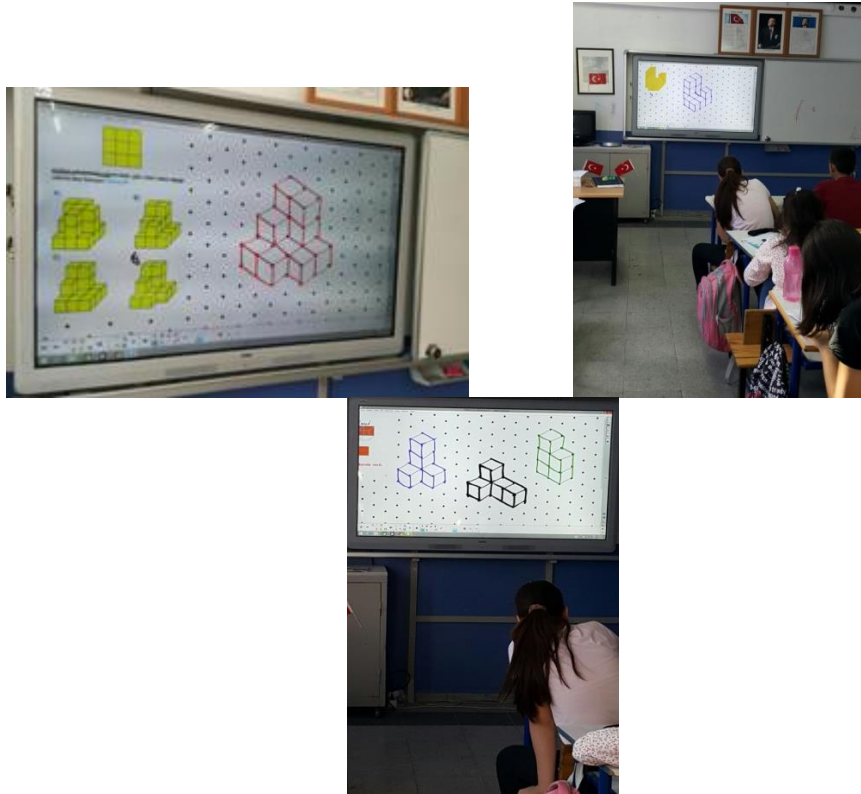


Photo 1-2-3 Display image related to the topic and the classroom environment

In the second group, the topic was presented in compliance with the principles of constructivist approach and by the help of interactive board and concrete unit cubes. The topic was associated again with the real life problems as it was done in the first group. The presentation on three dimensional objects were made on interactive board and various three dimensional objects formed with unit cubes were shown. And the students were made to construct these objects with the concrete unit cubes. The interactive board that was used in the class, the objects constructed with concrete unit cube models and students' drawings were shown below (Figures 2 and Photograph 4-5-6).

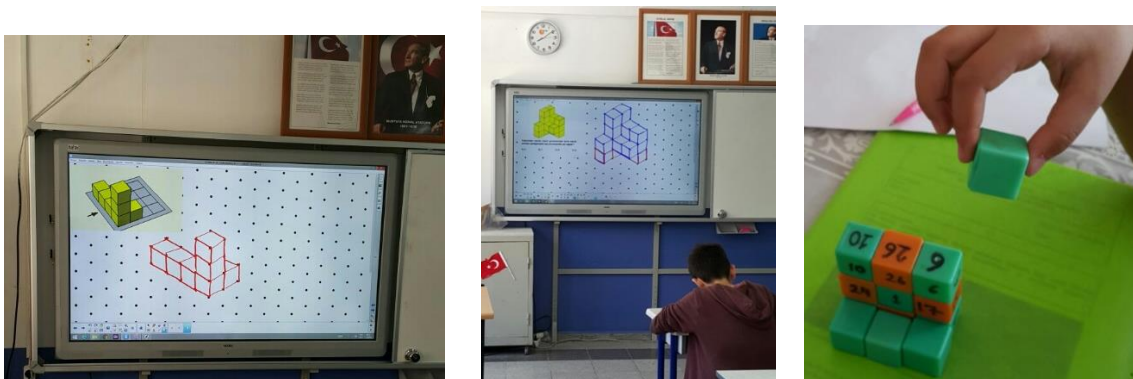


Photo 4-5-6. Display images of interactive boards and geometrical object model constructed with concrete unit cubes



Figure 2 Samples of the students' three dimensional objects drawings

In the third group, the topic was taught by using interactive board, concrete unit cube models and Building blocks Program in compliance with the principles of constructivist approach. The topic was associated again with the real life problems as it was done in the other groups. The presentation about three dimensional objects on the interactive board, various three dimensional objects formed with unit cubes and these objects were constructed with Building blocks Program by the students. And the students were made to construct the same objects with the concrete unit cubes. The students were also made to observe these three dimensional objects from different profiles by using the interactive rotating feature of the program. The sample picture of the interactive board, objects formed with the concrete unit cubes, the models constructed with Building blocks program and the students' drawings were given below (Photograph 7-8-9-10-11).

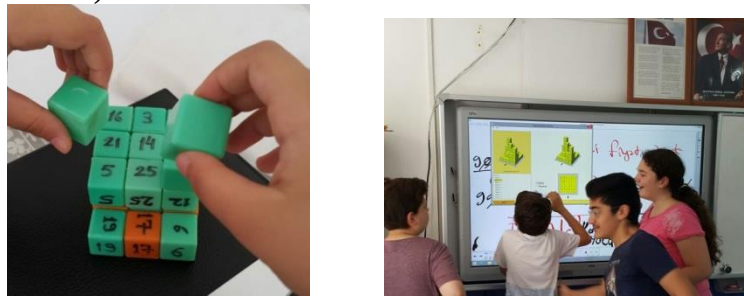


Photo 7-8 Display image related to the topic and the geometrical object model constructed with concrete unit cubes

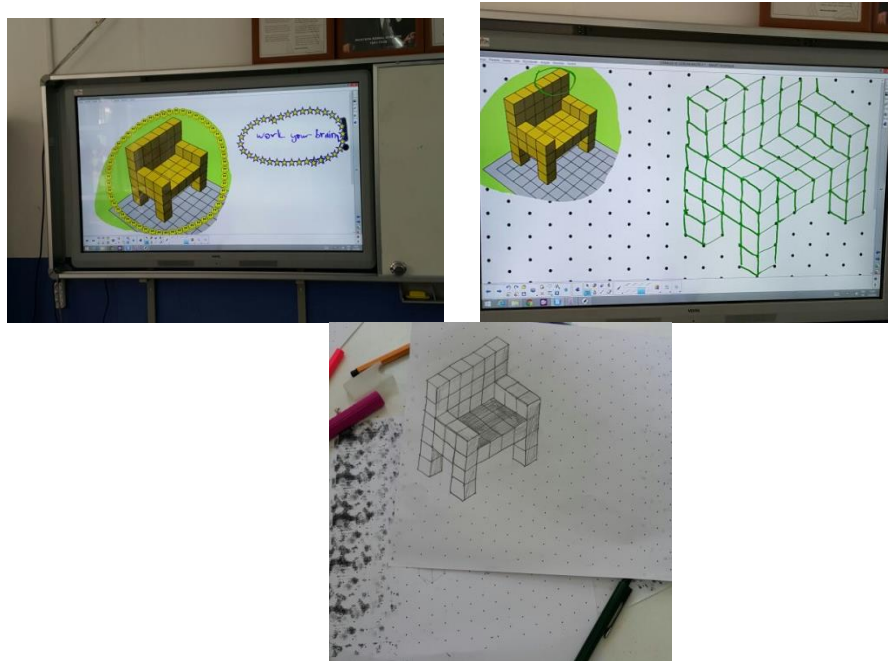


Photo 9-10-11 Samples of the students' three dimensional objects drawings

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In the fourth group, the topic was taught by using interactive board and Building blocks Program in compliance with the principles of constructivist approach. The topic was associated again with the real life problems as it was done in the other groups. The presentations about the three dimensional objects on the interactive board, various three dimensional objects formed with unit cubes were shown and these objects were constructed by the students with the help of Building blocks Program. The students were made to observe these constructed three dimensional objects from different profiles by using the interactive rotating feature of the program. The sample picture of the interactive board, the models constructed with Building blocks Program and the students' drawings were given below (Photograph 12-13-14-15-16-17).

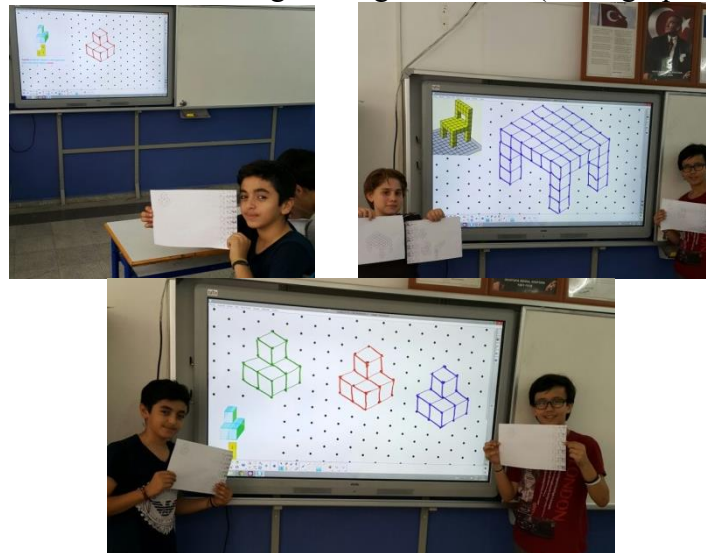


Photo 12-13-14 Display image related to the topic and the classroom environment

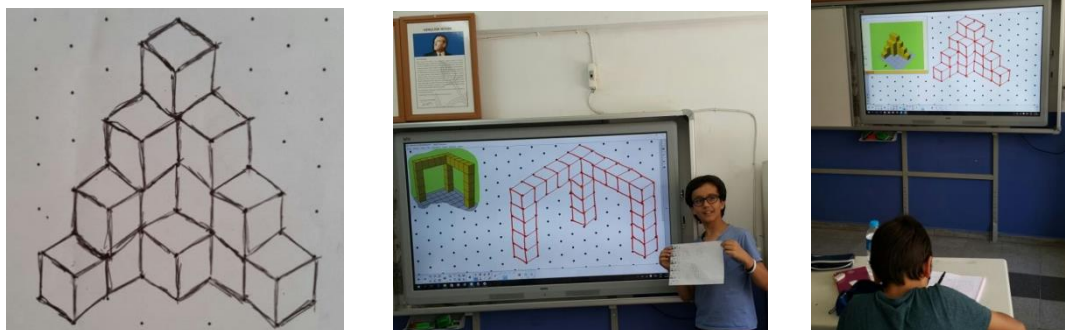


Photo 15-16-17 Samples of the students' three dimensional objects drawings

2.2. Building Blocks Program (Building with Blocks)

The Building blocks Program that was applied in this study had been developed pursuant to TAL project (Van der Heuvel-Panhuizen & Buijs, 2004). TAL is a project initiated by the Dutch Ministry of Education, Culture and Sciences, and carried out by the Freudenthal Institute (FI) of Utrecht University and the Dutch National Institute for Curriculum Development (SLO), in collaboration with the Rotterdam Center for Educational Services (CED). The quality of education can be improved in many ways. TAL proposes to do this by providing insights into the broad outline of the learning-teaching process and its internal coherence. Using this program on this topic has many advantages. Interactivity feature makes it easy to use and flexible. And its gamification feature makes the students pay attention to it and provides motivation for students.

There is an application which allows users to build an object that is illustrated from different profiles in the sub interface of the Building With Three Sides menu. This test-like application was applied all of the students. This experimental study, whose results are presented here, was performed in a period of two weeks (in 10 course hours – each one is 40 minutes) in spring term of the 2015 – 2016 school year.

2.3. Data Collection Tools

2.3.1. Profiles of Three Dimensional Objects Test (PTDOT)

PTDOT, which has the characteristics of an academic achievement, was used in order to evaluate the student's performances on the profiles of three dimensional objects, and it consists of 22 multiple choice questions (annex 1). It was confirmed that PTDOT has the content validity with the help of views of five experts. This expert group consists of an associate professor, a doctor, two professional mathematicians and a mathematics teacher. In order to determine the content validity of PTDOT, the questions, which were asked, were classified as follows (Table 4).

Table 4. PTDOT Distribution of the Questions upon acquisitions

Acquisitions (7th Grade)	Question Numbers	Quantity of Questions
Drawing two dimensional images of three dimensional objects from different sides	1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 17, 21, 22	14
Creating structures given from different sides	7, 10, 14, 15, 16, 18, 19, 20,	8

After the application, the scores of PTDOT were controlled in respect of suitability to the normal distribution by Shapiro-Wilk Test and in respect of homogeneity of variances by Levene F Test. The results of the analysis was illustrated on the Table 5 below.

Table 5. Analysis on normality of PTDOT scores

Shapiro-Wilk Test	
PTDOT	
N	106
Average	76,62
Standard Deviation	23,018

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Shapiro-Wilk Z	,869
p	,000

When the p values on the table 5 are analysed, it can be observed that the distribution of PTDOT scores do not correspond with the normal distribution. The statistical insignificance of the results of Levene F Test ($p > ,05$ ve $F = ,249$) indicated that the variances have homogenous structures. Hereunder, using nonparametric tests on the analysis of PTDOT scores will be more relevant.

3. Findings And Interpretation

The datum obtained from evaluation tools was analysed by statistical techniques. The findings obtained from the analysis were illustrated in the tables by considering the sub problems and interpretations related to results of the analysis were made. First, preliminary statistical information about the research group was given.

3.1. Preliminary Information about the Research Group

The average of the student's Mathematics grades in the second term of the 2015 – 2016 school year was illustrated on the table below.

Table 6. Descriptive Statistics of the Second Term Mathematics Grades Average

	N	The Lowest Score	The Highest Score	Average	Standard Deviation
7-A	28	10,00	95,00	58,04	21,315
7-B	29	10,00	100,00	56,38	25,908
7-C	20	10,00	95,00	61,75	23,857
7-D	29	15,00	100,00	60,86	22,082

3.2. Profiles of Three Dimensional Objects Test (PTDOT) scores

PTDOT consists of 22 questions and the highest score can be gotten is 100 points. On the table 7, descriptive statistics of PTDOT scores were given.

Table 7. Descriptive Statistics of PTDOT Scores

		N	The Lowest Score	The Highest Score	Average	Standard Deviation
7-A		28	22,73	100,00	69,97	23,580
7-B		29	18,19	100,00	76,65	23,734
7-C		20	27,27	100,00	81,59	23,802
7-D		29	36,37	100,00	79,62	20,780
7-A	A	28	9,09	63,64	42,05	16,255
	B	28	4,55	36,36	27,92	8,980
7-B	A	29	4,55	63,64	47,34	16,232
	B	29	0,00	36,36	29,31	9,685
7-C	A	20	9,09	63,64	50,68	16,705
	B	20	9,09	36,36	30,91	8,798
7-D	A	29	18,18	63,64	49,06	15,095
	B	29	0,00	36,36	30,56	8,999

PTDOT consists of two different question types. The first type acquisition (A) contains Drawing two dimensional images of the profiles of three dimensional objects from different directions, and the second type acquisition (B) creating structures given from different sides. Therefore, the student's PTDOT scores were analysed individually according to these sub dimensions. When the table 7 is analysed, it can be observed that there is not a significant difference between the average results of ANOVA analysis ($F_{(3-102)} = .292$, $p > .05$). It can be observed that the four groups are equal with regards to attendance.

3.3. Findings and Interpretations on the Sub Problems of the Research

3.3.1. Findings and Interpretations on the First Sub Problem

The first sub problem of the research was stated as “Is there any significant difference between academic achievements in compliance with the different methods that are applied in the sub-dimension of drawing the two dimensions of the three dimensional objects from different perspectives?” In order to test this sub problem, PTDOT was applied on each of the four group

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after the experimental process. At first, PTDOT score was approached as an only dependent variable, and was analysed by Kruskal-Wallis Test. The Kruskal-Wallis analysis of PTDOT results that applied at the end the experimental application was illustrated on the table below (Table 8).

Table 8. The Comparison between PTDOT Scores of the Groups

Classes	N	Mean Rank	sd	χ^2	p	Significant Difference
7-A	28	43,23	3	5,278	,153	-
7-B	29	53,67				
7-C	20	62,48				
7-D	29	57,05				

Results of the analysis reveal that PTDOT scores of the students, who participated in the research, do not differentiate in the matter of teaching methods [χ^2 (3)=5.278, $p > .05$]. This result shows that different methods are not effective enough to increase the academic achievement in respect of the Profiles of Three Dimensional Objects. However, when the average grades of the groups are compared, it can be observed that there are some differences between the scores. According to the the graphic above; the results are as follows; the average grade of the 7-C class is 81.59, the average grade of the 7-D class is 79.62, the average grade of the 7-B class is 76.65 and the average grade of the 7-A class is 69.97. Herein, it can be observed that the grade average of 7-C class is 11.62 points higher than 7-A class, 5.03 points higher than 7-B class and 1.97 points higher than 7-D class. And the grade average of 7-A class is 9.65 higher than 7-A class and 2.97 points higher than 7-B class. This results show that Building Blocks Program increases the success even a little.

In terms of the academic success levels, PTDOT scores were analysed in accordance with the sub dimensions of the problem. The sub dimensions of the first sub problem of the research were given below:

- Is there any significant difference between academic successes of different methods applied on sub dimension of drawing two dimensional images of three dimensional objects from different sides?
- Is there any significant difference between academic successes of different methods applied on sub dimension of creating the structures given from different sides?

Descriptive statistics of the scores that the student groups gotten on the sub dimensions of PTDOT were given on the table 9 below.

Table 9. Descriptive Statistics of PTDOT before the analysis

	N	The Lowest Score	The Highest Score	Average	Standard Deviation
7-A	28	9,09	63,64	42,05	16,255

Attainment A	7-B	29	4,55	63,64	47,34	16,232
	7-C	20	9,09	63,64	50,68	16,705
	7-D	29	18,18	63,64	49,06	15,095
	Toplam	106	4,55	63,64	47,04	16,118
Attainment B	7-A	28	4,55	36,36	27,92	8,980
	7-B	29	0,00	36,36	29,31	9,685
	7-C	20	9,09	36,36	30,91	8,798
	7-D	29	0,00	36,36	30,56	8,999
	Toplam	106	0,00	36,36	29,59	9,094

In order to test these sub dimensions, the sub dimension scores of the test were analysed by Kruskal-Wallis Test. The analysis of Kruskal-Wallis Test on the PTDOT sub dimensions results, which were applied at the end of experimental application was illustrated on the table below (Table 10-11).

Table 10. The Comparison of PTDOT Scores on Sub-dimension A between the groups

Classes	N	Mean Rank	sd	χ^2	p	Significant Difference
7-A	28	42,98	3	5,546	,136	-
7-B	29	54,10				
7-C	20	62,88				
7-D	29	56,59				

The results of analysis show that for the first attainment (A), PTDOT scores of the students, who participated the experimental study, do not differentiate in regard to the teaching method [χ^2 (3)=5.546, $p > .05$]. This result shows that different methods are not effective to increase the academic success about the first attainment that is one of the sub-dimensions of Profiles of Three Dimensional Objects.

Table 11. The Comparison of PTDOT Scores on Sub-dimension B between the groups

Classes	N	Mean Rank	sd	χ^2	p	Significant Difference
7-A	28	46,41	3	3,328	,344	-
7-B	29	54,74				

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7-C	20	59,65
7-D	29	57,86

The results of analysis show that for the first attainment (B), PTDOT scores of the students, who participated the experimental study, do not differentiate in regard to the teaching method [$\chi^2(3)=3.328$, $p>.05$]. This result shows that different methods are not effective to increase the academic success about the second attainment that is one of the sub-dimensions of Profiles of Three Dimensional Objects.

3.3.2. Findings and Interpretations on the Second Sub-problem

The second sub-problem of the research was stated as “What kind of effects were observed on the students’ drawings in respect to the applied methods related to the matter of profiles of three dimensional objects?” To seek an answer to this question the geometrical shapes that the students drew on the isometric paper were analysed (These shapes were given as an annex). It was observed that the students who received support from Building Blocks Program generally draw the shapes better on the isometric papers. It was recorded that most of the students who did not use this program generally have difficulties to do the same exercise. And it was also observed that the students from the groups who used this program drew the geometrical objects from different perspectives and sides. The student who did not receive the support of the program only drew the geometrical object from the sides or the perspectives they had seen. It was observed from the students’ behaviour that this program helps the students look at something from different aspects, increases analytical thinking.

In addition, it was observed that the lectures which the Building Blocks Program is used were more enjoyable, highly motivated, well-attended for the students and made them to be tend to continue the lesson even on the recess time.

4. Results And Discussion

In this study, any statistically significant difference between the groups in the matter of increasing the academic success on Profiles of Three Dimensional Objects could not be found by using different methods. However, when the average grades of the groups are compared, some significant differences between the scores can be seen. It was observed that the groups which Building Blocks Program was used in the lessons have higher academic grade averages than the other groups. And this result shows that this program increases the success even a little. And still, the students who received support of Building Blocks Program drew the shapes better on the isometric papers. It was observed that the students who did not use the program generally have difficulties on drawings. Additionally, it was also observed that the students from the groups who used this program drew the geometrical objects from different perspectives and sides. The student who did not receive the support of the program only drew the geometrical object from the sides or the perspectives they had seen. It was observed from the students’ behaviour that Building Blocks Program helps the students look at something from different aspects, increases analytical thinking. Besides, the students who used Building Blocks Program were motivated more and attended the activities that presented in the lessons more actively. The students who used this program mentioned that the lessons were really amusing and that they did not get bored of them.

5. References

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Determining the Factors That Affect the Alcohol Consumption of Students Through Logit Model

Ebru Onurlubas

1. Introduction

Alcohol has been used as a pleasure-inducing substance, anesthetic and drugs since ancient times. From these ancient times till now, there have been various attitudes of individuals and societies towards alcohol. In every age and society, whereas moderate consumption of alcohol has been accepted, long-term consumption has not been approved and has been considered to be a bad behavior. (Öztürk and Uluşahin, 2008). Besides, long-term alcohol consumption harms people's health seriously.

Alcoholic drinks and the harmful consumption of them has been a familiar fixture among societies since the beginning of humanity. Alcohol has been considered to be one of the major reasons of diseases and premature deaths (OECD, 2011).

Alcohol consumption is widely seen in developed and developing countries. Particularly, the rate of alcohol addiction in developed and developing countries is increasing day by day (Altıntoprak, 2000).

Alcohol and substance consumption has been increasing in recent years and therewithal, it has been one of the serious health problems in our country. Due to the fact that alcohol and substance addiction influence not only the individual but also the family and society deeply, it causes several social, legal and economic problems as well as physical and psychological ones (Doğan, 1997).

In OECD report which was prepared according to the amount of alcohol consumption of 44 countries, the first country which consumes alcohol the most was determined as Lithuania with 14 litres of alcohol per person in a year. This is followed by Austria and Estonia with an average of 12 litres per person. Among the 44 countries, the country which consumes alcohol the least was determined as Indonesia. It was determined that Turkey is the second last country in alcohol consumption. The annual alcohol consumption rate per person in Turkey was determined as 1.6 liters (OECD,2013). This rate was 1.39 liters in 2015. World Health Organization (WHO) declared that 2 billion people consume alcohol and 76,3 million people have alcohol consumption disorder. It also declared that alcohol is in the third place among the risk factors of global disease burden (WHO, 2011).

In the study, the aim is to determine the alcohol consumption states of the students in Keşan Yusuf Çapraz School of Applied Sciences in Trakya University, the factors that affect these states and the opinions on alcohol consumption.

2. Methodology

2.1. The Sample Size and Means of Measuring

The data gained from the questionnaires that were applied randomly to the students of Keşan Yusuf Çapraz School of Applied Sciences during 2015/2016 academic year form the main material of the research. There are 1350 students in the university in total. The sample size has been determined by proportional sampling method with the help of the equation below (Baş, 2008):

$$n = \frac{N * t^2 * p * q}{d^2 * (N - 1) + t^2 * p * q} \quad (1)$$

n; Number of the individuals that are to take part in the sample, N;1350,
p; Probability of occurrence (0,50), q; Probability of non-occurrence (0,50),
t; Standard normal distribution value (1,65), d; Sampling error (0,05).

In order to determine the sample size of the students to conduct surveys, the study were carried out within the reliability limit of 90% and the error margin of 5%.

Face-to-face survey method, which is the most common method, has been used in this research in order to collect the primary applicable data. While preparing the questionnaire form, the studies of Erdal et al. 2012 and cites, which were listed in literature (references) part, have been referred to. Besides the questionnaire form has been developed by the researcher.

2.2. Data Analysis

The data of 300 students in the research were analyzed by using SPSS 21 statistical package software.

In the data analysis method of the research, Logit Model, which is one of the qualitative variables econometric models, has been used. In the Logit Model analysis, the order is as below: Firstly, the logit model was estimated, the probability ratio was determined and the coefficients and odds ratio were obtained. Then, marginal odds ratio was obtained and finally by calculating the % percentage changes, the results were interpreted. The logit model, which has been derived from normal independent distribution function, is stated in Equation 2;

$$P_i = E(Y_i = 1 | X_i) = F(L_i) = F(\beta_0 + \beta_1 X_i) = \frac{1}{1 + e^{-L_i}} = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_i)}} \quad (2)$$

Whereas L_i has a value between $-\infty$ and $+\infty$, P_i has a value between 0-1 and there is a nonlinear relationship between P_i and L_i . In this case, it cannot be analyzed with the OLS method. Yet, it can be transformed into a linear form with some transactions.

$$e^{L_i} = \frac{P_i}{1 - P_i} \quad (3)$$

is obtained. $P_i/(1-P_i)$ is the odds ratio. In other words, it is the ratio of probability of occurrence to non-occurrence. Finally, when the natural logarithm of both parts of the equation is calculated, Equation 4 is obtained;

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = L_i = \beta_0 + \beta_1 X_i \quad (4)$$

is obtained (Kramer, 1991).

L_i , which is the logarithm of the probability ratio here, has been transformed into a linear form not only according to X_i but also according to the coefficients. However, an equation

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which shows the exchange ratio of P_i according to X_i hinges on not only β_1 but also the level of the change probability and which is described as marginal odds ratio can be shown as below;

$$\partial P_i / \partial X_i = P_i (1 - P_i) \beta_1 \quad (5)$$

The obtained marginal odds ratio presents the effect of 1 unit change in X_i on P_i .

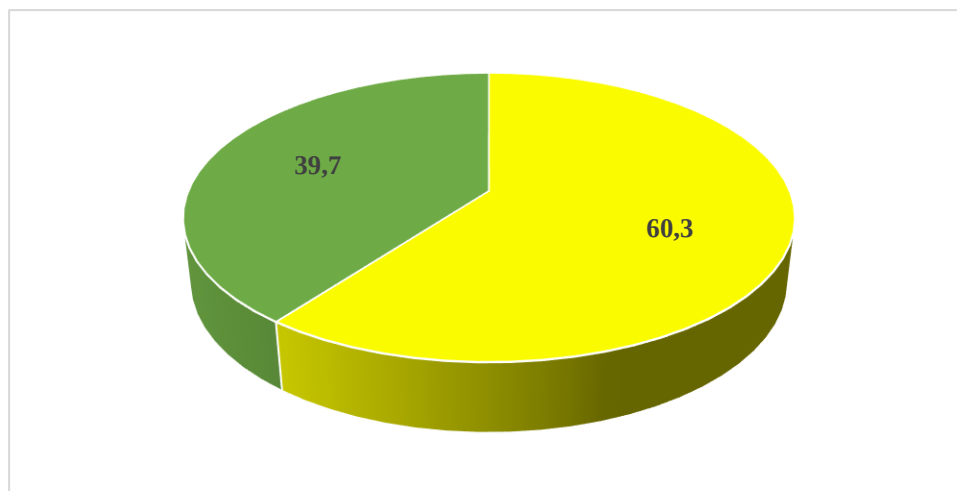
The variables in the model and the codes of these variables can be defined as below.

3. Research and Findings

Table 1. Findings concerning Socio-demographics.

	Frequency	(%)
Gender		
Male	146	48,7
Female	154	51,3
Total	300	100,00
Age		
18-19	50	16,7
20-21	120	40,0
22-23	110	36,6
24-25	20	6,7
Total	300	100,00
University Grade		
1 st Grade	56	18,7
2 nd Grade	71	23,7
3 rd Grade	92	30,6
4 th Grade	81	27,0
Total	300	100,00
Origin		
Origin of Countryside	96	32,0
Origin of City	204	68,0
Total	300	100,00
Students's Income		
< 450TL	20	6,7
451 -550 TL	80	26,7
551 - 650 TL	148	49,3
651 - 750 TL	35	11,7
751 TL and above	17	5,6
Total	300	100,00

In the research (Table 1), 51,3% of the students are females and 48,7% are males.. It has been determined that 40% of the participants are aged 20 – 21, 68% of them have city origin. It has been determined that between 551 – 650 TL is the amount of money that the student gets with the highest rate of %49,3.

Figure 1. Alcohol Consumption of Students (%)

Whereas

60,3% of the students consume alcohol, 39,7% do not consume. (Figure 1)

Table 2. Opinions of the University Students on Alcohol and Alcohol Consumption (%)

	Strongly disagree=1	Disagree=2,	Neutral =3	Agree=4,	Strongly agree=5	Score	Rank
Alcohol is harmful to health.	3,6	13,8	38,3	26,9	17,4	3,42	4
Alcohol causes addiction.	8,4	12,0	39,4	21,0	19,2	3,31	6
Alcohol is a delightful drink.	1,2	5,4	8,3	16,2	68,9	4,46	1
Alcohol is forbidden by religion.	3,6	7,8	13,2	25,1	50,3	4,11	2
Alcohol is necessary to have fun	8,4	31,1	26,3	21,6	12,6	2,99	10
The people who consume alcohol continuously cannot think clearly.	7,2	21,6	27,5	25,1	18,6	3,26	7
The social status of alcohol consumers is high.	4,2	15,6	29,9	26,3	24,0	3,50	3
Alcohol must be prohibited.	3,0	21,6	40,7	24,0	10,7	3,18	9
Alcohol must be consumed only in certain places.	3,6	18,1	45,8	20,5	12,0	3,19	8
The society considers alcohol consumers negatively.	6,6	15,0	33,5	25,1	19,8	3,41	5

As it can be seen in Table 2, it has been determined that 44,3% of the participants agree that alcohol is harmful to health whereas, 17,4% do not agree so. It has also been determined

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that 40,2% of the students think that alcohol causes addiction, 85,1% think that it is a delightful drink, 75,4% think that alcohol is forbidden by religion, 34,2% think that alcohol is necessary to have fun, 43,7% think that the people who consume alcohol continuously cannot think clearly, 50,3% think that the social status of alcohol consumers is high, 34,7% think that alcohol must be prohibited, 32,5% think that alcohol must be consumed only in certain places and 44,9% think that the society considers alcohol consumers negatively. When the scores of the students' opinions on alcohol are examined, it can be seen that the uppermost opinion is that alcohol is a delightful drink.

3.1. Factors that Affect Alcohol Consumption

In the research, binary logistics regression analysis has been conducted to the variables that are considered to affect alcohol consumption status of the students. Before the process of analysis, descriptive statistics for the variables used in the model have been presented (Table 2). In most of the studies carried out, it has been confirmed that the demographical factors used in the model are the effective ones. Therefore, some demographical variables have been used in the model.

In addition to this, the variables which are estimated to be effective on alcohol consumption have been used in the model, as well.

Table 3. Variables and Their Codes that are Used in Binary Logistic Regression Analysis

Abbreviation of the Variable	Scale	Definition
AC (Alcohol Consumption)	Discrete	Yes=1, No=0
GEN(Gender)	Discrete	Female=1, Male=2
ACFM(Alcohol Consumption of Family Members)	Discrete	18-19=1, 20-21=2 22-23=3, 23-24=4
GR (Which Grade S/he Studies)	Discrete	1 st Grade=1, 2 nd Grade=2, 3 rd Grade=3, 4 th Grade=4
CCF (Close Circle of Friends)	Discrete	Close friend does not drink alcohol=1 Close friend drinks alcohol =2
STRS(Stress factor increases alcohol consumption)	Discrete	Strongly disagree=1 Disagree=2, Neutral =3 Agree=4, Strongly agree=5
O(Origin)	Discrete	1=Countryside, 2=City
PA (High Price of Alcohol decreases alcohol consumption.)	Discrete	Strongly disagree=1 Disagree=2, Neutral =3 Agree=4, Strongly agree=5

Table 4. Results of Binary Logistic Regression Analysis

Variables	β	S.E	Wald	Sig.	Odds ratio	Marj. odds ratio
Constant	-19,121	3,354	32,496	,000	-	-
GEN	1,848	,684	7,300	,007***	6,350	0,722
ACFM	,543	,178	9,326	,002***	1,721	0,214
GR	,081	,291	,077	,781	1,084	0,319
CCF	5,638	,912	38,222	,000***	280,961	2,227
STRS	,017	,003	33,059	,000***	1,017	0,006
PA	,479	,297	2,600	,107	1,614	0,189
O	,123	,658	,035	,851	1,131	0,048

***0,01 indicates the significance level.

As a result of the logit model analysis, slope coefficients measure $(\pi/1-\pi)$ change in the logit in return of one-unit change in the independent variable. However, for the certain values of the variables, it is necessary to estimate the event's own probability (P) not the probability ratio of the event (Özer, 2004). Thus, coefficient estimators were obtained and then the analysis have been carried out. As a result of the analysis,

$$P = \frac{1}{1 + e^{-2,39157}}$$

$$P=0,606 \approx \% 61$$

According to the “P” value obtained, alcohol consumption probability of the students in Keşan Yusuf Çapraz School of Applied Sciences has been calculated as 61,0%. Marginal effects of the factors that are considered to be related to this consumption have been calculated.

When the marginal effects of the factors are examined, the results below have been found;

- GEN: It has been seen that the males' probability of alcohol consumption is **0,722** times more than females' probability. We can attribute this situation to the fact that women are more careful about their health. In other studies, it was also seen that males consume more alcohol than females (Crawford and Ryder., 1986:369). In 1993, Adelekan et al determined that alcohol consumption and tobacco use are more common among males (Emeç and Gülay, 2007). In a study carried out on students in Switzerland, it has been determined that particularly male students are in tendency to consume alcohol more and they consume alcohol much more (Wicki, et al., 2010).
- ACFM: The fact that family members consume alcohol increases the students' habits of alcohol consumption 0,214 times more. In the study by Erdal et al in 2013, it has been

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determined that when the parents' alcohol consumption is decreased 1 unit, the student's alcohol consumption is decreased 1,2 units. In 1994, Kriegler et al. have stated that among the causes of cigarette and alcohol use, the fact that individuals' family members use these substances is a very significant factor.

- CCF: The fact that close friends consume alcohol increases the students' habits of alcohol consumption 2,227 times more. In other words, alcohol consumption of students' close friends increases their alcohol consumption. When the other studies are examined, it has been determined that alcohol consumption is more in the areas where there are intense number of roommates or students (Wicki, et al., 2010). In a study carried out in the USA, fixed effects, correlation effects and friend effects that affect alcohol consumption of adolescents were examined. In a study carried out by Mir and Debra (2010) the effect rate of the youngsters' peers and classmates on alcohol consumption has been observed as 10%.
- STRS (Stress): It has been found that students consume 0,006 times more alcohol, when they are stressful. In other studies it was also found that stress, which is one of the environmental factors, has a significant amount of impact on people's alcohol consumption behaviors (Conger, 1956; Volpicelli et al., 1999).

4. Conclusion

Alcohol consumption is observed more in developed and developing countries. Although alcohol consumption may seem as delighting at first, when it is overconsumed, the harms that it can give to the person are significant. When it is overconsumed, it can result in loss of the consciousness, negative effects on mind, alcohol-related coma and intoxication arising out of alcohol and as a result even deaths. Today, particularly youngsters consume alcohol more and are not aware of the harms they give to themselves while doing so. The reason to choose university students in this study is because alcohol consumption of rising generations is more.

As the result of the research, almost half of the participant students think that alcohol is harmful to health, alcohol causes addiction, the people who consume alcohol continuously cannot think clearly and the society considers alcohol consumers negatively whereas more than half of them think that alcohol is a delightful drink, it is forbidden by religion and the social status of alcohol consumers is high. When the students' primary opinion about alcohol consumption is determined, it is the opinion that alcohol is a delightful drink.

When the results of the data analyses obtained from participant students are examined, it has been found that male students consume alcohol more when compared to female students. It has been found that the students whose family members and close circle of friends use alcohol have more alcohol consumption habits. Besides, it has been determined that students who are under stress tend to consume alcohol more.

In the light of the findings above, some campaigns can be organized in order to decrease alcohol consumption of the youngsters. Additionally, youngsters can be informed about the harms of alcohol consumption by inviting experts to give briefings at schools.

5. References

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