Faculty of Education Journal

ÇUKUROVA UNIVERSITY

FACULTY OF EDUCATION JOURNAL

Çukurova University Faculty of Education Journal

April - 2013

Çukurova University Faculty of Education Journal

List of Reviewers for Vol. 42 – No.1

INDEX

EXAMINATION OF THE INAPPROPRIATE BEHAVIORS DISPLAYED BY PROSPECTIVE TEACHERS THROUGH DIGITAL DEVICES IN TERMS OF CERTAIN VARIABLES

Mehmet SİNCAR[*a]

[a]Gaziantep University, Department of CEIT, Gaziantep/TURKEY

ABSTRACT

The purpose of this study is to examine the inappropriate behaviors displayed by prospective teachers through digital devices in terms of certain variables, and to reveal the causes of these inappropriate behaviors. Employing quantitative and qualitative research methods, the study was carried out during the 2011-2012 academic year with participation of 185 prospective teachers from a faculty of education in Turkey. Quantitative data were analyzed by use of multiple linear regression analysis and independent samples t-test. Qualitative data were analyzed through content analysis. Validity and reliability were investigated via peer-review, member checks, and inter-coder reliability processes. The findings of the study show that there is a (low-level) significant positive relationship between the inappropriate behaviors displayed by prospective teachers through digital devices and gender, social media usage status, and duration of the internet usage and mobile phone usage. It was concluded that male students displayed more inappropriate behaviors through digital devices in comparison to female students, and prospective teachers using social media displayed more inappropriate behaviors through digital devices in comparison to those not using the social media. The causes of undesired/inappropriate behaviors were found to be compulsion, absent-mindedness and indifference.

Keywords: Digital technologies, digital citizenship, digital etiquette, inappropriate behaviors.

INTRODUCTION

It can be said that social life gradually changes and transforms as a result of the fact that digital devices have become one of the indispensable elements of the daily life. Prensky (2001) states that this transformation has led to formation of two groups in the society: digital natives and digital immigrants. According to Prensky (2001), while digital natives grow with digital technologies, digital immigrants meet these technologies only after they have completed a certain part of their lives. As digital natives are surrounded by digital technologies, they adapt themselves to virtual world more easily than digital immigrants. In fact, digital natives refer to present-day children, and digital immigrants to their parents. Prensky (2001) highlights that today's children are very different from their parents, which is due to the fact that they spend thousands of hours by using digital technologies. The fact that digital devices have started to influence the social life in an unpredictable manner has led to emergence of a virtual world where people spend a considerable part of their time. Thus, individuals from different segments of the society have begun to become digital citizens of this world gradually.

Digital Citizenship

Digital citizenship is defined as the ability to participate in society online (Mossberger, Tolbert and McNeal, 2008). Another definition of digital citizenship refers to capability of all individuals in the

---

[*] **Co-Author:** mehmetsincar@yahoo.com

society to act in the digital world easily by using information technologies positively. Within the scope of this definition, nine basic elements of digital citizenship are described (Ribble & Bailey; 2007).

Table 1. Digital citizenship elements

Elements	Descriptions
Digital Access	Every individual in the society needs to have equal access to digital technologies.
Digital Communication	Applications such as mobile phone, short message, video conferencing and e-mail are the technologies used by individuals for communication purposes. This mode of communication has created a new social structure.
Digital Literacy	Individuals need to have core knowledge concerning use of digital technologies, and need to be capable of using such technologies in the learning processes.
Digital Etiquette	Use of digital technologies within the framework of a particular etiquette makes individuals a role model especially for students.
Digital Commerce	Individuals need to be able to review goods in the electronic environment before buying them and conduct processes related to shopping in the same environment.
Digital Law	Individuals must respect property rights, and avoid acts that may violate copyrights in particular.
Digital Rights & Responsibilities	Every individual has a right to use digital technologies. Individuals need to be able to protect these rights of theirs and defend rights of other people about this topic.
Digital Health & Wellness	Individuals need to be capable of identifying health problems likely to emerge as a result of use of digital technologies, and must take necessary measures by noticing the initial phases of such problems.
Digital Security	Every individual who uses digital technologies needs to take security measures in regard to his/her personal devices in particular, and must pay strict attention to utilizing security software while using his/her personal devices or using personal information in devices open to common access.

Ribble & Bailey (2007) set a model for explaining the connection between elements of digital citizenship. This model indicated the common purpose of digital citizenship elements as follows: to improve learning outputs and to prepare students to become 21st century citizens ((Ribble & Bailey, 2007:37).
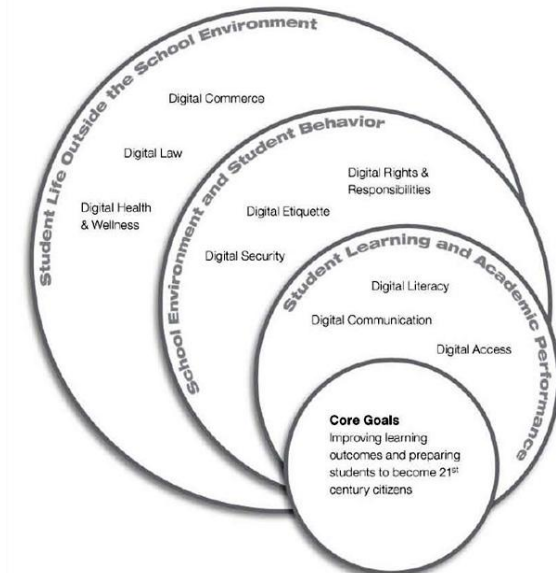

Figure 1. Model of how the elements of digital citizenship relate and connect.

Examining the Figure 1, it is seen that digital citizenship elements are affected and shaped by lives of students both inside and outside the school. Having more access to digital technologies inside and outside the school may be considered an important factor in terms of acquisition of behaviors concerning use of digital technologies. Gradually increasing use of digital technologies in life makes difference for both students and other individuals in the society. Activities such as money transfer over the internet, access to lecture notes through the websites, delivery of wedding invitations by e-mail, and organization of aid campaigns through social media in case of a natural disaster can be regarded as reflections of changes in the social life created by technology. On the other hand, it is observed that digital technologies, which facilitate/vary human life, negatively affect and change behaviors of the individuals from time to time. Behaviors like transferring money from a bank account over the internet without permission, threatening a peer student in a chat room, and sharing pictures or videos violating privacy through social media without permission can be showed as examples of undesirable use of the digital technologies. One of the reasons for individuals' exhibition of annoying behaviors over the internet is that they regard virtual world as more riskless in comparison to the real world, which is not approved by the society (Bargh & MacKenna, 2004; Stewart, 2000; Woodbury, 2003).

Closely examining the situation, it is observed that these kinds of negative behaviors are displayed by hiding behind a computer standing clear of the physical environment. Apart from that, there are also improper behaviors conducted through digitals devices against person or people being in the same environment as such devices. According to Ribble & Bailey (2007:6), these kinds of behaviors can be associated with the concept of etiquette as distinct from the concept of ethics. For instance, it is one of the negative behaviors displayed in the daily life that some people answer their mobile phone without getting permission from individual/individuals being in the same environment as them during a face-to-face meeting. A call to mobile phone of one of the students during a lecture can be indicated as another negative behavior that distracts people at that moment. In a similar way, it is also among annoying behaviors that a group of people talk loudly in a public transportation vehicle, or a person in the same vehicle as you speaks loudly to another person via a mobile phone. Adam (2005) states that improper behaviors conducted through digital technologies increase in proportion to inclusion of digital technologies in the daily life, and especially the females are negatively affected by these kinds of inappropriate behaviors.

Teachers are expected to take responsibility and function as a role model for their students in order for students to exhibit appropriate behaviors through digital technologies instead of these kinds of undesirable behaviors. It is regarded as a teacher's competence in the context of technological leadership (Brooks-Young, 2006; Brooks-Young, 2007; ISTE, 2008). Exhibition of proper behaviors that can serve as a model for the society to prevent undesirable/inappropriate behaviors that are conducted through digital devices is associated with the concept of digital etiquette, one of the sub-dimensions of the concept of digital citizenship (Ribble & Bailey, 2005; Ribble & Bailey, 2007).

Stating that digital etiquette norms are necessary for students to distinguish appropriate behaviors from inappropriate behaviors displayed through digital devices, Ribble & Bailey (2005) recommends teachers implement a series of scenarios called as digital compass activity as a guide. The digital compass activity is a material consisting of 10 scenarios in total. These scenarios contain inappropriate behaviors displayed through digital devices. At the end of the activity, students and teachers are expected to reach a conclusion concerning what is right and what is wrong in accordance with answers given by them to the questions asked in regard to the above-mentioned scenarios.

The literature contains different studies concerning use of digital technologies by students. For instance, Van Buren (2001) determined at the end of a three-year ethnographic research that students with low level of skill for using computer displayed inappropriate behaviors more and were disciplined on this topic, while students with higher proficiency in the use of computers cooperated with the school

administration when they detected a gap in network system of the school so as to close this gap. Results of that study emphasize that people with higher competence on the topic of information technologies comply with codes of conduct more. Another study on this topic was carried out by Poole (2007). Poole (2007) reported that age and gender had an effect on negative behaviors displayed by students through these kinds of technologies. In that study, a total of 22 scenarios (each one consisting of 11 items), which were parallel to one another in regard to real life and cyber world, were prepared, and an attempt was made to determine perceptions of 453 students about these scenarios. It was concluded that high school students and male students displayed more negative behaviors through digital technologies in comparison to university students and female students respectively. The same study reported that students considered their negative behaviors displayed through digital technologies more acceptable in comparison to inappropriate behaviors exhibited in the real life. Poole (2007) highlighted that perception about exhibition of a positive or negative behavior should be the same regardless of whether such behavior is displayed by use of digital technologies or in the real life, but findings of that study revealed an inconsistency in perceptions of the students about this topic. Poole (2007) stated that the said inconsistency resulted from the fact that use of digital technologies affected perceptions of individuals about what was right and what was wrong. Likewise, Glatz & Betschi (2006) conducted a study in which academicians, researchers and telecommunication employees participated. It was concluded that people were videotaped and photographed through mobile phone cameras without permission, which violated privacy, and spam-content messages were sent to randomly selected numbers and addresses via e-mail or SMS. A study conducted in Turkey with participation of prospective teachers collected behaviors, which were to be evaluated within the context of digital etiquette, under the titles of etiquette and sensitivity, and concluded that participants barely exhibited these behaviors (Sincar, 2011).

Purpose of The Study

The purpose of this study is to examine the inappropriate behaviors displayed by prospective teachers through digital devices in terms of gender, social media usage status, and duration of daily internet usage and mobile phone usage, and to reveal the causes of these inappropriate behaviors. In this sense, an attempt was made to answer the following four research questions in the study:

1. Do gender, social media usage status, and duration of daily internet usage and mobile phone usage of prospective teachers significantly predict the frequency of inappropriate behaviors displayed by them through digital devices?
2. Is gender a factor that creates a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices?
3. Is social media usage status a factor that creates a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices?
4. What are the causes of inappropriate behaviors displayed by prospective teachers through digital devices?

METHOD

Participants

This study was carried out with participation of prospective teachers attending a faculty of education in Turkey during the 2011-2012 academic year. Participants were determined by use of proportional sampling in quantitative dimension of the study, and through maximum variation sampling in qualitative dimension of the study. 185 prospective teachers took part in quantitative dimension of the study. Of the participants, 60% were female, 40% were male. 82% of the participants used social media tools such as FacebookTM and TwitterTM. 22 participants were included in the qualitative dimension of the study.

Data Collection

A form developed by the researcher was used in collection of quantitative data. The relevant literature (Adam, 2005; Barger, 2008; Brooks-Young, 2007; Freeman & Graham, 2005; Kizza, 2010; Ribble & Bailey, 2007; Rooksby, 2002; Shariff, 2009) was reviewed while preparing this form. A pilot form was developed based on expert opinions. Then, this pilot form was subjected to opinions of two faculty members in order to determine content validity of the form. After necessary corrections were made, the form was administered to 210 prospective teachers. After this stage, item-total, item-remainder and t-test item analyses were carried out in order to test validity of the data collection tool. It was concluded that all items had different correlation coefficients and t values. To determine reliability coefficient of the data collection tool, internal consistency analysis was performed and reliability coefficient ($\alpha=0.793$) was calculated.

The form contained descriptive variables including gender, social media usage status, and duration of daily internet usage and mobile phone usage as well as 10 items consisting of negative behaviors displayed through digital devices (ANNEX-1). Qualitative data of the study were collected by means of semi-structured interviews. Semi-structured interviews contained 5 basic questions, which were aimed at determining the causes of inappropriate behaviors displayed by prospective teachers through digital devices, and 5 in depth questions associated with these questions.

Data Analysis

Quantitative data of the study were analyzed by means of multiple linear regression analysis and independent sample t-test. In multiple linear regression analysis, assumptions were tested, and then "ENTER" method where all independent variables were analyzed together was employed (Muijs, 2004; Pallant, 2005). For analysis of qualitative data of the study, content analysis was performed, and themes constituting the research framework were determined by closely examining the interview texts (Boyatsiz, 1998; Cresswell, 2007; Patton, 2002; Strauss & Corbin, 1990). Validity and reliability of the data were investigated through peer debriefing, member checks, and inter-coder reliability processes (Lincoln & Guba, 1985).

Peer Debriefing

A peer is a person who is outside the context of the research, is not interested in the topic under examination, but is knowledgeable about research methods and capable of discussing problems about the research process with the researcher (Lincoln & Guba, 1985). A faculty member specialized in the field of educational administration and inspection took part in the present study as a peer. Documents containing the data obtained from prospective teachers were examined by both the researcher and peer separately. The researcher and peer exchanged opinions in regard to analysis of the data.

Member Checking

Member checking refers to the process where comments made by the researcher based on data obtained from the participants are tested by sharing such comments with participants of the study. This process is the salient part of the establishment of trustworthiness because it allows the researcher to find out if her/his interpretations of the data reflect the realities of the participants' lived experiences (Lincoln & Guba, 1985). In the present study, after views of any one of the participants were transcribed, they were reviewed together with the participant, and opinions of the participant were taken in regard to the comments made by the researcher. This process helped the researcher to confirm the comments made by him/her concerning opinions of the students.

Inter-Coder Reliability

Inter-coder reliability refers to the degree to which two coders come to agreement in regard to quality of any content (Miles & Huberman; 1994; Boyatsiz, 1998). The second coder must have comprehensive knowledge and competence about both research methods and topic of the research. A faculty member specialized in the field of computer and instructional technologies education took part in the present study as the second coder. The researcher and the second coder separately examined the documents containing views of the participants, and deducted the relevant themes. Then, functional definitions were made in regard to each theme. At the end of the analyses conducted by the coders, participants' views were collected under the themes of compulsion, absent-mindedness, and indifference.

Findings

RQ 1: Do gender, social media usage status, and duration of daily internet usage and mobile phone usage of prospective teachers significantly predict the frequency of inappropriate behaviors displayed by them through digital devices? Multiple regression analysis was performed in order to find an answer to this problem.

Table 2. Regression analysis results

Variable	B	S.E.	β	t	p	Bivariate r	Partial r
Constant	1.196	.137		8.758	.000		
Gender[*]	.172	.071	.170	2.434	.016	.205	.178
Duration of the Internet Usage	.088	.032	.206	2.757	.006	.296	.201
Duration of Mobile Phone Usage	.098	.038	.179	2.587	.010	.189	.189
Social Media Usage[**]	.160	.096	.124	1.672	.096	.220	.124

F=8.363; p=0.00; R=0.396; R^2=0.157
[*]Female students were taken as reference.
[**]Those not using social media were taken as reference.

At the end of the regression analysis, it was seen that four variables collectively had a significant (low-level) relationship with scores about inappropriate behaviors displayed by prospective teachers through digital devices (F=8.363; p=0.000; R2=0.157), and explained approximately 16% of the variance According to the standardized regression coefficient, the order of importance of predictor variables over inappropriate behaviors displayed through digital devices seems to be as follows: duration of the internet usage, duration of mobile phone usage, and gender. Examining the "t" values concerning significance of regression coefficients, it is seen that gender variable and duration of the internet usage and mobile phone usage are significant predictors of inappropriate behaviors displayed through digital devices. Accordingly, it can be said that gender (in particular) and duration of the internet usage and mobile phone usage of prospective teachers are predictive characteristics for predicting the frequency of inappropriate behaviors displayed by them through digital devices, but social media usage status does not bear such a characteristic.

RQ 2: Is gender a factor that makes a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices? Independent sample t-test was carried out in order to find an answer to this question.

Table 3. Independent sample t-test results concerning the variable of gender

Variable		N	Mean	SD	t	df	p
Gender	Female	110	1.82	0.38			
	Male	75	2.02	0.61	-2.609	183	.01[*]

[*]p<0.05

The findings demonstrate that the variable of gender is a factor that makes a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices (p<0.05). Examining the Table 3, it is seen that male prospective teachers (Mean=2.02) display negative behaviors more frequently than female prospective teachers. It is observed that male participants of the study exhibit inappropriate behaviors in a wider frequency range (SD=0.61) though the number of female students included in the research process is higher than that of the male students.

RQ 3: Is social media usage status a factor that makes a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices? Independent sample t-test was carried out in order to find an answer to this question.

Table 4. Independent sample t-test results concerning the social media usage status

		N	Mean	SD	t	df	p
Social Media Usage	No	33	1.67	0.30			
	Yes	152	1.96	0.52	-3.05	183	.00[*]

*p<0.05

The findings demonstrate that the variable of social media usage status is a factor that makes a significant difference in terms of inappropriate behaviors displayed by prospective teachers through digital devices (p<0.05). Examining the Table 4, it is seen that prospective teachers using social media (Mean=1.96) display negative behaviors more frequently than prospective teachers not using social media.

RQ 4: What are the causes of inappropriate behaviors displayed by prospective teachers through digital devices? At the end of data analyses, the findings were collected under the themes of compulsion, indifference and absent-mindedness.

For analysis of qualitative data of the study, content analysis was performed, and themes constituting the research framework were determined by closely examining the interview texts. Participants' views regarding the fourth problem were provided as original. Students were encoded in order to identify the owner of a particular statement as well as gender of the participant making the relevant statement (e.g. S1M [The 1st Student, Male)] and S13F [The 13th Student, Female].

Table 5. Themes determined within the scope of the study, and sample statements

Themes	Functional Definitions	Sample Statements
Compulsion	• Displaying an inappropriate behavior in the face of an unavoidable situation	• I answer my phone in environments requiring silence only when the call is highly important.
Absent-mindedness	• Displaying inappropriate behaviors unwittingly or absently	• Generally, I am loudly speaking on the phone absently when I am angry.
Indifference	• Displaying inappropriate behaviors by ignoring reactions of the people	• It gives me pleasure. In fact, I am recording their natural state.

Compulsion

Exhibition of inappropriate behaviors by participants through digital devices just because they are forced to do it was evaluated under the theme of "compulsion". For instance, some participants made the

following statements concerning the causes of the inappropriate behavior described as, "answering the mobile phone in situations requiring silence":

> • I do not answer my phone unless it is very urgent (S1M). I answer the phone only when it is important (S2M). Sometimes, I answer the calls in special conditions. In general, I try to speak in a low tone of voice without disturbing the people around me (S3F). I sometimes answer the calls from my family thinking that there may be an emergency situation though I know that it is an inappropriate behavior (S4F). I sometimes do it. I am answering if the person calling me is someone from my family. I do not want to cause them to be anxious about me. I consider that it may be an urgent issue. I talk for a short time, and then I finish the call (S5F). I sometimes answer the calls. I answer the phone if there is something urgent (S6M). I answer the phone when my mother or father calls. They have priority for me (S7F). I answer the phone when I have to do it (S8F). I answer the calls that I consider important. I have no chance other than saying "what can I do? I have to answer it" to people disturbed by this situation (S9F).

Under the theme of compulsion, participants stated that they displayed annoying and undesirable behaviors through digital devices when there was an urgent, special and important situation for them. Especially the female participants stated that they answered calls from family members without any hesitation though they knew sensitivity of the situation they were in, and they tried their best not to annoy the people around them.

Absent-mindedness

Exhibition of inappropriate behaviors by participants through digital devices just because they are absent-minded or unaware was evaluated under the theme of "absent-mindedness". For instance, participants made the following statements concerning the causes of the inappropriate behavior described as, "speaking on mobile phone at a tone of voice that may disturb people (loudly)":

> • In general, I speak loudly on the phone when I am angry. I feel relieved when I speak loudly. I am unaware of speaking loudly at that moment (S10M). In general, I speak loudly on the phone when I talk with my mother. It is beyond my power. I am lost at those moments (S11F). In general, I display this behavior when I am angry. So, I speak loudly. I realize later on that I have made a mistake (S12F). It sometimes happens to me, though not always. I start to shout when I think that the person I talk with does not understand me. In fact, I do not do it intentionally. It occurs automatically (S13M). I shout when I get very angry with the person I speak to. This is a bed temper of mine. I cannot control myself when I get angry. I realize the situation when I calm down (S14M). I shout on the phone if I am angry at that moment. I am unaware of it. In any case, I can't help when I am angry even if I am aware of it (S15F). In general, I speak loudly unwittingly when I am angry or I cross with someone (S16F). To a certain degree, it is about how tense the environment is. All in all, we are human beings, and our feelings may reach peak from time to time. I sometimes lose my control when I am very angry (S3F).

Under the theme of absent-mindedness, participants stated that they were not aware of the negative behaviors they displayed. For instance, participants who stated that they displayed the negative behavior described as, "speaking on mobile phone at a tone of voice that may disturb people (loudly)" when they

were very angry told that they realized that they were speaking loudly only when they got reaction from people around them.

Indifference

Inappropriate behaviors exhibited by participants ignoring reactions of other people around them were evaluated under the theme of "indifference". For instance, participants made the following statements concerning the causes of the inappropriate behavior described as, "recording voices and images of people by means of digital devices (camera, mobile phone, video camera etc.) without permission":

> • I usually record images of my friends without getting permission from them. I think they will not give trouble because I am very close with them. From time to time, I use these images for playing a joke on them. However, it is not a problem even if they react. All in all, they are my friends (S14M). I only record the images of people I am acquainted with without permission. I do not think intimacy gives problem. If a problem arises, it means that there is no intimacy (S6M). As I like it, I record voices and images of people around me. It gives me pleasure. In fact, this is a kind of hobby for me. I am recording their natural state (S17F). I record the moments I consider important so that I can have an evidence or reference. In fact, I do not see any negative side of this behavior as long as people do not notice his situation. In addition, people must be careful, because it is their problem (S7F). I display this behavior towards my close friends. I take more pleasure when they get angry. It amuses me (S18F). I have done it once. I was waiting for a tramway with my friends. Two black students arrived at the station. I told my friend to secretly record us while I was chatting with them. They were so sweet (S5F). I have a great fun while recording. It relieves me to record funny or blushing states of others. I am watching those moments again and again. I laugh more every time (S19M). I record images of people around me because I do not think that it is something bad. So, I feel good while recording them (S8F). I mostly do this for humor. People who realize that I record them without notice are disturbed by this situation. Still, (the participant uses a sarcastic tone of voice here) I continue to record secretly if they do not politely warn me (S12F). I record voices and images of lecturers annoying me during lessons. Then, I have fun when I watch them. I laugh so much (S4F).

Likewise, participants made the following statements concerning the causes of the inappropriate behavior described as, "busying oneself with digital devices during face-to-face meetings (both writing a SMS or using Facebook, Twitter, etc. and listening to the person talking":

> • I generally do that when I am bored of the things told by the person talking with me. I feel the need of busying myself with some things (S16F). Firstly, I would like to mention that I do not feel uncomfortable about displaying this behavior. I do that when I am bored of listening to the person talking with me. This is better than telling the annoyance to one's face (S20F). I think this is something normal. Everyone does the same. It does not disturb me. I do not understand why others are disrupted (S18F). I do that when I do not attach importance to what is told by the person speaking to me or the person himself/herself. In these kinds of situations, I avoid making an eye contact. Then, I start to play with my phone (S19M). I can both listen to the other person and busy myself with my phone. All in all, I can do both of the activities at the same time. In my opinion, it is not something disturbing. I do not understand the reason why they react to me. I think this is something

normal (S21F). I do that depending on the person talking with me. If s/he is someone important for me, I never display this behavior. However, if s/he is a regular person, I do not behave carefully. People sometimes react to me. For example, some of my friends tell me, "Look at my face". (...) still, this is something normal for me. This is because; this behavior has become part of the life (S13M). I do that when I do not want to listen to the person talking with me. In fact, I want him/her to finish the speech. However, they do not understand my intention (S1M).

Under the theme of indifference, it was determined that participants displayed inappropriate behaviors through digital devices by making nothing of the people around them or ignoring their reactions. Participants stated that they displayed the behavior described as, "recording voices and images of people through digital devices without permission" in order to have fun and feel satisfied by disregarding privacy of the people. Likewise, participants said that they displayed the behavior described as, "busying oneself with digital devices during face-to-face meetings" because they did not take the communicated person seriously or they thought it was a normal behavior for them.

DISCUSSION and CONCLUSION

A positive (low level) relationship was found between gender, social media usage status, and duration of the internet usage and mobile phone usage of prospective teachers and the inappropriate behaviors displayed by them through digital devices. The findings demonstrate that gender and duration of the internet usage and mobile phone usage have a significant effect on inappropriate behaviors displayed by prospective teachers through digital devices, but social media usage status does not have such an effect.

It was realized that men displayed inappropriate devices through digital devices more frequently than women, which created a significant difference. Likewise, it was understood that social media usage status of prospective teachers was a factor that made a significant difference in terms of inappropriate behaviors displayed through digital devices, and prospective teachers using social media displayed inappropriate behaviors more frequently. It is possible to say that male students' more frequent exhibition of inappropriate behaviors through digital technologies in comparison to female students stems from more usage of digital technologies by men. This situation shows parallelism with the result reached in regard to the first problem of the study.

The only limitation of the present study is that examination of the inappropriate behaviors displayed through digital devices did not allow reaching a large mass of participants. To draw a conclusion based on the research results limited to the study group, it can be said that the more prospective teachers use digital technologies, the more inappropriate behaviors they display through such technologies.

The causes of the inappropriate behaviors displayed by prospective teachers through digital technologies were discussed under the themes of compulsion, absent-mindedness, and indifference. Compulsorily or absently displaying an undesirable behavior can be understood, but it is an unacceptable situation especially for a prospective teacher that one disturbs his/her environment by ignoring the people around him/her. Digital etiquette emphasizes that teachers should serve as a role-model for students concerning the appropriate behaviors to be displayed through digital devices, and that teachers bear responsibility for internalization of this issue by students. The results demonstrate that prospective teachers do not perfectly have the digital etiquette norms, which is one of the criteria for them to serve as a role-model for their students.

The most important limitation of this study is that negative behaviors are tried to be determined only in one faculty of education and with a limited number of participators. In this sense, the results should be

interpreted only by considering the study group. If this study is comparatively reviewed from different aspects in national and international context in a broad perspective, more comprehensive results may be obtained.

REFERENCES

Adam, A. (2005). *Gender, ethics and information technology.* New York, NY: Palgrave Macmillan.

Barger, R.N. (2008). *Computer Ethics: A Case-Based Approach*. Cambride, UK: Cambridge University Press.

Bargh, J.A. & McKenna, K.Y.A (2004). The internet and social life. *Annual Review of Psychology*, 55, 573-590.

Boyatsiz, R.E. (1998). *Thematic analysis and code development: transforming qualitative information.* Thousands Oaks, London: Sage.

Brooks-Young, S. (2006). *Critical Technology Issues for School Leaders*. Thosuand Oaks, California: Corwin Press.

Brooks-Young, S. (2007). *Digital Age Literacy for Teachers: Applying Technology Standards to Everyday Practice*. Washington, DC: ISTE.

Cresswell, J. W. (2007). Qualitative inquiry & research design: choosing among five approaches. Thousands Oaks, London: Sage.

Freeman, L. & Graham, P. (2005). *Information Ethics: Privacy and Intellectual Property*. London, UK: Information Science Publishing.

Glatz, P.& Bertschi, S. (2006). People, Mobiles and Society: Concluding Insights from an International Expert Survey. *Knowledge, Technology & Policy, 19*(2), 69-92.

ISTE (2008). *National Educational Technology Standards for Teachers and Performance Indicators*. Retrieved May 9, 2012, from http://www.iste.org/standards/nets-for-teachers.aspx

Kizza, J.M. (2010). *Ethical and Social Issues in the Information Age*. New York, NY: Springer London Dordrecht Heidelberg.

Lincoln, Y.S. & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* . Thousand Oaks, CA: Sage.

Muijs, D. (2004). *Doing quantitative research in education with SPSS*. Thosuand Oaks, California: SAGE Publication Ltd.

Pallant, J. (2005). *SPSS Survival Manual*. Crows Nest, NSW: Allen&Unwin.

Patton, M. Q. (2002). *Variety in qualitative inquiry: theoretical orientations.* In C.D. Laughton, V. Novak, D. E. Axelsen, K. Journey, & K. Peterson (Eds.), *Qualitative research & evaluation methods.* Thousands Oaks, London: Sage.

Poole, D. (2007). A study of beliefs and behaviors regarding digital technology. *New Media & Society*, 9(5), 771-793.

Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon, 9*(5), 10-15.

Ribble, M. & Bailey, G. (2005). Developing Ethical Direction. *Learning and Leading with Technology, 32*(7), 36–9.

Ribble, M. & Bailey, G. (2007). *Digital Citizenship in Schools*. Washington, DC: ISTE.

Rooksby, E. (2002). *E-mail and ethics: Style and ethical relations in computer-mediated communications*. New York, NY: Routledge.

Shariff, S. (2009). *Confronting Cyber-Bullying*. Cambridge, UK: Cambridge University Press.

Sincar, M. (2011). An analysis of prospective teachers' digital citizenship behaviour norms. *International Journal of Cyber Ethics in Education, (1)*2, 25-40.

Stewart, M. (2000). The Classroom, Board Room, Chat Room and Court Room: School Computers at the Crossroads. *School Business Affairs, 66*(9), 23–8.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research.* Newbury Park, CA: Sage.

Van Buren, C. (2001). Teaching Hackers: School Computing Culture and the Future of Cyber-rights. *Journal of Information Ethics, 10*(1), 51–72.

Woodbury, M. (2003) *Computer and Information Ethics*. Champaign, IL: Stipes Publishing.

ANNEX-1
Scale for Undesirable/Inappropriate Behaviors Displayed through Digital Devices
Gender   ☐Female   ☐Male
Do you use Social Media (*Facebook, Twitter, etc.*)? ☐Yes   ☐ No
How many hours a day do you use the internet averagely?
☐ None ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours+
How many hours a day do you talk on the phone averagely?
☐ None ☐ 1 hour ☐ 2 hours ☐ 3 hours ☐ 4 hours+

Please mark the <u>most suitable</u> choice for you.	Never	Rarely	Sometimes	Frequently	Always
1. On my phone, I use ringtones having a sound level or type that may disturb people.	☐	☐	☐	☐	☐
2. I speak on my mobile phone at a tone of voice (e.g. loudly) that may disturb people around me.	☐	☐	☐	☐	☐
3. I send annoying messages to others via e-mail.	☐	☐	☐	☐	☐
4. I answer my mobile phone in situations requiring silence (in the seminary, in the lesson, in the cinema, etc.).	☐	☐	☐	☐	☐
5. When my mobile phone rings during face-to-face meetings, I answer the call by interrupting the meeting without getting permission from the person I meet.	☐	☐	☐	☐	☐
6. I busy myself with my digital devices during face-to-face meetings (I both write a SMS and listen to the person talking to me)	☐	☐	☐	☐	☐
7. I use elements that contain virus (e.g. CD/DVD) on computers of others.	☐	☐	☐	☐	☐
8. I publish images of people around me on the internet without getting permission from them.	☐	☐	☐	☐	☐
9. I record voices and images of people around me by means of digital devices (camera, mobile phone, video camera etc.) without permission.	☐	☐	☐	☐	☐
10. I do not behave meticulously concerning correct usage of the language while establishing a written communication with others by means of my digital devices.	☐	☐	☐	☐	☐

THE EFFECT OF MICROTEACHING APPLICATIONS IN ENVIRONMENTAL EDUCATION

Naim UZUN[*a]; Özgül KELEŞ[a]; Necdet SAĞLAM[b]

[a]Aksaray University, Faculty of Education, Aksaray/TURKEY
[b]Hacettepe University, Institute of Pure & Applied Science, Ankara/TURKEY

ABSTRACT

The purpose of the present study is to investigate the effects of micro-teaching applications used in environmental education on the attitudes and behaviors of individuals. The present study carried out within the framework of the environmental education course was performed with 31 pre-service teachers from the primary education department of Aksaray University in the fall term of 2009-2010 academic year. The study which is an experimental study carried out according to pretest-posttest control group design continued for 14 weeks. At the end of the study, it was found that scores for the environmental awareness, attitude and behavior of the pre-service teachers significantly increased. In light of this finding, it can be argued that more frequent use of micro-teaching applications in environmental education is useful.

Keywords: Micro-teaching, environmental education, environmental awareness.

INTRODUCTION

Micro-teaching is one of the methods used to provide pre-service teachers with opportunities to apply their theoretical knowledge and see their own performance in practice. Micro-teaching is a concrete method that can be used to prepare pre-service teachers for real classroom environment (Brent & Thomson, 1996). Wilkinson (1996) states that, through this method, pre-service teachers can make themselves familiar with the realities and rules of teaching profession. This method provides great opportunities for pre-service teachers to discover their own and others' learning styles and reflect on them, and moreover, learn new teaching techniques (Wahba, 1999). Micro-teaching applications bring about innumerable benefits for pre-service teachers. First, they reveal the realities of teaching; inform students about the roles of a teacher (Amobi, 2005; Hawkey, 1995; Kpanja, 2001; Wilkinson, 1996); show them the importance of planning and decision-making (Gess-Newsome & Lederman, 1990); help them to improve their teaching skills (Kupper, 2001). Kupper (2001) emphasizes that micro-teaching should be used in both in-service training and teacher training programs.

Micro-teaching can provide direct feedback about the performance through video recording and also in this method risks are low and gains are valuable (Kavas, 2009; Olrich et al., 1980). Use of video recording in micro-teaching applications makes contributions to the professional development of the pre-service teachers, defines their weaknesses and strengths and improves their skills (Tok, 2007). During learning-teaching process, video recordings can affect pre-service teachers' perceptions (Sherin, 2000). Cunningham & Benedetto (2002) argue that video recording supports learning and Spurgeon & Bowen (2002) state that by means of such devices, the problems that can emerge during the learning process can be observed and defined.

---

[*] **Co-Author:** naimuzun@yahoo.com

When the related literature concerning the use of micro-teaching method in teacher training is reviewed, it is seen that there are many studies carried out on various topics such as efficiency of micro-teaching (Pauline, 1993); the use of micro-teaching method in the training of teachers from different subject areas (Akalın, 2005; Çakır & Aksan, 1992; Karçkay & Sanlı, 2009; Peker, 2009); the effects of video recording on the micro-teaching performances of pre-service teachers (Ceyhun & Karagölge, 2002; Lee & Wu, 2006); need for video recording, expert reviews and written/oral feedback for micro-teaching to be effective (Subramaniam, 2006); determination of problems encountered in micro-teaching applications and solutions to these problems (Erökten & Durkan, 2009; Gürses et al., 2005); opinions of the teachers using micro-teaching applications in their courses about teaching in the class (Görgen, 2003); the use of micro-teaching at three universities of Turkey (Çakır, 2000); micro-teaching applications for improving the student teachers' presentation skills (Higgins & Nicholl, 2003) and use of micro-teaching for the innovation of sustainable technologies (Overschie et al., 2006).

Though the studies carried out so far have looked at micro-teaching from different perspectives, there is no study investigating the use of micro-teaching applications in environmental education in our country. Effective environmental education can play an important role in the development of positive attitudes, awareness and value judgments. Though technological and legislative regulations attempt to solve environmental problems, they are not adequate on their own. There should be efforts made to improve people's cognitive and affective sides. In this way, individual behaviors towards environment can be changed. Changing behaviors depends on changing attitudes, knowledge and value judgments and accordingly, raising awareness of environment. Various teaching methods and techniques should be employed in learning process to realize these changes in environmental education. Hence, the present study aims to investigate the effects of micro-teaching applications on improving pre-service teachers' competencies and performance in relation to environmental education. For this purpose, answers to the following questions were sought;

1. Does the pre-service teachers' environmental awareness change depending on the micro-teaching applications carried out in environmental education course?
2. Do the pre-service teachers' attitudes towards environment change depending on the micro-teaching applications carried out in environmental education course?
3. Do the pre-service teachers' behaviors towards environment change depending on the micro-teaching applications carried out in environmental education course?

METHOD

In this section, the study model, study group, application stages of the study, data collection tools and analysis methods will be discussed.

Study Model
This is an experimental study carried out according to pretest-posttest control group design.

Study Group
The study group consists of 31 second-year students from the department of primary teacher education of the Faculty of Education at Aksaray University in the fall term of 2009-2010 academic year. Of the study group, 67.7% (21) are female students and 32.3% (10) are male students.

Application Stages of the Study
In the present study, conducted within the context of environmental education course, micro-teaching applications were developed for 14 weeks. After giving the necessary information to the students according to a program, they were asked to design a lesson in the format of a television program based on

micro-teaching method. At the design and presentation stages of the lesson, following stages of micro-teaching suggested by Büyükkaragöz & Çivi (1999) are used;

    a. Designing of 5-10-minute lesson plan.

    b. Developing special evaluation forms to evaluate the lesson.

    c. Teaching the lesson within the previously determined time period and video-recording of the lesson.

    d. Watching the video-recorded lesson.

    e. Evaluation of the lesson by the teacher and other students having watched it by using the developed forms, and making corrections according suggestions, critics and contributions.

    f. Redesigning of the lesson according suggestions, critics and contributions and presentation of it once more.

    g. Evaluation of the lesson again by the audience and if there is any, making suggestions.

At the beginning of the term, the pre-service teachers were introduced to micro-teaching method, and sample applications designed based on micro-teaching method were shown to them. Then the students were divided into totally 6 groups five of which consist of 5 students and one of which consists of 6 students. According to the interests of the groups, topics were distributed to them. What was expected from the pre-service teachers was to design a lesson in the format of a television program. In this regard, the students were asked to decide who would assume which role in the television program they would develop to make a presentation about the topic assigned. Everything in relation to the design of the program was left to the discretion of the students. The students designed the class like a television studio for the date of presentations. Classroom design, posters, embellishing etc., all were decided by the students according to the content of their subject. According to the format of the program designed, the students presented their program, and other students participated in the program by assuming different roles such academician, a farmer, Environment and Forestry Minister, Middle East Expert, Japanese Ambassador. And other students of the class became the audience. Depending on the activities designed in the program, all the required equipment such as computer, projector, sound system etc. was provided. Totally 50 minutes were given to each group, that is, 10 minutes for each student. Activities carried out were video-recorded in line with micro-teaching method and photographs were taken. After watching the recordings, each lesson was evaluated by using "Micro-teaching Evaluation Form", which was developed by Karadeniz (2009). While evaluating the lesson, first presenters were given opportunities to evaluate themselves. Then, the other students evaluated the lesson. After revising the other students' contributions and suggestions, each television program was presented again. In the second presentation, the stages of micro-teaching were exactly followed as in the first presentation. In this way, "Television Program Simulation" environmental education application was administered based on the techniques of micro-teaching method.

Data Collection Tool

As data collection tools, "Environmental Awareness Questionnaire" developed by Milfont & Duckitt (2006) and adapted to Turkish by Ak (2008) and "Environmental Attitude Scale" developed by Uzun & Sağlam (2006) were used. Environmental thinking and environmental behavior were considered to be the two sub-dimensions of the latter scale in the present study.

Basic Constituents Analysis (BCA) was used to test the construct validity of the Environmental Awareness Questionnaire. Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's test results were calculated to test the compliance of factor analysis of the questionnaire to normal distribution. Test results revealed that KMO = 0.906 and Bartlett's = 17705.52 sd = 1540, $p < 0.05$; hence, the data were found to be suitable for factor analysis. In order to test the construct validity of the Environmental Awareness Questionnaire, factor analysis was carried out by using varimaks axis spinning.

As a result of the factor analysis, it was found that the questionnaire consists of six sub- dimensions, and when their power to explain the related structures is examined, it is seen that they can explain 43.49% of the total variance. There are totally 53 items in the questionnaire. The scores to be obtained from this five-point Likert type scale range from 53 to 265. Reliability coefficients of all the sub-dimensions of the scale are 0.75 or higher. Cronbach alfa reliability coefficient for the whole questionnaire is α=.90.

Environmental Attitude Questionnaire is a five-point Likert type scale including totally 27 items. The minimum score to be taken from the questionnaire is 27 and the maximum score is 135. Factor analysis was carried out for the construct validity of the questionnaire. Whether the data are suitable for the factor analysis was tested through Kaiser-Meyer-Olkin (KMO) coefficient and Barlett Sphericity test (KMO coefficient is .632 and the significance for Barlett test is .000 (p<.001), and it was decided that the data are suitable for factor analysis. In order to analyze the construct validity and factor structure of the scale, explanatory factor analysis was carried out and basic constituents analysis was used as factorizing technique. In the analyses, common factor variance of the factors on each variable, factor loads of the items, explanatory variance ratios and line graph were analyzed. Varimax basic constituents analysis was conducted to analyze the factor structures. The analysis revealed that the questionnaire is a seven-factor scale, and the total variance explained by these factors was found to be 74.545%. The common variance of the factors defined in relation to the items ranges from .618 to .900. For the whole of the Environmental Attitude Questionnaire, Cronbach alfa reliability coefficient was calculated to be α=.80; Spearman Brown Split-half test correlation was found to be .76. In the present study, Cronbach alfa reliability coefficient for the questionnaire is α=.85.

The Environmental Behavior Questionnaire consists of 13 items and Kaiser-Meyer-Olkin (KMO) coefficient calculated for the questionnaire is .838 and Barlett Sphericity test was found to be significant (p<.001). Moreover, the questionnaire was found to be 3-factor scale, and the total variance explained by these 3 factors is 73.590%. The common variance of the three factors defined in relation to the items of the questionnaire ranges from .479 to .862. In the original study, the Cronbach alfa coefficient of the scale was found to be α=.88 and in the present study, it was found to be α=.92.

Data Analysis

The data obtained from the questionnaires were analyzed through SPSS program package. For the comparison of pretest and posttest scores taken from the environmental awareness, environmental attitude and behavior questionnaires, One-Way ANOVA for Repeated Measures was used and Bonferroni test was used for multiple comparisons.

FINDINGS and DISCUSSIONS

In this section, sub-problems are discussed in the above-given order in line with the descriptive statistics concerning the pre-service teachers' environmental awareness, environmental attitude and behavior scores and differences between pretest scores and posttest scores, and the results of One-Way ANOVA for Repeated Measures conducted.

a. Does the pre-service teachers' environmental awareness change depending on the micro-teaching applications carried out in environmental education course?
Descriptive statistics concerning the pre-service teachers' scores obtained from the environmental awareness questionnaire before they took the environmental education course designed based on micro-teaching method and after they took the course are presented below.

Table 1. Descriptive statistics related to the pre-service teachers' environmental awareness pretest scores and posttest scores

Test	N	$\overline{X}$	Std. Deviation
Pre-test	31	204.51	15.508
Post-test		215.22	21.680

As can be seen in Table 1, while the environmental awareness mean score obtained by the pre-service teachers from the pretest is $\overline{X}$=204.51, the environmental awareness mean score obtained from the posttest is $\overline{X}$=215.22. In order to test whether the difference between these two scores is significant One-Way ANOVA for Repeated Measures was carried out and results are presented below. Depending on the micro-teaching applications carried out within the framework of environmental education course, environmental awareness scores revealed a significant difference ($F_{(1-30)}$=5.203; p<.05) (Table 2).

Table 2. ANOVA results related to the pre-service teachers' environmental awareness pretest and posttest scores

Source	Sum of Squares	df	Mean Square	F	Sig.
Between subject	11065.968	30	368.866		
Measure	1777.806	1	1777.806	5.203(*)	.030
Error	10251.194	30	341.706		
Total	23094.968	61			

p<.05

Mean difference revealed by Bonferroni multiple comparison test carried out to find the source of the score differences found for between-groups environmental awareness is 10.71, as shown in Table 3. And this mean difference is statistically significant favoring the posttest scores.

Table 3. Bonferroni analysis-based multiple comparison results related to the pre-service teachers' environmental awareness scores

(I) Group 2	(J) Group 1	Mean Difference (I-J)	Std. Error	Sig.
Post-test	Pre-test	10.71(*)	4.695	.030

* The mean difference is significant at the .05 level

These results show that environmental awareness course executed based on microteaching method is highly effective in raising the pre-service teachers' environmental awareness.

b. Do the pre-service teachers' attitudes towards environment change depending on the micro-teaching applications carried out in environmental education course?

Descriptive statistics concerning the pre-service teachers' scores obtained from the environmental attitude questionnaire before they took the environmental education course and after they took it are presented in a table below.

Table 4. Descriptive Statistics Related to the Pre-service Teachers' Environmental Attitude Pretest and Posttest Scores

Test	N	$\overline{X}$	Std. Deviation
Pre-test	31	96.74	9.405
Post-test		105.67	12.215

While the pre-service teachers' mean score obtained from environmental attitude pretest is $\overline{X}$ =96.74, the mean score they took from the environmental attitude posttest is $\overline{X}$ =105.67 (Table 4). Whether the score differences found is statistically significant or not was tested through One-Way ANOVA for Repeated Measures and the results are presented below.

The attitude scores of the pre-service teachers participating in the environmental education course carried out based on microteaching method at the end of the term were found to be significantly higher than their scores at the beginning of the term before they took the course ($F_{(1-30)}$=10.262; p<.01) (Table 5).

Table 5. ANOVA results related to the pre-service teachers' environmental attitude pretest and posttest scores

Source	Sum of Squares	df	Mean Square	F	Sig.
Between subject	3512.774	30	117.092		
Measure	1237.565	1	1237.565	10.262(*)	.003
Error	3617.935	30	120.598		
Total	8368.274	61			

p<.01

Mean difference revealed by multiple comparison test carried out to find which group the attitude score differences found between pretest and posttest groups stem from is 8.93 and this mean difference is statistically significant favoring the posttest scores (Table 6).

Table 6. Bonferroni analysis-based multiple comparison results related to the pre-service teachers' environmental attitude scores

(I) Group 2	(J) Group 1	Mean Difference (I-J)	Std. Error	Sig.
Post-test	Pre-test	8.93(*)	2.789	.003

* The mean difference is significant at the .01 level

Based on the findings obtained in the section looking at environmental attitudes, it can be argued that the environmental education course carried out based on microteaching method highly improved the pre-service teachers' attitudes towards environment.

c. Do the pre-service teachers' behaviors towards environment change depending on the micro-teaching applications carried out in environmental education course?

Descriptive statistics concerning the pre-service teachers' scores obtained from the environmental behavior questionnaire before they took the environmental education course and after they took it are presented in a table below.

Table 7. Descriptive statistics related to the pre-service teachers' environmental behavior pretest and posttest scores

Test	N	$\overline{X}$	Std. Deviation
Pre-test	31	33.96	7.600
Post-test		44.22	8.811

While the pre-service teachers' mean score obtained from environmental behavior pretest is $\overline{X}$ =33.96, the mean score they took from the environmental behavior posttest is $\overline{X}$ =44.22. The results of the statistical

analysis carried out to determine whether the difference between the environmental behavior pretest score and posttest score is significant are presented below.

As can be seen in Table 8, the behavior scores of the pre-service teachers participating in the environmental education course carried out based on microteaching method at the end of the term were found to be significantly higher than their scores at the beginning of the term before they took the course ($F_{(1-30)}$=24.965; p<.001).

Table 8. ANOVA results related to the pre-service teachers' environmental behavior pretest and posttest scores

Source	Sum of Squares	df	Mean Square	F	Sig.
Between subject	2102.419	30	70.081		
Measure	1631.032	1	1631.032	24.965(*)	.000
Error	1959.968	30	65.332		
Total	5693.419	62			

p<.001

Mean difference revealed by Bonferroni multiple comparison test carried out to find the source of the environmental behavior score differences found among the groups is 10.26, and this mean difference is statistically significant favoring the posttest scores (Table 9).

Table 9. Bonferroni analysis-based multiple comparison results related to the pre-service teachers' environmental behavior scores

(I) Group 2	(J) Group 1	Mean Difference (I-J)	Std. Error	Sig.
Post-test	Pre-test	10.26(*)	2.053	.000

* The mean difference is significant at the .001 level

Based on the findings obtained in the section looking at environmental behaviors, it can be argued that the environmental education course carried out based on microteaching method highly improved the pre-service teachers' behaviors towards environment.

DISCUSSION

The purpose of the present study is to investigate the effects of microteaching applications used in the environmental education course on the pre-service teachers' environmental awareness, attitudes and behaviors. For this purpose, the pre-service teachers were administered a pretest before they took the course and then they were administered a posttest at the end of the 14 week course period. The results revealed that there are significant improvements in the pre-service teachers' environmental awareness, attitudes and behaviors. The literature review showed that there is no study looking at the effects of environmental education based on microteaching method. However, there are some studies investigating the use of microteaching method in some other subject areas and their findings are as follows:

Çakır and Aksan (1992) used microteaching method in a foreign language teacher training program. The study focused on the effects of microteaching on pre-service foreign language teachers' grammar and writing performance and some positive results were obtained. Gürses et al. (2005) carried out a study to determine the problems encountered in microteaching applications and to find solutions to these problems. They found that especially after the second presentations, the pre-service teachers can make sufficient use of laboratory and teaching technologies, explain the basic concepts and principles

concerning chemistry subjects studied, display roles and behaviors required by the profession and make lesson and unit plans. Görgen (2003) investigated whether there are differences in the opinions of pre-service teachers about teaching in the class before and after microteaching applications and found some positive changes in the opinions of the pre-service teachers. Existing research indicates that throughout the process in which microteaching method is exploited, video-recording of the applications, watching of recordings to analyze the performances and giving some feedback contribute to the development of students. It is pointed out that video-aided microteaching applications are more useful in generating more constructive feedback from both peers and teacher and they help better understanding of innovative teaching (Frederiksen et al., 1999; Kpanja, 2001; Subramaniam, 2006). Moreover, Ceyhun & Karagölge (2002) reported results proving that repeated microteaching applications enhance student achievement. Karçkay & Sanlı (2009) found that microteaching applications have positive contributions to the teaching competencies of pre-service teachers. These findings are also supported by other studies (Fernandez & Robinson, 2007; Kpanja, 2001; Fernandez, 2005).

As can be seen from the findings of the present study, microteaching method is successful in environmental education. This method can play an important role in raising pre-service teachers' environmental awareness and in improving their environmental attitudes and behaviors. Therefore, environment courses given at universities should include microteaching applications in their curriculums. This will have great contributions to the training of pre-service teachers having good education on micro-teaching and knowledgeable about its applications. Teachers who can successfully use micro-teaching method in their courses can assume an important role in the education of students who are willing to participate in the solution of global and local environmental problems.

REFERENCES

Ak, S. (2008). İlköğretim öğretmen adaylarının çevreye yönelik bilinçlerinin bazı demografik değişkenler açısından incelenmesi. Abant İzzet Baysal Üniversitesi, Yüksek Lisans Tezi: Sosyal Bilimler Enstitüsü.

Akalın, S. (2005). Comparison between traditional teaching and microteaching during school experience of student-teachers. *Eurasian Journal of Educational Research,* 20, 1-13.

Amobi, A.A. (2005). Preservice teachers' reflectivity on the sequence and consequences of teaching actions in a microteaching experience. *Teacher Education Quarterly*, *32*(1), 115-130.

Brent, R. & Thomson, W.S. (1996). Videotaped microteaching: bridging the gap between the university to the classroom. *The Teacher Educator*, *31*, 238-247.

Büyükkaragöz, S.S. & Çivi, C. (1999). *Genel öğretim metotları, öğretimde planlama uygulama (10. Baskı).* Beta Basım Yayım Dağıtım, İstanbul.

Çakır, Ö. (2000). Öğretmen yetiştirmede teoriyi pratiğe bağlayan mikroöğretimin Türkiye'deki üç üniversitede durumu. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *18,* 62-68.

Çakır, Ö., & Aksan, Y. (1992). Yabancı dil öğretmeni yetiştirmede mikroöğretimin rolü: Bir model. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 7, 313-320.

Ceyhun, İ. & Karagölge, Z. (2002). Kimya eğitiminde tezsiz yüksek lisans öğrencileri ile mikroöğretim. V. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi. ODTÜ Kültür ve Kongre Merkezi. Ankara. 16-18 Eylül.

Cunningham, A. & Benedetto, S. (2002). Using digital video tools to promote reflective practice. Proceedings of Society for Information Technology and Teacher Education International Conference, Nashville, Tennessee, USA.

Erökten, S., & Durkan, N. (2009). Özel Öğretim Yöntemleri II dersinde mikroöğretim uygulamaları. *1. Uluslararası Türkiye Eğitim Araştırmaları Kongresi, 1-3 Mayıs, Çanakkale oc.eab.org.tr/egtconf/pdfkitap/pdf/167.pdf adresinden 15 Nisan 2009 tarihinde alınmıştır.*

Fernandez, M. L., & Robinson, M. (2007). Prospective teachers' perspectives on microteaching lesson study. *Education, 127*(2), 203–215.

Fernandez, M. L. (2005). Learning through microteaching lesson study in teacher preparation. *Action Teacher Education*, *26*(4), 37-47.

Frederiksen, J. R., White, B. Y., Shimoda, T. A. (1999). Enabling students to construct theories of collaborative inquiry and reflective learning: Computer support for metacognitive development. *International Journal of Artificial Intelligence in Education*, *10*, 151-182.

Gess-Newsome, J., & Lederman, N. G. (1990). The preservice microteaching course and science teachers' instructional decisions: A qualitative analysis. *Journal of Research in Science Teaching, 27*(8), 717-726.

Görgen, İ. (2003). Mikroöğretim uygulamasının öğretmen adaylarının sınıfta ders anlatımına ilişkin görüşleri üzerine etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 24*, 56-63.

Gürses, A., Bayrak, R., Yalçın, M., Açıkyıldız, M., & Doğar, Ç. (2005). Öğretmenlik uygulamalarında mikro öğretim yönteminin etkililiğinin incelenmesi. *Kastamonu Eğitim Dergisi, 1 (1)* 1-10.

Hawkey, K. (1995). Learning from peers: The experience of student teachers in school-based teacher education. *Journal of Teacher Education, 46,* 175-183.

Higgins, A., & Nicholl, H. (2003). The experiences of lecturers and students in the use of microteaching as a teaching strategy. *Nurse Education in Practice, 3*, 220-227.

Karadeniz, Ş. (2009). Mikroöğretim değerlendirme formu. http://www.sirinkaradeniz.com/kaynaklar/ppt/ Egt/ mikroogretim_degerlendirme.doc

Karçkay, T. A., & Sanlı, Ş. (2009). The effect of micro teaching application on the preservice teachers' teacher competency levels. *Procedia Social and Behavioral Sciences, 1,* 844–847.

Kavas, G. (2009). Video destekli web tabanlı akran değerlendirme sisteminin mikroöğretim uygulamaları üzerine etkileri: Bilgisayar öğretmenliği adayları örneği. Yüksek lisans tezi. Marmara Üniversitesi Eğitim Bilimleri Enstitüsü, İstanbul.

Kpanja, E. (2001). A study of the effects of video tape recording in microteaching training. *British Journal of Educational Technology*, *32*(4), 483–486.

Kupper, J.B. (2001). The microteaching experience: student perspectives. *Education, 121(4),* 830-835.

Lee, G. C., & Wu, C.C. (2006). Enhancing the teaching experience of pre-service teachers through the use of videos in web-based computer-mediated communication (CMC). *Innovations in Education and Teaching International, 43(4),* 369-380.

Overschie, M., Wayenburg, A., Vries, P., & Pujadas, M. (2006). Microteaching: Effective knowledge transfer for sustainable technological innovation. International Conference on Engineering Education in Sustainable Development, EESD.

Pauline, R. F. (1993). Microteaching: An integral part of a science methods class. *Journal of Science Teacher Education, 4(1),* 9-17.

Peker, M. (2009). Genişletilmiş mikro öğretim yaşantıları hakkında matematik öğretmeni adaylarının görüşleri. *Türk Eğitim Bilimleri Dergisi, 7(2),* 353-376.

Sherin, M.G. (2000). Viewing teaching on videotape. *Educational Leadership*, *57 (8),* 36-38.

Spurgeon, S. & Bowen, J.L. (2002). Digital video/multimedia portfolios as a tool to develop reflective teacher candidates. 23rd National Educational Computing Conference, Texas.

Subramaniam, K. (2006). Creating a microteaching evaluation form: The needed evaluation criteria. *Education*, *126(4),* 666-667.

Tok, T.N. (2007). *Etkili öğretim için yöntem ve teknikler. Öğretim ilke ve yöntemleri,* Ahmet Doğanay. Pagem A Yayıncılık, Ankara.

Uzun, N. & Sağlam, N. (2006). Ortaöğretim öğrencileri için çevresel tutum ölçeği geliştirme ve geçerliliği. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 30,* 240-250.

Wahba, E.H. (1999). Microteaching. English teaching. *Forum Online*, *37(4).*

Wilkinson, G.A. (1996). Enhancing microteaching through additional feedback from preservice administrators. *Teaching & Teacher Education*, *12(2),* 211-221.

AN EXAMINATION OF THE RELATIONSHIPS BETWEEN THE SOCIAL SKILL LEVELS, SELF CONCEPTS AND AGGRESSIVE BEHAVIOR OF STUDENTS WITH SPECIAL NEEDS IN THE PROCESS OF INCLUSION EDUCATION[*]

Alev GİRLİ[**a]

[a]Dokuz Eylül University, Department of Special Education, Izmir/TURKEY

ABSTRACT

The purpose of this study is to examine the relationships between the social skill levels, aggressive behaviors and self concepts of primary school students with autism, intellectual disabilities and hearing disabilities who are continuing inclusion education. The research group consists of a total of 78 primary school students of which 20 have hearing disabilities, 30 have intellectual disabilities and 28 have autism with ages varying between 10 and 14. The questions of the study have been assessed via the Social Skills Evaluation Scale, Aggressiveness Scale and Self-esteem Scale for Children. In this study, the social skills, self esteems and aggressive behaviors of children with autism, intellectual disabilities or hearing disabilities were examined and these diagnostic groups were compared in terms of these three properties. It is observed that students with hearing disabilities have the highest points in aggressiveness whereas students with autism have the lowest. It has also been determined that students with intellectual disabilities have the lowest points in social skills and self concept. The relations between the sub-scales of the scales and the measured properties according to diagnostic groups have been discussed in the light of relevant literature.

Keywords: Inclusion education, students with special needs, social skill.

INTRODUCTION

Inclusion is an education model addressing the educational requirements of students with special needs in general education classes parallel to the social and educational cohesion with their peers (Sucuoğlu and Kargın, 2006). Inclusion provides a normalized environment for students with special needs in which there are opportunities for establishing friendships and role models for socialization (Heiman, 2001). As a result, there are studies putting forth that the social behavior, academic skills, self esteem and sense of community of students taking inclusion education are more developed than those of students educated in separated environments (Harrower and Dunlap, 2001; Katz and Mirenda, 2002; Koegel, Koegel, Frea and Fredeen, 2001; Mickey, 2001; Scwartz, 2000). However, these gains may present differences according to the type of inability, the quality of support services during the inclusion and the acceptance levels of teachers and peers (Bakkaloğlu, 2008; Batu and Kırcaili-İftar, 2006; Çetin, Bibay and Kaymak, 2001; Çolak, 2008; Katz and Mirenda, 2002; Şahbaz, 2004; Vuran, 2005).

It is stated that students with special needs frequently display problematic behavior due to the fact that they do not have enough social skills or they cannot properly use the skills that they have (Çetin et.al. 2001; Mclntyre and Phaneuf, 2007). It is also stated that such children face problems especially in participation to group games, establishing new relationships and continuing the relationship that they

---

have already established (Koegel et. al. 2001; Sucuoğlu and Kargın, 2006). Weak relationships with their peers may result in their isolation and as a result cause feelings of loneliness (Bauminger, Shulman and Agam, 2003, Heiman and Margalit, 1998). It is known that students who are outside the norms at schools are sometimes made fun of or are subject to verbal abuse and isolation and sometimes even face physical violence (Schrumpf, Crawford and Bodine, 2007). It has been determined that such verbal and physical peer abuse may result in various emotional, behavioral problems and academic problems such as rejecting school. It is stated that these problems may elevate to cause low self esteem, negative self concept, decreased self confidence, introversion, feelings of peer neglect and shyness (Bishop and İnderbitzen, 1995; akt. Güvenir, 2005). Studies that have been carried abroad have obtained results stating that students with learning disabilities are not accepted as those with no learning disabilities and that they experience more loneliness and have less self esteem and are more anxious and depressive (Chamberlain, Kasari and Rotheram-Fuller, 2007; Heiman, 2001; Matsuura, Hoshimoto and Toichi, 2009; Valas, 1999).

Experts who work with students diagnosed with autism emphasize that the relationships of children in this group are adversely affected by autism related problems such as reluctance to establish friendship, inability to properly respond to social interaction, inability to understand social statements, inadequacy in sharing interests and success (Attwood, 2000; Bauminger and Kasari, 2000; Bauminger and Shulman, 2003; Gordon, Feldman and Chiriboga, 2005; Harrover and Dunlap, 2001; Scwartz, 2000). It is also stated that negative approaches by peers towards children with developmental disabilities (Donnelly and Bovee, 2003) and the sense of isolation that students attending inclusion education sometimes feel pose important difficulties for the establishment of friendships (Çetin et.al., 2001; Girli and Atasoy, 2008; Godon et.al., 2005, Hocaoğlu, 2009; MacMillian, Gresham and Foress, 1996; Ocsh, Kremer-Sadlik, Solomon and Gainer Sirota, 2001). Relevant research has put forth that students with autism who do not have friends are more prone to social anxiety and that they are lonelier (Bauminger and Kasari, 2000; Chamberlain, Kasari and Rotheram-Fuller, 2007; Kabasakal, Girli, Sencar, Çelik and Vardarlı, 2008).

Students with intellectual disabilities also have social skill deficiencies just like other children in various deficiency groups. Hence, it is stated that they experience problems in communicating with their peers and in social relations during the inclusion process (Çolak, 2008; Hocaoğlu, 2009; Şahbaz, 2004, Valas, 1999). In a study comparing adolescent students with intellectual disabilities with those that do not have intellectual disabilities, it has been determined that those with intellectual disabilities prefer time alone in the house watching TV, playing computer and video games whereas those without any intellectual disability preferred social relations such as hanging out with their friends, going to the cinema, engaging in various activities (Bramston, Bruggerman and Pretty, 2002). Some studies show children with deficiencies and especially those with mental and learning deficiencies are more prone to feelings of loneliness in comparison to their peers (akt. Bakkaloğlu, 2008; Webster and Carter, 2007). In a study focused on the social acceptance of individuals with intellectual disabilities by their normally developed peers, it has been observed that most normally developed children rejected their peers with intellectual disabilities even though they stated that they would include them to various social activities (Manetti, Schneider and Siperstein, 2001). Vuran (2005) has conducted a research study on the social positions of students in inclusion classes with students who have been listed as candidates for inclusion but who do not have any deficiency. The results have indicated that both inclusion education students and inclusion education candidates are rejected by their peers and that they have low social preference scores. Similar results have been obtained in various other studies (Kabasakal, Girli, Sencar, Çelik and Vardarlı, 2008; Şahbaz, 2004).

It is observed that children with hearing disabilities do not undergo major social difficulties during early childhood; however same studies show that if their language development is not sufficient they experience communication problems in later years with their peers who have no hearing deficiency (Kluwin, Stinson and Colorassi, 2002). Also, it is stated that as the language skill deficiency of students with hearing disabilities increase, their tendency to make friends with other students who also have

hearing disabilities and with similar language development increases (Akçamete, 2005). A study comparing the sociometric status of students with hearing disabilities in inclusion process with those that can hear has indicated that the friendly relations and social interactions of hearing and students with hearing disabilities is insufficient (Akçamete and Ceber, 1999). One of the reasons for this may be the difficulties caused by hearing deficiency in learning social and ethical rules (Luetke- Stahlman and Luckner, 2000; akt.Sarı, 2009). There are researches indicating that students with hearing deficiencies in inclusion environments are excluded by their peers (Sarı, 2009). It is stated that due to the sense of restriction arising from the miscommunication with peers and family, children with hearing deficiency may display emotional or aggressive behavior such as self-anger or social withdrawal (Limaye, 2004). Poyraz-Tüy (1999) state that as the knowledge of students with hearing deficiency related with social and ethical rules increases, these types of problematic behavior decrease.

The concept of self is defined as all the emotions and thoughts related to the individual and is not only affected by the perceptions of the individual but also by the thoughts and behavior of his/her teachers, friends and other people around them (LaBarbera, 2008; Limaye, 2004). The period when the concept of self develops most is the schooling age (Özdoğan, Ak and Soytürk, 2005). The schooling period is when students with special needs feel that they are different from their peers and also the period when these feelings are the strongest. Researches state that students with learning disabilities have lower concepts of self in intellectual, academic and social areas in comparison with their peers without learning difficulties (akt. LaBarbera, 2008). In a study by Koç (2001), the self images of students in inclusion process were determined to be lower than those attending special education schools. Some studies indicate that children with attention deficit have significantly lower self-esteem levels in comparison with their peers, that they experience problems of behavior control and that their social skills such as self-esteem and adaptation to school are insufficient when compared with those of their peers (Shaw-Zirt, Popali-Lehane, Chaplin and Bergman, 2005). Similarly, there are studies stating that as students with autism undergoing inclusion education realize their social inabilities, their concepts of self decrease (akt. Vickerstaff, Heriot, Wong, Lopes, Dossetor, 2007).

It has been determined that self-esteems of individuals in need of special education such as those with a chronic disease, learning deficiency (Kellermen et.al.1980, akt. Kaner, 1995), orthopedic disability (Mayer and Eisenberg, 1982) and hearing deficiency (Moores and Meadow-Orlans 1990) are lower than those of their peers with normal development (akt. Kaner, 1995). Whereas some studies have indicated that individuals with intellectual disabilities, gifted individuals, individuals with speech impairments and learning difficulties have high levels of self-esteem (Crocker and Major 1989; Eckart, 1988; akt. Kaner, 1995). In various studies that compare individuals with deficiencies to those without any deficiency, no difference was determined between the self-esteem levels of these two groups (akt. Kaner, 2000). It is stated that one of the reasons that conflicting data has been obtained in concept of self/self-esteem related studies with inclusion education students is that the self-esteem level of an individual changes with physical features and functions and their perceptions (akt. Kaner, 2000). Another reason may be that the inclusion is a long process and that it includes childhood, adolescence and youth. It has been determined in longitudinal studies carried out abroad that there may be an increase or decrease in self-esteem with age (Montague et. al., 2008). It has been determined in studies examining the relationship between self-esteem and adaptation that students with low concepts of self in success are more aggressive at school and have a more negative approach to studying and school and that low self-esteem is related with anger and hostility (Ledenberg 1993; Odum and Munson, 1996).

When a literature survey is carried out in our country, it is seen that there are studies related with the social skills, social acceptance levels, aggressive behavior or self-esteem (Akçemete and Ceber, 1999; Aktaş, 2001; Avcıoğlu, 2005; Civelek,1990; Çolak, 2008; Hocaoğlu, 2009; Girli and Atasoy, 2008; Kabasakal, Girli, Sencar, Çelik & Vardarlı, 2008; Kanay and Girli, 2009; Küçükaksoy, 1993; Saraçoğlu et.al. 1989; Sucuoğlu and Özokçu, 2005; Şahbaz, 2004; Vuran, 2005). However it has been observed that

these studies focus more on social skills, social acceptance and their relations with problematic behavior. It is once again clearly observed that the number of studies on self-esteem is limited. Besides, it is observed that these studies are focused on intellectual and other learning disabilities and that there is not sufficient research conducted about students with autism. It is also observed that the number of studies that examine different diagnostic groups comparatively should be increased. It is hoped that this study will partially meet this requirement and that it will present guiding data for future studies. The purpose of this study is to examine the relationships between the social skill levels, aggressive behaviors and self concepts of primary school students with autism, intellectual disabilities and hearing disabilities who are continuing inclusion education.

METHOD

Research Model

This is a descriptive study that examines the relationships between the social skills, concepts of self and aggressive behavior of primary school students with autism, intellectual disabilities and hearing disabilities who are continuing inclusion education The reason for using the scanning model in this study is that, "Scanning models provide a research approach that aims to describe a condition that either occurred in the past or is still valid as close to reality as possible" (Karasar, 2005: 77). The objective of this study in which general scanning models were used is to determine the variation of two or more variables. Relational descriptions were also included for the analysis of variables obtained via data acquisition tools (Karasar, 2005).

Participants

The research group consists of a total of 78 primary school students taking special education support from five education institutions giving service in the city of Izmir among which 30 have intellectual disabilities, 20 have hearing disabilities and 28 are diagnosed with autism for whom the special education institution and families have given consent for their participation in this study. The details of the participants have been given in Table 1.

Table 1. Properties of the research group

n=78	M (Age)	Gender				Class level			
		Female		Man		Primary 1 stage		Primary 2 stage	
		n=27	%	n=51	%	n=41	%	n=37	%
students with mental disability	11.45	16	59.3	14	27.5	12	29.3	18	48.6
students with autism	11.37	6	22.2	22	43.1	16	39.0	12	32.4
students with hearing disability	11.46	5	18.5	15	29.4	13	31.7	7	18.9

PROCEDURE

The scales used in the study were applied to the students individually at the institutions where they get special education. The questions were read by the researcher and the students were asked if they understood the question or not and if there is any part they could not understand were explained in detail. During the scale application of students with hearing deficiency, the teacher for students with hearing disabilities tried to explain the questions in sign language. Each application lasted for 30-40 minutes on average and the answers were recorded to the relevant form by the researcher. Data analysis was carried out via SPSS package software version 15.0. Analysis of the data was used one way variance analysis

(ANOVA) and correlation. What is difference between the groups were analyzed by Scheffe test. Level of significance was considered to be .01 and .05.

Instruments

Information Form: This form was prepared by the researcher to record the demographical data of students such as age, education level and gender. Reports from the Board of Health were taken into account while grouping the forms according to the diagnosis of the children.

Aggressiveness Scale: This scale was enhanced by Şahin (2004) based on social learning and cognitive theory and its validity and reliability study was also carried out. It is prepared for primary school students as a triple rating scale and is composed of 18 items. The children answer the scale items as "I always do", "I sometimes do" and "I never do". Factor analysis method was used for the construct validity of the scale and as a result of repeating analyses it was observed that the items were collected under one factor. The obtained factor loads vary between .34 and .79. A single factor explains 28% of the total variance. A 27% sub-main group comparison was carried out in order to determine the item discrimination properties and the obtained t test results were found to be significant at a level of .05. The item-test total correlation values vary between .33 and .65. Cronbach Alfa coefficient which indicates the internal consistency of the scale has been determined as .77, whereas the stability level calculated via test re test method has been determined to be .71. The Cronbach alpha internal consistency coefficient was determined to be .76 in this study.

Social Skills Evaluation Scale (SSES): SSES which was developed by Akçamete and Avcıoğlu (1999) includes the social skills that children aged 7 to 12 should have and is composed of 69 items in 7 sub-scales. The sub-scales are named as basic social skills, speaking skills, skills for executing a work with a group, interaction skills, skills for beginning and carrying on a relationship, emotional skills, cognitive skills (Akt. Avcıoğlu, 2005). It has been arranged as a 5-grade rating scale. The Cronbach alpha consistency of the scale was determined to be .97 in total whereas it varied between .59 and .91 for sub-scales.

Piers–Harris Self Esteem Scale: It is a scale composed of 80 items developed by Piers–Harris (1964-1969) for children between the ages of 4-18 and for adolescents. It is a tool with high validity and reliability (Öner, 1996). It is composed of 6 sub-groups of happiness/satisfaction, anxiety, popularity/social appreciation, behavior and adaptation, physical appearance, intellectual and school status. In this study, Cronbach alpha value of .89 for total was determined along with sub-scale values varying between .55 and .78.

RESULTS

In this section, first the averages, standard deviations and standard errors (Table 2) of the scores of students with autism, intellectual and hearing disabilities (whole group) obtained from aggressiveness, social skills and concept of self scales have been given. Afterwards the relations between social skill, concept of self and aggressive behavior (Table 3) for the whole group along with the relations between sub-scales for the whole group (Table 4) were examined. Lastly, data analysis for the relationships between social skill, aggressiveness and concept of self has been given (Table 5, 6, 7) for each diagnosis group.

As can be seen in Table 2, the group with the highest aggressiveness score is students with hearing disabilities who are followed by students with intellectual disabilities. It is seen that students with autism have the lowest aggressiveness score.

Table 2. The average, standard deviation and standard error values for the scores of students with autism, intellectual and hearing disabilities (whole group) obtained from the social skills evaluation scale and concept of self scale

		n	M	Sd	Se
Aggressiveness	students with intellectual disability	30	29.40	5.062	0.924
	students with autism	28	27.71	5.380	1.016
	students with hearing disability	20	33.05	4.045	0.904
	Total	78	29.73	5.312	0.601
Social skills	students with intellectual disability	30	184.96	46.222	8.439
	students with autism	28	188.67	35.913	6.787
	students with hearing disability	20	225.05	45.802	10.241
	Total	78	196.57	45.391	5.139
Self concept	students with intellectual disability	30	56.70	10.147	1.852
	students with autism	28	61.17	8.915	1.684
	students with hearing disability	20	65.35	10.378	2.320
	Total	78	60.52	10.253	1.160

When the social skill and concept of self scores are examined, it is observed that students with hearing disabilities have the highest scores in both and that students with intellectual disabilities have the lowest scores. It was analyzed via a one way variance analysis (ANOVA) whether the difference of average scores according to diagnosis groups was significant or not and it was determined that there was a statistically significant difference of $F_{(2,75)}=6.894$, $p<.05$ for aggressiveness, $F_{(2,75)}=6.039$,, $p<.05$ for social skill and $F_{(2,75)} = 4.787$, $p<.05$ for self-esteem. Using Scheffe test it was examined between which diagnosis groups a difference existed and the difference between the aggressiveness and social skill scores of students with intellectual and hearing disabilities was determined to be statistically significant at a level of $p<05$, whereas a statistically significant difference between the scores of students with autism and intellectual disabilities was not determined. It was observed that the difference between self-esteem scores was statistically significant for students with intellectual and hearing disabilities; however it was also observed that this difference was not statistically significant for students with autism and intellectual disabilities.

Using Pearson Correlation Coefficient analysis it was examined for the Whole Group whether there is a relationship between the scored obtained from the Aggressiveness Scale, Social Skills Evaluation Scale and Concept of Self Scale.

Table 3. Pearson correlation coefficients for the relation between the aggressiveness, social skills, concept of self of the whole group

n=78	Aggressiveness	Social skills	Self concept
Aggressiveness	1	-.099	-.142
Social skills	-.099	1	.241(*)
Self concept	-.142	.241(*)	1

* p < 0.05

When Table 3 is examined, it can be seen from the analysis carried out for the whole group that there is a statistically significant relationship at a level of (r= .241, p< 0.05) between social skill and concept of self. However, it was determined that there is no relationship between aggressiveness and social skill or aggressiveness and concept of self.

The relationship between aggressiveness score and social skill and concept of self sub-areas have been examined in order to determine whether there is a relationship between sub-scales or not and the results have been given in Table 4.

Table 4. Pearson correlation coefficients for the relationship between the whole group aggressiveness, social skill and concept of self sub field scores

n=78	Aggressiveness	happiness	anxiety	popularity	behavior and adaptation	physical appearance	intellectual functions and school status
				Self concept			
Basic skills	-.164	.245(*)	.227(*)	.149	.235(*)	.020	.103
Basic speaking skills	-.044	.233(*)	.196	.129	.180	.087	-.024
Advanced speaking skills	-.056	.277(*)	.140	.116	.222	.087	.093
Starting a relationship	-.051	.241(*)	.116	.015	.147	.122	.083
Working with group	-.023	.201	.124	.098	.189	-.020	.079
Emotional skills	-.131	.080	.115	-.015	.052	-.063	-.015
Self-control	-.048	.252(*)	.110	.015	.142	-.018	.007
Coping with aggressiveness	-.076	.066	.085	.161	.074	-.001	-.016
Accepting the results	.078	.024	-.046	-.107	.065	-.166	-.101
Giving instructions	-.166	.303(**)	.243(*)	.201	.188	.130	.117
Cognitive skills	-.040	.232(*)	.098	.181	.135	.072	.022

(Social skills)

** p < 0.01
* p < 0.05

When Table 4 is examined, it can be seen that there is a statistically significant relationship at a level of (p< 0.05) between the happiness sub-dimension of the concept of self scale and the basic skills r=.24, basic speaking skills, r=.23, advanced speaking skills r= .27, starting a relationship r=.24, self-control r= .25 and cognitive skills r= .23 sub-dimensions; whereas there is a positive statistically significant relationship at a level of r= .30 (p< 0.01) for the giving instructions dimension. A positive statistically significant relationship was determined between the anxiety sub-dimension of the concept of self scale and the basic skills of social skills r= .22 and giving instructions r= .24 sub-dimensions (p < 0.05); as well as between the behavior and compliance sub-scales of the self-concept scale and the basic skills sub-dimension of social skills scale r=.23 (p< 0.05). No statistically significant relation was determined between the aggressiveness scale and the sub-dimensions of social skills.

It was examined whether there is a relationship between the scores obtained from the sub-tests for the three scales. The relationships between the Aggressiveness Scale score and Social Skills Evaluation Scale and Self-Concept Scale sub-scales of children with intellectual disabilities have been examined and are presented in Table 5.

As can be seen from Table 5, a relationship was not determined between the social skills, self-concepts and aggressiveness levels of inclusion education students with intellectual disabilities.
The relationships between the "Aggressiveness Scale" score and "Social Skills Evaluation Scale" and "Self-Concept Scale" sub-scales of students diagnosed with autism have been examined and are presented in Table 6.

Table 5. The pearson correlation coefficients between the aggressiveness score and social skill scale and self-concept scores of children with intellectual disabilities

n=30	Aggressiveness	Self concept					
		happiness	anxiety	popularity	behavior and adaptation	physical appearance	intellectual functions and school status
Basic skills	-.314	.111	.009	-.008	.111	-.156	.121
Basic speaking skills	-.206	.306	.127	.258	.249	.095	.132
Advanced speaking skills	-.243	.255	-.002	.031	.147	-.023	.187
Starting a relationship	-.283	-.040	-.162	-.174	.011	-.088	.048
Working with group	-.164	.075	-.077	-.109	.072	-.207	-.002
Emotional skills	-.216	-.038	-.089	-.101	-.018	-.175	.071
Self-control	-.200	.227	-.038	-.025	.087	-.138	.016
Coping with aggressiveness	-.098	-.052	-.100	.175	-.074	.045	-.120
Accepting the results	-.183	-.017	-.102	.038	.078	-.148	.027
Giving instructions	-.223	.115	-.045	.075	.033	-.109	.122
Cognitive skills	.003	.166	-.173	.053	-.151	-.150	-.034

(The "Social skills" label appears vertically on the left spanning the rows.)

** $p < 0.01$
* $p < 0.05$

When Table 6 is examined, it is observed that there is a negative statistically significant relationship at a level of ($p < 0.05$) between the aggressiveness scale scores and the giving instructions r= - 0.41, basic skills r= -0.39 and cognitive skills r= -.042 sub-scales of the social skills scale. In other words, it is observed that children with insufficient skills of adaptation to the environment, answering questions, asking questions, using the proper facial gestures have a higher level of aggressiveness.

It was determined that the happiness dimension of self-concept has a positive statistically significant relationship with giving instructions which is a sub-scale of social skills; and that there is a statistically significant relationship between the behavior and adaptation sub-dimensions of self-concept and the basic skills sub-dimension of social skills r= .53(p< .01), along with the sub-skills of emotional skills and giving instructions skills r= .41(p<.05). Positive relationships have been determined between the physical appearance sub-dimension of the self-concept scale and the giving instructions sub-scale of the social skills scale at a level of r= .40 (p < .05); and also between the intellectual and school status dimension of self-concept along with the basic skills and r= .43 and the giving instructions dimension r= .42 of social skills at a level of (p< .05). In other words, as the basic skills of autistic students such as proper posture, use of mimics and gests, establishing eye contact, establishing a proper physical closeness increase along with emotional skills such as expressing emotions, skills of giving instructions such as asking and answering questions, it can be stated that there is a positive increase in self-concepts arising from the sub-dimensions of self-concept such as happiness, physical appearance, intellectual and school status, behavior and adaptation.

Table 6. The pearson correlation coefficients between the aggressiveness score and social skill scale and self-concept scores of children with autism

n=30		Aggressiveness	Self concept					
			happiness	anxiety	popularity	behavior and adaptation	physical appearance	intellectual functions and school status
Social skills	Basic skills	-.391(*)	.280	.252	.168	.533(**)	.170	.430(*)
	Basic speaking skills	-.262	.187	.224	-.046	.241	.194	.291
	Advanced speaking skills	-.320	.220	.146	-.010	.340	.143	.361
	Starting a relationship	-.101	.292	.086	-.167	.273	.197	.306
	Working with group	-.098	.140	.146	.203	.301	.051	.356
	Emotional skills	-.326	.091	.136	.133	.414(*)	.056	.265
	Self-control	-.314	.291	.249	.146	.266	.111	.206
	Coping with aggressiveness	-.324	.039	.117	.332	.370	.046	.306
	Accepting the results	-.079	.155	.109	.134	.132	.096	.228
	Giving instructions	-.416(*)	.416(*)	.270	.199	.411(*)	.400(*)	.422(*)
	Cognitive skills	-.421(*)	.088	.107	.260	.346	.164	.231

** p < 0.01
* p < 0.05

Relationships between the "Aggressiveness Scale" score of Students with hearing disabilities with the "Social Skills Evaluation Scale" and the sub-scales of Self Concept have been examined and are presented in Table 7.

As can be seen in Table 7, a statistically significant negative relationship has been determined at a level of r= - .45 (p< 0.05) between the aggressiveness scale scores of children with hearing disabilities and their emotional skill scores which is a sub-dimension of social skills. This result indicates that as the emotional skill insufficiencies of students with hearing disabilities increase, their aggressiveness levels tend to increase as well.

Negative relationships have been determined between the social skill dimension of accepting the results and the social appreciation of the self-concept r= -.56 (p< 0.01), physical appearance r= - .55(p< 0.05), intellectual and school status dimensions r= - .38 (p< 0.05). In other words, as social skill of students with hearing disabilities to accept the result decreases, it is observed that they have a negative self-concept regarding their physical appearance, school status and intellectual functions and in general for social appreciation. A negative relationship has been determined between the emotional skills sub-dimension of social skills scale and the behavior and adaptation sub-dimension of self-concept at a level of r=- .53 (p< 0.05). This result indicates that as the insufficiencies of students with hearing disabilities to express positive or negative emotions about themselves or others increases, their behavior and adaptation sub-dimensions of the self-concept is negatively affected.

Table 7. The pearson correlation coefficients between the aggressiveness score and social skill scale and self-concept scores of children with hearing disabilities

n=30	Aggressiveness	Self concept					
		happiness	anxiety	popularity	behavior and adaptation	physical appearance	intellectual functions and school status
Basic skills	-.202	.171	.281	.272	-.203	.092	.020
Basic speaking skills	-.098	-.024	.014	.075	-.340	-.044	-.244
Advanced speaking skills	-.045	.272	.127	.263	.017	.216	.115
Starting a relationship	-.007	.431	.279	.289	-.063	.332	.098
Working with groups	.173	.381	.256	.217	.138	.147	-.012
Emotional skills	-.451(*)	-.089	-.009	-.126	-.534(*)	-.111	-.095
Self-control	-.013	.033	-.189	-.124	-.209	-.025	.086
Coping with aggressiveness	-.123	-.034	-.104	-.083	-.420	-.216	-.073
Accepting the results	.349	-.320	-.438	-.562(**)	-.241	-.551(*)	-.386
Giving instructions	-.117	.184	.279	.230	-.098	.051	-.146
Cognitive skills	-.302	.287	.001	.183	-.057	.208	.266

(The leftmost column is labeled "Social skills" vertically.)

* $p < 0.05$ ** $p < 0.01$

DISCUSSION

In this study, the social skills, self-esteems and aggressive behavior of inclusive education students with autism, intellectual or hearing impairment and these diagnostic groups were compared in terms of these three properties. It is observed that students with hearing disabilities have the highest scores in aggressiveness whereas autistic children have the lowest scores. It was also determined that students with intellectual disabilities have the lowest score in social skills and self-concept. As a result of an analysis carried out to determine the relationships between the total scores of these three scales, it was determined that there is a statistically significant relationship between social skills and self-concept whereas no relationship was determined between aggressiveness and self-concept.

When the relationships between the sub-fields of all three scales in the whole group are examined, it was observed that there is no relationship between the aggressiveness scale and both social skills and self-concept sub-fields. It has been observed that there are positive statistically significant relationships between the happiness sub-dimension of self-concept and the basic skills, basic speaking skills, advanced speaking skills, starting a relationship, self-control and cognitive skills sub-dimensions of social skills at a level of ($p < 0.05$) and a positive statistically significant relationship has been observed for the giving instructions dimension at a level of ($p < 0.01$). This result indicates that as social skills such as speaking, relationship starting, self-control, cognitive skills of students with special needs increase, they feel happier and they have a more positive self-concept. A positive statistically significant relationship was determined at a level of ($p < 0.05$) between the anxiety sub-dimension of self-concept and the basic skills and giving instructions sub-dimensions of social skills; and a positive statistically significant relationship at a level of ($p < 0.05$) has been observed between the behavior and adaptation sub-scale of self-concept with the basic skills sub-dimension of social skills scale. In other words, as basic social skills increase, there is a positive increase in the anxiety, behavior and adaptation sub-dimensions of self-concept. These

results are in accordance with various studies that put forth the relationship between social skills and self-concept (Bramston, Bruggerman and Pretty, 2002; Capps, Sigman and Yirmiya, 1995, akt. Vickerstaff, Heriot, Wong, Lopes, Dossetor, 2007; Chamberlain, Kasari and Rotheram-Fuller, 2007; Heiman, 2001; Kanay and Girli, 2009; Kluwin, 2002; Shaw-Zirt, Popali-Lehane, Chaplin and Bergman, 2005; Matsuura, Hoshimoto and Toichi, 2009; Valas, 1999).

When the relationships between the sub-fields of social skills, self-esteem and aggressiveness level are examined, different results are obtained for each diagnostic group.

A statistically significant relationship was not determined between any sub-fields of social skills, self concepts and aggressiveness levels of children with intellectual disabilities. However, when a literature survey is made, various studies indicating that students with intellectual disability are accepted less than their peers who do not have intellectual disability, that they experience more loneliness and that they have a lower self-esteem. (Chamberlain, Kasari and Rotheram-Fuller, 2007; Heiman and Margarit, 1998, Matsuura, Hoshimoto and Toichi, 2009; Valas, 1999). It is stated that one of the reasons of children with disabilities are alone is that "*they experience difficulties in realizing and processing social tips and that they have difficulties in developing social relationships*" and it is also stated that these students are accepted less by their peer groups (akt., Bakkaloğlu, 2008). The research findings indicate that 10-16% of the students without any impairment experience loneliness whereas this ratio is 25% for children with intellectual disabilities (Luftig, 1988, akt., Bakkaloğlu, 2008). It is thought that the reason for children with intellectual disabilities to frequently experience adaptation problems and show problematic behavior is related with the fact that they cannot develop social skills (Hocaoğlu, 2009; Sucuoğlu and Özokçu, 2005).

It has been determined for students with autism that there is a negative relationship ($p <0.05$) between the social skills of proper behavior, answering questions, asking questions, facial expression skills and aggressive behavior. This result is parallel with other results putting forth that as social skills of autistic children increase, their compatible behavior increases and that they display less problematic behavior (Attwood, 2001; Bauminger and Kasari, 2000; Bauminger et.al., 2003; Gordon et.al. 2005; Scwartz, 2000). A statistically significant relationship at a level of ($p< .01$) is observed between the happiness dimension of self-concept and the giving instructions sub-dimension of social skills and also between the behavior and adaptation dimension of self-concept and the basic skills sub-dimension of social skills; whereas a statistically significant relationship at a level of ($p< .05$) is observed between the sub-skills of emotional skills and giving instructions. Positive relationships have been observed between the physical appearance sub-dimension of self-concept and the giving instructions sub-scale of social skills scale at a level of ($p < .05$); whereas a positive relationship at a level of ($p< .01$) was observed between the intellectual and school status dimension and the basic skills and giving instructions sub-dimensions of social skills. In other words, it can be stated that as the basic skills of autistic students such as proper posture, facial expressions, making eye contact, establishing proper physical closeness along with emotional skills such as expressing emotions and giving instructions skills such as asking questions, answering questions increase; there is a positive increase in their self-concepts composed of sub-dimensions such as happiness, physical appearance, intellectual and school status, behavior and adaptation. These results have similarities with the results of studies indicating that children with sufficient social skills are socially accepted and have positive perceptions of self (Gordon et.al., 2005, Mac Millian, Gresham and Foress, 1996; Ocsh, Kremer-Sadlik, Solomon and Gainer Sirota, 2001; Capps, Sigman and Yirmiya, 1995, akt. Vickerstaff, Heriot, Wong, Lopes and Dossetor, 2007).

It is observed that among the three diagnostic groups, students with hearing disabilities have the highest aggressiveness score and students with intellectual disabilities along with autistic students come after them in order. It is known that children with hearing disabilities are not excluded when they are small, but as they get older the difference in their knowledge regarding social and ethical rules becomes more

distinctive. If the language development of students at older age groups is not sufficient, they experience more difficulties when communicating with their hearing peers (Kluwin, Stinson and Colorassi, 2002). In this regard, the retardation in language development may cause substantial difficulties for students with hearing disabilities when learning social and ethical codes of conduct (Sarı, 2009). Capelli, Daniels, Durieux-Smith, McGrath and Neuss (1995) have stated that students with hearing disabilities may display some problem behavior due to the fact that their limited knowledge of social and ethical codes of conduct (akt. Sarı, 2009).

The results are also compatible with various studies carried out in Turkey indicating the strong relationships between social skills and problem behavior (Çetin and Bilbay, 2001; Erol and Şimşek, 1997; Sucuoğlu and Özokçu, 2005; Tüy, 1999) and that problem behavior has negative effects on social acceptance (Aktaş, 2001; Hocaoğlu, 2009, Kabasakal et.al., 2008; Sarı, 2009; Şahbaz, 2004; Turhan, 2007). Similarly, in this study a statistically significant negative relationship pat a level of ($p< 0.05$) between the aggressiveness scale scores of students with hearing disabilities with the scores they received from the emotional skills sub-dimension of social skills. This result indicates that as the insufficiencies of students with hearing disabilities regarding emotional skills increase, their aggressiveness levels also increase. It is also indicated that as the accepting the results skill from among the social skills decrease for students with hearing disabilities, they have a more negative self-concept regarding physical appearance, intellectual and school status and social acceptance in general. This study result has similarities with those of Moores and Meadow-Orlans (1990) and Koç (2001).

In general, it can be stated that students with learning impairment receive negative reactions from their environment due to their aggressive behavior resulting from their lack of social skills and that they have negative emotions and thoughts about themselves because of low academic success (Matsuura, Hoshimoto and Toichi, 2009). However, longitudinal studies carried out abroad draws attention to the fact that adaptational behavior, self-esteem, loneliness, depressive behavior differ among age groups especially during inclusion process (Montague, Enders, Dietz, Dixon and Cavendish, 2008).

It is thought-provoking that even though there is a relationship between the adaptation scale of self-concept and behavior sub-dimension along with various social skills, there is no relationship between aggressiveness scale and social skills and self-concept sub-scales. The expected result is to have consistent scores aggressiveness and behavior and adaptation scores. It is thought that larger sample groups and various other observation, interviews and evaluation methods should be used and a different scaling evaluation should be carried out in order to explain the reason for this. It is observed that there is a growing need for carrying out the longitudinal studies carried out abroad in our country as well and that the results should be discussed. When interpreting and generalizing the results it should be noted that this study is limited to autism, intellectual disabilities and hearing disabilities diagnostic groups and predefined age groups.

In the light of relevant literature and the findings of this study, the following suggestions can be made to the practitioners and researchers:

1. Keeping in mind that one of the most important goals of inclusion applications is to develop the social skills of individuals with special needs by interacting with their peers and also to help increase their levels of social acceptance, social skill studies should be carried out in inclusion education classes.
2. Planned activities along with enactions should be carried out in order to increase the feelings of empathy of students with normal development towards their friends with special needs and to ensure that the requirements of students with special needs are understood.
3. The social status of students with learning impairment should be increased. School guidance teachers-psychologists, special student instructors and teachers should be aware of the effects of various processes. In addition, studies should be carried out to develop the social status of these students. The skills and

abilities of these students should be emphasized and activities that will put forth these skills and abilities should be increased. Families should be included in these activities as well.

4. Researches that will carry out similar studies with a wider range of sampling groups are required in order to examine the factors that affect this process in the school environment which is one of the most important social environments for the development of the self-concept of students with special needs.

5. Aggressive behavior, social skills and social acceptance relationships should be examined in more detail for all diagnostic groups and the similarities and differences among the various groups should be examined.

6. Comparative studies should be carried out for different age groups with wider sampling groups with regard to gender and different diagnostic groups.

7. Studies related to the benefits of inclusion should be increased in the light of the adaptation to school of students with special needs during inclusion education, the effects of this process on social development and self-concept.

REFERENCE

Akçamete, G. & Ceber, H. (1999). Kaynaştırılmış sınıflardaki işitme engelli ve işiten öğrencilerin sosyometrik statülerinin karşılaştırmalı olarak incelenmesi. *Özel Eğitim Dergisi*, *2* (3), 64-74.

Akçamete, G. (2003). İşitme Yetersizliği Olan Çocuklar, (Ed.) Ayşegül Ataman *Özel Eğitime Giriş.* Ankara: Gündüz Yayınları.

Aktas, C. (2001). *İlköğretim Öğrencilerinin Fiziksel Özürlü Yaşıtlarına Yönelik Sosyal Kabul Düzeylerinin Geliştirilmesi.* Yayımlanmamış uzmanlık tezi, Ankara: Başbakanlık Özürlüler İdaresi Başkanlığı Yayınları.

Attwood, T. (2000). Strategies for improving the social integration of children with Asperger Syndrome. *Autism*: *The International Journal of Research and Practice, 4*(1), 85-100.

Avcıoğlu, H. (2005). *Etkinliklerle Sosyal Beceri Eğitimi*. Ankara, Kök Yayıncılık.

Bakkaloğlu, H. (2008). Engelli Çocuklarda Yalnızlık Öğretmenler Nasıl Yardım Edebilirler? *Özel Eğitim Dergisi, 9(*2), 41-50.

Bauminger, N., Schulman, C. & Agam, G. (2003). Peer interaction and loneliness in high-functioning children with autism. *Journal of Autism and Developmental Disorders*, *33*(5), 489-507.

Bauminger, N. & Kasari, C. (2000). Loneliness and friendship in high- functioning children with autism. *Child Development, 71,* 447- 456.

Barber, S., Grubbs, L. & Cottrell, B. (2005). Self-perception children with attention deficit/hyperactivity disorder. *J Pediatr Nurs*. *20*(4), 235-45.

Batu, S. & Kırcaali-İftar, G. (2006). *Kaynastırma.* Ankara: Kök Yayıncılık.

Bramston, P., Bruggerman, K. & Pretty, G. (2002). Community perspectives and subjective quality of life. *International Journal of Disability Development and Education, (49)* 4, 385-97.

Chamberlain, B., Kasari, C. & Rotheram-Fuller, E. (2007). Involvement or isolation? The social networks of children in regular classrooms. *Journal of Developmental Disorder, 37,* 230-242*.*

Cappelli, M., Daniels, T., Durieux-Smith, A., McGrath, P. J. & Neuss, D. (1995). Social developments of children with hearing disabilities who are integrated into general education classrooms. *The Volta Review*, *Vol. 97*, 197-208.

Çetin, F., Bilbay, A. A. & Kaymak, D. E. (2001). *Çocuklarda Sosyal Beceriler*. İstanbul: Epsilon Yayınları.

Çolak, A (2008). *Kaynaştırma uygulanan bir ilköğretim sınıfındaki sosyal yeterlik özelliklerinin betimlenmesi ve iyileştirilmesi çalışmaları.* Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, özel eğitim anabilim dalı. Yayınlanmamış doktora tezi. 19.08.2008 tarihinde http://tez2.yok.gov.tr/

Civelek, A. H. (1990). *Eğitilebilir Zihinsel özürlü çocukların sosyal kabul görmelerinde normal çocukların bilgilendirilmelerinin ve iki grubun resim-iş ve beden eğitimi derslerinde bütünleştirilmelerinin etkileri.* Yayınlanmamış doktora tezi, Ankara Üniversitesi, Ankara.

Donnelly, J. & Bovee, J. P. (2003). Reflection on play: Recollection from a mother and her son with Asperger Syndrome. *Autism 7*, 471-476.

Erol, N. & Şimşek, Z.T. (1997). *Çocuk ve Gençlerde Yeterlik Alanları ile Sorun Davranışların Dağılımı. Türkiye Ruh Sağlığı Profili.* Ankara: T.C. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü.

Ercan, Z. G. (2001). *Kaynaştırılmış Ortamdaki Normal Gelişim Gösteren Çocukların 8-11 Yasları Arasındaki Öğrenme Güçlüğü Olan Akranlarına Karsı Tutumlarının İncelenmesi.* Yayımlanmamış yüksek lisans tezi, Ankara Üniversitesi Fen Bilimleri Enstitüsü, Ankara.

Girli, A. & Atasoy, S. (2008) *The view of autistic and mental retarded inclusion students about their peers and school experiences.* 2. International conference on special education "sharing knowledge & experience around the world.(ICOSE) Marmaris-Muğla-Turkey.

Gordon, A.P., Feldman, D., & Chiriboga, J. (2005). Helping children with disabilities develop and maintain friendships. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children, 28* (1), 1-9.

Güvenir, T. (Ed.) (2005). *Okulda Akran İstismarı.* Ankara, Kök Yayıncılık.

Garfinkle, A. N. & Schwartz, I. S. (2002). Peer imitation: Increasing social interactions in children with autism and other developmental disabilities in inclusive preschool classrooms. *Topics in Early Childhood Special Education*, *22*(1), 26–38.

Harrover, J. K. & Dunlap, G. (2001). Including children with autism in general education classrooms. *Behavior Modification*, *25* (5), 762-784.

Heiman, T. & Margalit, M. (1998). Loneliness, depression, and social skills among students with mild mental retardation in different educational settings. *The Journal of Special Education, 32* (3), 154-63.

Heiman, T. (2001). Depressive mood in students with mild intellectual disability: students reports and teachers evaluations. *Journal of Intellectual Disability Research*, *45* (6), 526-534.

Hocaoğlu, A. (2009). *Zihinsel engelli ergenlerin okul içi sosyal yeterlikler düzeyleri ve problem davranışları ile anne-babalarının sosyal beceri düzeylerinin karşılaştırılarak incelenmesi.* Yayımlanmamış yüksek lisans tezi, Marmara Üniversitesi, İstanbul.

Kabasakal, Z. Girli, A., Sencar, B., Çelik, N. & Vardarlı, G. (2008). Kaynaştırma öğrencileri, akran ilişkileri ve akran istismarı **.** *Buca Eğitim Fakültesi Dergisi*, *23* , 169-177**.**

Kanay, A. ve Girli, A. (2009). Dikkat eksikliği hiperaktivite bozukluğu olan 9-13 yaş grubu ilköğretim öğrencilerinin uyumsal davranışları, benlik kavramı ve akademik başarıları arasındaki ilişkiler. *Buca Eğitim Fakültesi Dergisi*, *23*, 184-191.

Kaner, S. (2000). Ortopedik engelli ve engelli olmayan erkek ergenlerde benlik saygısı ve beden imajı. *Özel Eğitim Dergisi*, *2*(4), 13-22.

Kaner, S. (1995). Görme ve ortopedik engelli ve engelli olmayan ergenlerin benlik saygılarının karşılaştırmalı olarak incelenmesi. *Özel Eğitim Dergisi, 2*(1), 11-18.

Katz, J. & Mirenda, P. (2002). Including students with developmental disabilities in general education classrooms: Social benefits. *International Journal of Special Education, 17(2)*, 25-35.

Karasar, N. (2005). *Bilimsel Araştırma Yöntemi.* Ankara: Nobel Yayın Dağıtım.

Koegel, L. K., Koegel, R. L., Frea, W. D. & Fredeen, R. M. (2001). Identifying early intervention targets for children with autism in inclusive school settings. *Behavior Modification, 25*, 745-761.

Koç, D. (2001). *İşitme engelli çocukların duygusal ve sosyal uyumları ile benlik imajlarının incelenmesi.* Yayımlanmamış yüksek lisans tezi, Ankara üniversitesi. Ankara.

Küçükaksoy, M. (1993). *14-18 yaş arasındaki suçluların ve ortopedik özürlülerin, görme özürlülerin ve alt sosyo-ekonomik düzeye mensup ergenlerin benlik saygılarının karşılaştırmalı olarak incelenmesi.* Yayınlanmamış yüksek lisans tezi, A.Ü Adli Tıp Enstitüsü. Ankara.

Kluwin, N.T., Stinson, S. M. & Colorassi, M. G. (2002). Social processes and outcomes of in school contact between deaf and hearing peers. *Journal of Deaf Studies and Deaf Education, 7*(3), 200-213.

LaBarbera, R. (2008). Perceived social support and self-esteem in adolescents with learning disabilities at a private school. *Learning Disabilities: A Contemporary Journal*, 6(1), 33-44.

Limaye, S. (2004). Exploring the impact of hearing impairment on self-concept. *International Journal for the Advancement of Counseling, 26*(4), 369-374. DOI: 10.1007/s10447-004-0172-z.

Ledenberg, A. (1993). Social interaction among deaf preschoolers. *American Annals of Deaf*, *136*(1), 53-59.

Matsuura, N., Hoshimoto, T. & Toichi, M. (2009). The relationships between self-esteem and AD/HD characteristics in the serious juvenile delinquents in Japan. *Research in Developmental Disabilities, 30*, 884-890.

Manetti, M., Schneider, B. H. & Siperstein, G. (2001). Social acceptance of children with mental retardation: Testing the contact hypothesis with an Italian sample. *International Journal of Behavioral Development*, *25*(3), 279-286.

MacMillan, D. L., Gresham, F. M., & Forness, S. R. (1996). Full inclusion: An empirical perspective. *Behavioral Disorders*, *21*(2), 145–159.

Mclntyre, L. & Phaneuf, L. (2007). A three-tier model of parent education in early childhood. *Topics in Early Childhood Special Education, 27*, 214-222.

Mickey, J. (2001). Full inclusion is not to least restrictive environment for all students with disabilities. (online). Available: http://san 183sang.wmich.3edu/sped603/papermicley.html (08.09. 2010).

Montague, M., Enders, C., Dietz, S., Dixon, J. & Cavendish, W. (2008). A Longitudinal study of depressive symptomology and self-concept in adolescents. *The Journal of Special Education, 42*, 67-78.

Ochs, E., Kremer-Sadlik, T., Solomon, O. & Sirota, K. G. (2001). Inclusion as a social practice: Views of children with autism. *Social Development*, *10*(3), 399–419.

Odum, L. & Munson, J. L [1996]. *Assessing social performance*. Mc Lean, M., Bailey, D. B. & Wolery, M [Ed] Assessing infants and preschoolers with special needs. New Jersey: Merrill.

Osler, A & Osler, C. (2002). Inclusion, exclusion and children's rights. *Emotional and Behavioral Difficulties*, *7* (1), 35-54.

Öncü, B., Öner, Ö., Aysev, A. & Canat, S. (2002). Dikkat eksikliği hiperaktivite bozukluğunda aile ve öğretmenlerin bildirdiği belirtiler: Yaşa göre değişim. *Psikiyatri Psikoloji Psikofarmakoloji Dergisi*, *10* (2): 123-128.

Özdoğan, B., Ak, A. & Soytürk, M. (2005). *Dikkat Eksikliği Hiperaktivite/Aşırı Hareketlilik Bozukluğu olan Çocukların Eğitiminde Öğretmen El Kitabı*. Ankara: Milli Eğitim Bakanlığı.

Poyraz-Tüy, S. (1999). *3-6 Yaşındaki İşitme Engelli ve İşiten Çocukların Sosyal Beceri ve Problem Davranışlar Yönünden Karşılaştırılmaları*. Yayımlanmamış yüksek lisans tezi, Ankara: Ankara Üniversitesi.

Turhan, C. (2007). *Kaynaştırma Uygulaması Yapılan İlköğretim Okuluna Devam Eden Normal Gelişim Gösteren Öğrencilerin Kaynaştırma Uygulamasına İlişkin Görüşleri*. Yayımlanmamış yüksek lisans tezi, Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü.

Sarı, H. (2009). Farklı ortamlarda öğrenim gören işitme engelli öğrencilerin sosyal ve etik kurallarla ilgili bilgilerinin karşılaştırmalı olarak değerlendirilmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *21*, 391-406.

Şahbaz, Ü. (2004). *Kaynaştırma Sınıflarına Devam Eden Zihin Engelli Öğrencilerin Sosyal Kabul Düzeylerinin Belirlenmesi*. XIII. Ulusal Özel Eğitim Kongresinde sunulan bildiri. Eskişehir.

Schwartz, I. (2000). Standing on the shoulders of giants: Looking ahead to facilitating membership and relationships for children with disabilities. *Topics in Early Childhood Special Education, 20* (2): 123-128.

Schrumpf, F., Crawford, D. K. & Bodine, R. J. (2007). *Okulda Çatışma Çözme*. [Çev. F.Gül Akbalık, B. Dilek Karaduman]. Ankara, İmge Kitabevi Yayınları.

Shaw-Zirt, B., Popali-Lehane, L., Chaplin, W. & Bergman, A. (2005). Adjustment, social skills, and self-esteem in college students with symptoms of ADHD. *J Atten Disorder, 8*(3), 109-20.

Sucuoglu, B. & Kargın, T. (2006). *Kaynaştırma Uygulamaları*. İstanbul: Morpa Yayınları.

Sucuoğlu, B. & Özokçu, O. (2005). Kaynaştırma öğrencilerinin sosyal becerilerinin değerlendirilmesi. *Özel Eğitim Dergisi, 6(1): 41-57*.

Valas, H. (1999). Students with learning disabilities and low- achieving students: Peer acceptance, loneliness, self esteem, and depression. *Social Psychology of Education 3, 173-192*.

Vuran, S. (2005). The sociometric status of student with disabilities in elementary level integration classes in Turkey. *Eurasian Journal of Educational Research*, *18*, 217-235.

Vickerstaff, S., Heriot, S., Wong, M., Lopes, A., & Dossetor, D. (2007). Intellectual ability, self-perceived social competence, and depressive symptomatology in children with high-functioning autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 37*(9), 1647-1664. DOI: 10.1007/s10803-006-0292-x.

Webster, A. A. & Carter, M. (2007). Social Relationships and friendships of children with developmental disabilities: Implications for inclusive settings. A systematic review. *Journal of Intellectual and Developmental Disability, 32* (3), 200-213.

THE ACADEMIC AND VOCATIONAL ENGLISH LANGUAGE NEEDS OF THE SCHOOL OF HEALTH STUDENTS

Özlem AYAS[*a]; Yasemin KIRKGÖZ[b]

[a]Mersin University, School of Foreign Languages, Mersin/TURKEY
[b]Çukurova University, Faculty of Education, Adana/TURKEY

ABSTRACT

This study investigates the perceptions of the nursing and midwifery students attending the School of Health offering Turkish medium courses at Mersin University in Turkey on their academic and vocational needs of English in order to improve the current curriculum, materials and language instruction. The data were collected through the questionnaires and interviews conducted with five groups consisting of the second year midwifery and nursing, the third year midwifery and nursing and the fourth year midwifery students having vocational English courses carried out by two English instructors. The perceptions of the students were presented in an elaborate and detailed manner in the study through the research tools of questionnaire and interview. The main results of the study indicate that the student groups want to improve their four English language skills, particularly speaking and listening skills compared with reading and writing skills. Besides, most of the students conceive that the materials that were compiled by the English instructors are inadequate in some ways and should be developed in order to enhance their effectiveness in the classes; and the language instruction of the English instructors do not help the students acquire vocational English efficiently, and it should be improved to increase the students' learning capacity in vocational English .

Keywords: *Academic English, vocational English, needs analysis.*

INTRODUCTION

English as a foreign language has been continuing to gain importance in Turkey. Currently, English is deemed necessary in both the academic sphere and in business life. Now universities also offer English courses oriented towards different specific purposes in accordance with students' needs. Within the English teaching practice, English for Specific Purposes (ESP) has been a very significant and developing field since the 1960s as it takes into consideration the needs or interests of the learners, and the demand for ESP continues to increase worldwide (Dudley-Evans and St. John, 2001).

Needs analysis, which is also called needs assessment, refers to the activities carried out to gather information which will develop a curriculum for meeting the learning needs of a specific group of students (Brown, 1995). It constitutes the basis for developing curriculum, syllabi, materials, teaching activities etc (Brown, 1995; Dudley-Evans & St. Johns, 2001; Richards, 2001; Hutchinson & Waters, 2004). In devising a language course, it is highly essential to begin with creating a learner profile and searching for the target learner's expectations about the different aspects of the course (Nunan, 1995; Harmer, 1991, in Krajka, 2009).

There are some studies carried out abroad to explore students' English needs in health or medical field. In illustrating these studies, Mazdayasna and Tahririan's (2008) investigation of the foreign language learning needs of undergraduate medical sciences students studying in the faculties of nursing and

---

midwifery in Iran could be named. Besides, Lee (1998) sought for what purposes the students used English in nursing and medical fields. Furthermore, Chia et al. (1999) tried to describe the perception of medical college students and faculty about the English language needs of the students. In Turkey, there are English needs analysis studies that were carried out on medical English; for instance, Taşçı (2007) investigated the needs of the medical students' English language needs at Pamukkale University. Akgül (1991, in Taşçı, 2007) carried out needs analysis of medical students at ESP classes at Erciyes University. Besides, there are a few studies which aim to determine the profile of students in the School of Health in general and include very little information about their general and vocational English knowledge (Kostak et al., 2012, Yiğit et al., 2007). However, this study only aimed to find out English language needs of nursing and midwifery departments which serve to educate students entering the health sector in Turkey. As a result, the present study investigated the academic and vocational needs of nursery and midwifery students taking vocational English courses in the School of Health at Mersin University.

In the vocational English classes where this study was conducted, a textbook which consists of texts concerning the health sector compiled by the English instructors and related exercises was used. There is not a standard curriculum or instructional materials determined by higher institutions for these classes. Hence, the instructors set their objectives or determine the content of the courses or materials used in those classes. Topics generally consist of a mixture of reading, translation and vocabulary exercises. However, the students' general requirements or problems related to the courses have not been investigated before. Thus, while determining their needs, the study also tries to find out what kind of problems occur in those classes, and if it is possible to improve them in terms of the materials, course hours, language instruction, etc.

This study aims to find answers to the following questions:
1. What are the academic and vocational needs of the nursing and midwifery students who have vocational English courses?
2. Are there any significant differences in the perspectives of the students regarding these needs?

Limitations of the Study

The main limitation of the study is that it was conducted with only 233 students within only one context which is the School of Health at Mersin University. The other Turkish or English-medium universities offering vocational English courses to the midwifery and nursing students could be investigated in terms of determining the English needs of the students attending those universities. The second limitation of the study is that the English needs of the graduate nurses and midwives who now work at hospitals might be investigated as well to have a broader picture of these needs. The final limitation is that only two instruments, questionnaires and focus group interviews, were used in this study. However, some other research instruments such as observation, analysis of authentic texts or journals and etc. could be integrated into the study.

METHOD

Participants

The main participants in this study were 139 midwifery students attending the second, third and fourth year and 99 nursing students attending the second and third year in the School of Health at Mersin University (see Table 1). As the fourth year nursing students did not have a vocational English course due to their intense schedule, they did not participate in the study. Out of 233 students in total, there were 204 females and 29 males. The mean average age was 21.5 years.

Procedure

For this study, the data were collected through the questionnaires and interviews. The distribution of the student questionnaires were carried out by the first author of this study and an English instructor. As each data has its own strengths and weaknesses, it is better to collect information from two or more sources with multiple instruments (Nugraha, 2002). Hence, after the questionnaires, interviews were held with voluntary students. Interviews were also particularly conducted to gather qualitative data and to have a better insight into the students' personal opinions.

Table 1. The number of students who filled out the questionnaire

Groups	Number
Midwifery 2nd year	52
Midwifery 3rd year	41
Midwifery 4th year	46
Nursing 2nd year	50
Nursing 3rd year	44
Total	233

Table 2. The number of students who participated in the interviews

Groups	Number
Midwifery 2	10
Midwifery 3	10
Midwifery 4	10
Nursing 2	10
Nursing 3	10
Total	50

Instruments

The questionnaires of Mazdayasna and Tahririan (2008), Taşçı (2007), Çelik (2003), Kırkgöz (2005), Evans and Green (2007) and Baştürkmen (1998) were analysed to develop the questionnaire appropriate for the study. The language of the questionnaires was Turkish in order to avoid any misunderstandings by the students. Before the questionnaire was prepared, some informal interviews were conducted with some students and the academicians to be able to prepare the items in the questionnaire which would be the most effective in investigating the students' English needs.

The questionnaire itself consisted of three main sections and nine parts in total. The first section gathers demographic information about the students. The second section, consisting of five-level Likert scale "strongly disagree", "disagree", "undecided", "agree" to "strongly agree", tries to elicit the students' general perceptions about their course.. The third section, which comprises a four-level Likert scale ranging from "not important at all", "not important", "important" to "very important", focuses on how important the students consider the four skills and their sub-skills. In the study, the results that were obtained from the different sections of the questionnaire are presented from the most important to the least important and significant differences are indicated. For the focus groups interviews, six questions were prepared by taking the research questions and the questionnaire items into consideration. They mainly focused on the students' reasons for learning English, the materials used and the language difficulties they had in the classes, how important four English language skills were and what could be done relating to these four skills.

After the pilot study was conducted on 66 School of Health students at Çukurova University which confirmed its validity, the final version of the questionnaire was distributed to 233 students. Regarding the focus groups interviews, 10 students from each group, amounting to 50 students in total, voluntarily took part in the interviews. In the analysis of the questionnaires, SPSS was used and one-way-ANOVA (post hoc LSD test) was applied to calculate and analyse mean and standard deviations for the Likert-scale items and to indicate the significant differences. The qualitative data were analysed using the content analysis technique by taking into consideration the steps suggested by Cohen (2003) and Miles and Huberman (1994).

RESULTS

General Views about ESP and ESP Courses

In order to find out the academic and vocational English needs of the students, items 1-23 in the first section of the questionnaire explore the students' general views on ESP and the vocational courses in the School of Health at Mersin University, and they focus on the students' perspectives on the reasons for their learning English (items 1-8), whether they consider their vocational English classes adequate regarding the different issues such as course hours, materials, language instruction, etc. (items 9-14), and what kind of problems they experience in those classes (items 15-23). Some significant differences obtained from the study are also revealed.

To determine the student groups' academic and vocational English needs, Table 3 indicates their reasons for learning English. The student groups seem to be undecided on most of the reasons why they are learning English. However, all the groups have a concensus on learning English in order to be able to communicate with patients in their workplace, and this gets the highest mean average among all the student groups. The second and third-year nursing students' mean values are the same (3.88); and the mean values for the second, third and fourth-year midwifery students are 3.74, 3.65 and 3.79, respectively. There is no significant difference regarding this item (p>.05). The second-year midwifery and nursing students, the third-year nursing students and the fourth-year midwifery students agree about learning English in order to pursue a Master or PhD degree (3.78, 3.64, 3.59 and 4.05, respectively). Apart from that, both the third-year nursing and the fourth-year midwifery students agree upon the fact that they are learning English to follow the developments related to their field from different sources in English (M=3.50, 3.65, respectively). Only the fourth-grade midwifery students seem to agree that they are learning English to work abroad (M=3.43), which was also found important by some first and second year nursery students in the study of Miyake and Tremarco (2005), and to have the English Proficiency Exam for Academicians (ÜDS) which is a national exam taken particularly by academicians and measures their English proficiency level. (M=3.68). In terms of the first and sixth item, all the student groups are not certain about "course requirement" and "learning English to attend conferences, seminars and symposiums in English" as a reason for learning English.

Table 3. ANOVA results for perceptions of the student groups about the reasons for learning English

Items	Groups	N	M	SD	F	P
1. Course requirement	Midwifery 2nd year	52	3.23	1.33		
	Midwifery 3rd year	41	3.14	1.54		
	Midwifery 4th year	46	3.08	1.42	0.126	.973
	Nursing 2nd year	50	3.06	1.51		
	Nursing 3rd year	44	3.06	1.40		
2. To follow the developments related to the field from different sources in English	Midwifery 2nd year	52	3.06	1.27		
	Midwifery 3rd year	41	2.98	1.35		
	Midwifery 4th year	46	3.65	1.19		
	Nursing 2nd year	50	3.26	1.46	2.260	.064
	Nursing 3rd year	44	3.50	1.04		
3. To increase job opportunities	Midwifery 2nd year	52	3.57	1.28		
	Midwifery 3rd year	41	3.21	1.38		
	Midwifery 4th year	46	3.88	1.30	1.827	.125
	Nursing 2nd year	50	3.80	1.27		
	Nursing 3rd year	44	3.68	1.11		
4. To work abroad	Midwifery 2nd year	52	3.19	1.40		
	Midwifery 3rd year	41	2.65	1.33		
	Midwifery 4th year	46	3.43	1.27	2.845	.025
	Nursing 2nd year	50	3.40	1.24		
	Nursing 3rd year	44	2.93	1.18		
5. To pursue a Master or Ph. D. degree	Midwifery 2nd year	52	3.78	1.22		
	Midwifery 3rd year	41	3.11	1.43		
	Midwifery 4th year	46	4.05	1.10	3.250	.013
	Nursing 2nd year	50	3.64	1.33		
	Nursing 3rd year	44	3.59	1.16		
6. To attend conferences / seminars / symposiums in English	Midwifery 2nd year	52	3.28	1.20		
	Midwifery 3rd year	41	2.51	1.30		
	Midwifery 4th year	46	3.17	1.25	2.851	.025
	Nursing 2nd year	50	3.18	1.40		
	Nursing 3rd year	44	2.81	1.16		
7. To be able to communicate with the foreign patients in our work place	Midwifery 2nd year	52	3.74	1.08		
	Midwifery 3rd year	41	3.65	1.08		
	Midwifery 4th year	46	3.79	1.06	0.339	.852
	Nursing 2nd year	50	3.88	1.28		
	Nursing 3rd year	44	3.88	0.99		
8. To have the Proficiency Exam for Academicians	Midwifery 2nd year	52	3.23	1.39		
	Midwifery 3rd year	41	3.39	1.35		
	Midwifery 4th year	46	3.68	1.13	1.112	.352
	Nursing 2nd year	50	3.16	1.41		
	Nursing 3rd year	44	3.31	1.21		

Table 4. ANOVA results for perceptions of the student groups about the adequacy of the vocational English classes

Items	Groups	N	M	SD	F	p
9. Total amount of course hours	Midwifery 2nd year	52	3.21	1.45		
	Midwifery 3rd year	41	3.07	1.47		
	Midwifery 4th year	46	3.54	1.31	1.147	.335
	Nursing 2nd year	50	2.96	1.32		
	Nursing 3rd year	44	3.20	1.42		
10. Language instruction	Midwifery 2nd year	52	3.30	1.37		
	Midwifery 3rd year	41	3.31	1.29		
	Midwifery 4th year	46	3.54	1.32	1.237	.296
	Nursing 2nd year	50	2.96	1.29		
	Nursing 3rd year	44	3.22	1.23		
11. Visual aids	Midwifery 2nd year	52	2.28	1.37		
	Midwifery 3rd year	41	2.17	0.97		
	Midwifery 4th year	46	2.34	1.23	0.282	.889
	Nursing 2nd year	50	2.12	1.13		
	Nursing 3rd year	44	2.20	1.13		
12. Audio aids	Midwifery 2nd year	52	2.36	1.34		
	Midwifery 3rd year	41	2.26	1.16		
	Midwifery 4th year	46	2.65	1.41	0.653	.626
	Nursing 2nd year	50	2.32	1.09		
	Nursing 3rd year	44	2.36	1.18		
13. The subjects in the course materials	Midwifery 2nd year	52	2.75	1.34		
	Midwifery 3rd year	41	2.60	1.18		
	Midwifery 4th year	46	3.32	1.23	2.934	.022
	Nursing 2nd year	50	2.66	1.09		
	Nursing 3rd year	44	2.61	1.10		
14. The content of the course materials	Midwifery 2nd year	52	2.76	1.29		
	Midwifery 3rd year	41	2.65	1.19		
	Midwifery 4th year	46	3.43	1.18	3.071	.017
	Nursing 2nd year	50	2.81	1.06		
	Nursing 3rd year	44	2.93	1.06		

This part of the questionnaire shows whether the student groups find the vocational English classes adequate or not. In items 9-14, most of the student groups agree on the fact that the audio and visual materials are inadequate in the courses. Their mean values vary from 2.12 to 2.65. They are the most significant inadequacies experienced in the classes according to the questionnaire results. Taşçı (2007) also indicated that there was a need to provide technological equipment in the study conducted on medical students to explore their English needs. Besides, there is no siginificant difference for these two items (p>.05) in the present study. Most of the groups seem undecided about the other inadequacies listed in Table 4 in general.

Table 5. ANOVA results for perceptions of the student groups about the reasons for difficulties in understanding vocational English

Items	Groups	N	M	SD	F	p
	Midwifery 2nd year	52	3.86	1.38		
	Midwifery 3rd year	41	3.52	1.43		
15. Poor general English grammar	Midwifery 4th year	46	4.14	0.99	3.369	.011
	Nursing 2nd year	50	347	1.23		
	Nursing 3rd year	44	3.25	1.43		
	Midwifery 2nd year	52	4.17	1.29		
	Midwifery 3rd year	41	3.95	1.28		
16. Poor general English vocabulary	Midwifery 4th year	46	4.32	0.87	2.794	.027
	Nursing 2nd year	50	3.98	1.05		
	Nursing 3rd year	44	3.54	1.35		
	Midwifery 2nd year	52	4.19	1.28		
	Midwifery 3rd year	41	4.04	1.20		
17. Poor vocational English vocabulary	Midwifery 4th year	46	4.04	0.81	1.154	.332
	Nursing 2nd year	50	4.02	1.03		
	Nursing 3rd year	44	3.70	1.26		
	Midwifery 2nd year	52	3.37	1.55		
	Midwifery 3rd year	41	3.54	1.20		
18. Poor English reading skill	Midwifery 4th year	46	3.94	1.03	2.860	.024
	Nursing 2nd year	50	3.36	1.11		
	Nursing 3rd year	44	3.06	1.37		
	Midwifery 2nd year	52	3.15	1.55		
	Midwifery 3rd year	41	3.42	1.26		
19. Poor English writing skill	Midwifery 4th year	46	3.63	1.17	1.902	.111
	Nursing 2nd year	50	3.18	1.04		
	Nursing 3rd year	44	2.93	1.45		
	Midwifery 2nd year	52	3.15	1.39		
	Midwifery 3rd year	41	3.27	1.09		
20. Poor English listening comprehension	Midwifery 4th year	46	3.50	1.12	1.523	.196
	Nursing 2nd year	50	3.28	1.16		
	Nursing 3rd year	44	2.88	1.29		
	Midwifery 2nd year	52	3.58	1.47		
	Midwifery 3rd year	41	3.77	1.06		
21. Poor English speaking skill	Midwifery 4th year	46	3.86	1.08	2.224	.067
	Nursing 2nd year	50	3.71	1.06		
	Nursing 3rd year	44	3.15	1.36		
	Midwifery 2nd year	52	3.35	1.43		
	Midwifery 3rd year	41	3.47	1.24		
22. Poor English pronunciation	Midwifery 4th year	46	3.84	1.13	2.975	.020
	Nursing 2nd year	50	3.38	1.13		
	Nursing 3rd year	44	2.93	1.35		
	Midwifery 2nd year	52	2.93	1.30		
	Midwifery 3rd year	41	2.57	1.22		
23. The course materials that are not tailored to our level	Midwifery 4th year	46	2.69	1.26	0.715	.582
	Nursing 2nd year	50	2.91	1.29		
	Nursing 3rd year	44	2.68	1.19		

In order to investigate the students' academic and vocational English needs in the School of Health, the reasons for why they have difficulties in understanding vocational English are elicited. According to the results, poor general English grammar is one of the most problematic areas for the students. Apart from the third-year nursing students, the second-year nursing and midwifery students, the third-year and the fourth-year midwifery students agree they have problems with their general English grammar (M=3.47, 3.86, 3.52 and 4.14, respectively). Additionally, the results indicate that there is a significant difference between the fourth-year midwifery students and the third-year midwifery, the second-year and the third-year nursing students (p<.05).

As can be seen in Table 5, the student groups seem to have poor general English vocabulary. The fourth-year midwifery students strongly agree upon this item (M=4.32). The other groups also agree to have this problem. Their mean values are as follows: 4.17 (Midwifery 2), 3.95 (Midwifery 3), 3.98 (Nursing 2) and 3.54 (Nursing 3). One way ANOVA results also reveal a significant difference between the third-year nursing students and the second and fourth-year midwifery students (p<.05) regarding this item. The results obtained from the item "poor professional English vocabulary" indicate that all the student groups agree that it causes them to have difficulties in their classes. Their mean values vary from 3.70 to 4.19. In the study of Chia et al. (1999), it was also revealed that limited vocabulary was one of the most problematic areas for the medical students.

As for reading, the third and fourth-grade midwifery students agree that poor reading skills create difficulties in class (M=3.54, 3.94, respectively) whereas the remaining groups, including the second-year midwifery and nursing students (M= 3.37 and 3.36, respectively) and the third-year nursing students (M= 3.06), are not certain about it. Poor speaking skill is also perceived as a problematic area among the groups except for third-year nursing students who are uncertain about it. Regarding poor pronunciation, the third and fourth-year midwifery students agree to have this problem with the average means of 3.47 and 3.84, respectively.

It is indicated in Table 5 that only the fourth-grade midwifery students agree that poor listening comprehension is a problem for them (M=3.50). Regarding poor writing skills, it is seen that the third and fourth-grade midwifery students agree to have poor writing skills (M=3.42 and 3.63, respectively). However, the rest of the student groups seem to be uncertain about this. Their results vary from 2.93 to 3.18.

The Importance of Language Skills

The second section consisting of items 24-53 mainly indicates how much importance the student groups attach to the four language skills, i.e. reading, writing, listening and speaking, and their sub-skills. The students' academic and vocational English needs are elicited in terms of the four English skills.

The results indicate in Table 6 that speaking skills are regarded as the most important skill among the groups with the mean averages varying from 3.28 to 3.47. However, in the studies carried out by Chia et al. (1999) and Taşçı (2007) on medical students, the students perceived reading as the most important skill, and reading was followed by speaking or listening skills. In the present study, listening is perceived by the fourth-year midwifery students as a very important skill (M=3.30). The other skills are found important by the groups. There is no significant difference in the perceptions of the students (p>.05)

Table 6. ANOVA results for perceptions of the student groups about the importance of English language skills

Items	Groups	N	M	SD	F	p
24. READING	Midwifery 2nd year	52	3.11	0.75		
	Midwifery 3rd year	41	2.92	0.90		
	Midwifery 4th year	46	3.26	0.57	1.476	.210
	Nursing 2nd year	50	2.96	0.96		
	Nursing 3rd year	44	3.18	0.65		
25. WRITING	Midwifery 2nd year	52	2.88	0.83		
	Midwifery 3rd year	41	2.75	0.82		
	Midwifery 4th year	46	3.08	0.78	1.104	.355
	Nursing 2nd year	50	2.90	0.88		
	Nursing 3rd year	44	3.02	0.69		
26. LISTENING	Midwifery 2nd year	52	3.25	0.78		
	Midwifery 3rd year	41	3.15	0.72		
	Midwifery 4th year	46	3.30	0.55	0.430	.787
	Nursing 2nd year	50	3.14	0.85		
	Nursing 3rd year	44	3.22	0.67		
27. SPEAKING	Midwifery 2nd year	52	3.30	0.78		
	Midwifery 3rd year	41	3.25	0.79		
	Midwifery 4th year	46	3.48	0.61	0.906	.461
	Nursing 2nd year	50	3.28	1.01		
	Nursing 3rd year	44	3.47	0.66		

The results for the student groups' academic and vocational English reading skills are presented in Table 7. First of all, there is not a significant difference regarding all the items (p>.05) in the perceptions of the students. However, Table 7 suggests that one of the most important sub-reading skills for the student groups is "understanding the vocational terms in articles/texts", and the second-year, the third and fourth-year midwifery students and the third-year nursing students perceive understanding the vocational terms in articles/texts as a very important skill (M=3.28, 3.30, 3.39 and 3.45, respectively). "Translating English texts into Turkish" is regarded as very important by third-year nursing and fourth-year midwifery students, and their mean averages are 3.27 and 3.26, respectively. "Guessing the new words in an article/a text without using a dictionary" is related to the vocabulary in articles or texts as well, and all the student groups find it important. The mean values for this item are as follows: 3.13 (Midwifery 2), 3.02 (Midwifery 3), 3.11 (Midwifery 4), 3.04 (Nursing 2) and 3.20 (Nursing 3). "Answering reading comprehension questions in a classwork, in an exam or for an assignment" and "answering true/false questions related to a text" are also perceived as two most important reading skills. The remaining reading skills are generally considered important by the groups.

Table 7. ANOVA results for perceptions of the student groups about the importance of English reading skills

Items	Groups	N	M	SD	F	P
28. Reading an article/a text for general information	Midwifery 2nd year	52	2.86	0.86		
	Midwifery 3rd year	41	2.75	0.88		
	Midwifery 4th year	46	3.10	0.70	1.829	.124
	Nursing 2nd year	50	2.92	0.82		
	Nursing 3rd year	44	3.13	0.86		
29. Reading an article/a text to find out specific information	Midwifery 2nd year	52	3.03	0.88		
	Midwifery 3rd year	41	2.92	0.87	0.884	.474
	Midwifery 4th year	46	3.19	0.68		

	Nursing 2nd year	50	3.10	0.86		
	Nursing 3rd year	44	3.20	0.66		
	Midwifery 2nd year	52	2.88	0.83		
	Midwifery 3rd year	41	2.63	0.82		
30. Reading an article/a text to find out the main idea	Midwifery 4th year	46	3.04	0.78	1.394	.237
	Nursing 2nd year	50	2.88	0.87		
	Nursing 3rd year	44	2.86	0.76		
	Midwifery 2nd year	52	2.90	0.84		
	Midwifery 3rd year	41	2.58	0.86		
31. Reading texts in detail	Midwifery 4th year	46	2.93	0.90	1.175	.323
	Nursing 2nd year	50	2.80	1.01		
	Nursing 3rd year	44	2.90	0.74		
	Midwifery 2nd year	52	3.13	0.86		
32. Guessing the terminology in an article/a text without using a dictionary	Midwifery 3rd year	41	3.02	0.82		
	Midwifery 4th year	46	3.11	0.79	0.372	.828
	Nursing 2nd year	50	3.04	0.83		
	Nursing 3rd year	44	3.20	0.63		
	Midwifery 2nd year	52	3.28	0.77		
33. Understanding the proffessional terms in articles/texts	Midwifery 3rd year	41	3.30	0.55		
	Midwifery 4th year	46	3.39	0.71	1.100	.357
	Nursing 2nd year	50	3.18	0.71		
	Nursing 3rd year	44	3.45	0.66		
	Midwifery 2nd year	52	3.01	0.91		
34. Summarizing a text orally or in a written form	Midwifery 3rd year	41	2.82	0.89		
	Midwifery 4th year	46	3.08	0.89	.538	.708
	Nursing 2nd year	50	2.96	0.85		
	Nursing 3rd year	44	2.97	0.66		
	Midwifery 2nd year	52	3.26	0.84		
35. Answering reading comprehension questions in a classwork, in an exam or for an assigment	Midwifery 3rd year	41	3.19	0.67		
	Midwifery 4th year	46	3.30	0.59	1.517	.198
	Nursing 2nd year	50	3.00	0.75		
	Nursing 3rd year	44	3.02	0.75		
	Midwifery 2nd year	52	3.17	0.75		
36. Answering true/false questions related to a text	Midwifery 3rd year	41	3.24	0.62		
	Midwifery 4th year	46	3.23	0.60	1.276	.280
	Nursing 2nd year	50	2.98	0.71		
	Nursing 3rd year	44	3.06	0.75		
	Midwifery 2nd year	52	3.21	0.84		
37. Translating English texts into Turkish	Midwifery 3rd year	41	3.22	0.87		
	Midwifery 4th year	46	3.26	0.77	0.265	.900
	Nursing 2nd year	50	3.12	0.82		
	Nursing 3rd year	44	3.27	0.72		
	Midwifery 2nd year	52	2.82	0.92		
38. Understanding the grammatical structures in texts	Midwifery 3rd year	41	2.82	0.91		
	Midwifery 4th year	46	2.91	0.78	0.546	.702
	Nursing 2nd year	50	2.86	0.78		
	Nursing 3rd year	44	3.04	0.71		

Table 8. ANOVA results for perceptions of the student groups about the importance of English writing skills

Items	Groups	N	M	SD	F	p
39. Answering the questions in a written form, in an exam or in a classwork	Midwifery 2nd year	52	2.96	0.90		
	Midwifery 3rd year	41	3.04	0.73		
	Midwifery 4th year	46	3.02	0.61	1.054	.380
	Nursing 2nd year	50	2.80	0.85		
	Nursing 3rd year	44	3.11	0.81		
40. Writing medical reports	Midwifery 2nd year	52	2.86	0.92		
	Midwifery 3rd year	41	2.58	0.99		
	Midwifery 4th year	46	2.89	0.84	0.880	.477
	Nursing 2nd year	50	2.88	0.93		
	Nursing 3rd year	44	2.87	0.81		
41. Writing a paragraph on a topic related to our field	Midwifery 2nd year	52	3.01	0.72		
	Midwifery 3rd year	41	2.68	0.98		
	Midwifery 4th year	46	3.04	0.78	1.253	.289
	Nursing 2nd year	50	2.94	0.97		
	Nursing 3rd year	44	2.99	0.77		
42. Being able to use the appropriate proffessional terms while writing a text	Midwifery 2nd year	52	3.15	0.75		
	Midwifery 3rd year	41	3.09	0.73		
	Midwifery 4th year	46	3.15	0.66	0.573	.682
	Nursing 2nd year	50	3.04	0.75		
	Nursing 3rd year	44	3.25	0.68		
43. Being able to form grammatically correct sentences while writing	Midwifery 2nd year	52	3.00	0.84		
	Midwifery 3rd year	41	2.92	0.90		
	Midwifery 4th year	46	3.10	0.84	0.337	.853
	Nursing 2nd year	50	3.04	0.83		
	Nursing 3rd year	44	3.09	0.74		

In terms of the students' academic and vocational English writing skills, the results in Table 8 indicate that all the writing skills presented in the questionnaire are perceived as important among the student groups. Moreover, the results of nearly all the items in this skill are in the same range of importance, and the mean averages of some groups are slightly higher than the others.

According to the results regarding the students' academic and vocational English listening skills, "understanding foreign patients" is deemed very important with the mean values varying from 3.28 to 3.52. "Understanding a short lecture on a topic related to their field and vocational terms in a lecture" are found very important by the groups. The third-year nursing students perceive "understanding daily speeches as very important" (M= 3.41), whereas the remaining groups think it is important. However, in general, listening skills are perceived as highly important among the groups.

Table 9. ANOVA results for perceptions of the student groups about the importance of English listening skills

Items	Groups	N	M	SD	F	p
44. Understanding daily speeches	Midwifery 2nd year	52	3.11	0.70		
	Midwifery 3rd year	41	3.04	0.83		
	Midwifery 4th year	46	3.23	0.73	2.378	.053
	Nursing 2nd year	50	2.96	0.87		
	Nursing 3rd year	44	3.41	0.69		
45. Understanding foreign patients	Midwifery 2nd year	52	3.45	0.60		
	Midwifery 3rd year	41	3.29	0.74		
	Midwifery 4th year	46	3.28	0.71	1.019	.399
	Nursing 2nd year	50	3.52	0.70		
	Nursing 3rd year	44	3.44	0.75		
46. Understanding a short lecture on a topic related to our field	Midwifery 2nd year	52	3.37	0.65		
	Midwifery 3rd year	41	3.26	0.74		
	Midwifery 4th year	46	3.26	0.68	0.920	.453
	Nursing 2nd year	50	3.42	0.64		
	Nursing 3rd year	44	3.48	0.60		
47. Understanding proffessional terms in the lecture	Midwifery 2nd year	52	3.39	0.62		
	Midwifery 3rd year	41	3.29	0.71		
	Midwifery 4th year	46	3.36	0.64	0.370	.830
	Nursing 2nd year	50	3.36	0.59		
	Nursing 3rd year	44	3.46	0.72		

As for the students' academic and vocational English speaking skills, the results show that particularly, "talking to foreign patients" is found to be very important by the second-year midwifery and nursing students and the third-grade nursing students with the average means of 3.42, 3.40 and 3.41, respectively. This skill gets the highest mean averages among the groups compared to the remaining speaking skills. In addition, the second year midwifery students find "being able to form grammatically correct sentences while speaking" a very important skill (M=3.39). The second-year nursing students consider "being able to use the appropriate vocational terms" very important (M=3.32) while the third-year nursing students perceive "being able to carry out daily conversations" as very important (M=3.29).

Table 10. ANOVA results for perceptions of the student groups about the importance of English speaking skills

Items	Groups	N	M	SD	F	p
48. Being able to carry out daily conversations	Midwifery 2nd year	52	2.92	0.83		
	Midwifery 3rd year	41	2.87	0.84		
	Midwifery 4th year	46	2.93	0.80	2.019	.093
	Nursing 2nd year	50	2.96	0.80		
	Nursing 3rd year	44	3.29	0.63		
49. Asking and answering questions in class	Midwifery 2nd year	52	3.09	0.72		
	Midwifery 3rd year	41	3.07	0.72		
	Midwifery 4th year	46	3.13	0.58	0.477	.752
	Nursing 2nd year	50	2.96	0.80		
	Nursing 3rd year	44	3.13	0.73		
50. Talking to foreign patients	Midwifery 2nd year	52	3.42	0.56		
	Midwifery 3rd year	41	3.14	0.61	2.060	.087
	Midwifery 4th year	46	3.17	0.73		

	Nursing 2nd year	50	3.40	0.69		
	Nursing 3rd year	44	3.41	0.65		
	Midwifery 2nd year	52	3.32	0.66		
51. Making a presentation on a topic related to our field	Midwifery 3rd year	41	3.13	0.86		
	Midwifery 4th year	46	2.78	0.88	1.162	.328
	Nursing 2nd year	50	3.08	0.91		
	Nursing 3rd year	44	2.94	0.81		
	Midwifery 2nd year	52	2.95	0.86		
52. Being able to use the appropriate proffesional terms while speaking	Midwifery 3rd year	41	3.25	0.73		
	Midwifery 4th year	46	3.17	0.70	1.402	.234
	Nursing 2nd year	50	3.32	0.73		
	Nursing 3rd year	44	3.08	0.69		
	Midwifery 2nd year	52	3.39	0.68		
53. Being able to form grammatically correct sentences while speaking	Midwifery 3rd year	41	3.01	0.77		
	Midwifery 4th year	46	2.95	0.80	1.056	.379
	Nursing 2nd year	50	3.06	0.77		
	Nursing 3rd year	44	2.90	0.76		

Interview Results

General Views about ESP and ESP Courses

In accordance with the questionnaire, the students were first asked about their reasons for learning English. Apart from the fact that it is "course requirement", most of the students pointed out that they wished to "pursue an academic career" and "follow English resources related to their fields". Majority of the students emphasized the fact that English is "a universal language". Particularly, the second-year nursing students wished to "communicate with foreign patients", and the fourth-year midwifery students wanted to "have a chance of working abroad".

In the interview, the students were also asked about their opinions on vocational English in terms of some issues such as course cours, materials, language instruction and etc. Regarding their opinions on courses in general, a few second- year midwifery and third-year nursing students mentioned about some "English level differences among the students". Some of the second year nursing students pointed out to "the neccessity and unnecessity of the classes" claiming that general English would be enough to communicate with patients if one does not plan to follow an academic career. Considering the class hours, particularly, the fourth-year students thought they were adequate as they had two-hour course a week whereas the second-year students had only one-hour course a week.

The students opinions on the materials comply with the results obtained in the questionnaire. Most of the students from different groups expressed the inadequacy of audio-visual materials used in the classes as shown by the following sample quotation:

> *"[…] The material is already inadequate. When there are no visual materials and when the material is only in a written format, what we learn is not permanent. Besides, as the time is limited and we do not hear or see what we learn, we forget it so easily."(Nur. 3 G)*

Integration of listening and speaking skills in the material are also highly accentuated by the third-year nursing students. In regard to the language instruction, the most frequently stated issue that was mentioned by the second and third-year nursing students was the fact that "the classes were mainly based on memorization" and it would be much better if the classes were more meaning oriented as shown by the following:

"The classes are totally based on memorization. We just memorize the words and take the exams. In fact, we do not learn." (Nur. 3 C)

The students were also asked what kind of language difficulties they had in their vocational English courses. In terms of the four skills, the most frequently stated difficulty was "poor speaking skill". It was followed by "poor pronunciation", "listening comprehension" and "reading". Apart from the skills, most of the student groups remarked that they generally had difficulties with English "grammar". It was followed by "poor vocational vocabulary". Some extracts are given from the interviews in the following:

"[...] Speaking is a bigger problem for us; for instance, so many complicated sentences go across our mind, but although we could express them in a more simple way, we cannot do that." (Nur. 2 J)

"As we do not exactly know English grammar, we have great difficulties with vocational English… We cannot even make a sentence. We do not know where a subject or a verb should be." (Mid. 4 I)

"We have great difficulty with words in this English course as we do not know the words, and there are not enough sources for vocational English." (Mid. 4 A)

The Importance of Language Skills

In this section, the student groups were asked how important they found four English language skills and what could be done related to these skills. Detailed and elaborate responses were obtained from the students.

Most of the students claimed that all the skills were equally important and related to each other. Totally 56% of the interviewed students comprised on the equality of four skills. Some of the students supported the fact that speaking was the most important skill. Speaking was followed by listening and reading.

Regarding reading skills, some of the students stated the need of "understanding English articles related to their field for different reasons". They generally wanted to understand them for their future academic career or to be able to use them when they prepared an assignment or a presentation for their main courses. Besides, a few students mentioned about "translating", and two second-year nursing students (4%) pointed out that it might be helpful to "understand English instructions on health equipment and supplies". In terms of writing, the students made very few comments. However, 18% of the students made their remarks on listening skill. They expressed that they could "listen to records and watch videos on illnesses, midwife/nurse-patient dialogues or on different topics in English" to increase their listening comprehension.

The most commented skill was speaking. 40% of the students thought it would be useful to "prepare and carry out sketches/dialogues in English to communicate with foreign patients or use daily language" as can be seen in the following quotation:

"We are just covering some topics, but, for example, we do not know how we could talk to a patient, and we can also learn to use some daily language expressions. [...] Dialogues and sketches would make what we learn more permanent." (Nur. 3 E)

Apart from that, a few midwifery students stated that they could prepare a presentation of a topic they prepared. In relation to four skills, a significant number of students stressed the need to "focus on grammar to be able to acquire four skills" more easily and efficiently as illustrated below:

"I think that before everything, a good knowledge of grammar is required. For someone who does not know grammar or how to form a sentence, reading, writing, etc. do not mean much. (Nur. 3 G)

DISCUSSION AND CONCLUSION

A needs analysis was conducted with the nursing and midwifery students of the School of Health offering Turkish-medium courses at Mersin University to determine their academic and vocational English needs in order to improve the current curriculum, materials and language instruction.

The results showed that the fourth-year midwifery students seemed to be more certain about their reasons for learning English. It may stem from the fact that they are about to graduate and have some future plans. For instance, the questionnaire results showed that only the fourth year midwifery students wanted to have ÜDS, which is a language proficiency exam based on only reading skill. Furthermore, in terms of following the developments related to the students' field, only the third-year nursing and the fourth-year midwifery students agreed to this item. Most of the student groups believed that knowing English might increase job opportunities for them. According to the study of Chia et al. (1999), it was also found out that English was important for students' future careers. In a needs analysis study carried out by Miyake and Tremarco (2005) to explore the English needs of undergraduate, postgraduate and working nurses, it was also shown that some of the first and second year nursing students expressed that they needed English to increase job opportunities and work abroad. The fourth-year midwifery students also considered knowing English as an opportunity to work abroad in the future in the present study. The same result was obtained in the interviews, as well. Furthermore, all the groups agreed to learn English to be able to talk to foreign patients in case they met some at their work place.

Regarding the students' general opinion on the courses, the student groups were especially negative about both visual and audio aids. In the study of Taşçı (2007) conducted with the medical students, the questionnaire results also indicated that the student groups disagreed about the adequacy of technological equipment and their usage. Apart from that, particularly, the interview results showed that some more listening and speaking skills and grammar activities should be integrated into the classes, and the classes should be more active and learning-oriented rather than focus on memorizing some vocational vocabulary.

According to the results, most of the students are specifically in the opinion of experiencing difficulties with speaking, grammar and general and vocational vocabulary although they had problems with the other skills as well. In the study of Mazdayasna and Tahririan (2008), it was shown that after the students passed their English course, they had problems with using grammatical structures and medical terminology appropriately. Besides, most of the students were of the opinion that all the four skills should be integrated into the course.

The questionnaire results indicate that speaking is found the most important skill by the student groups. Speaking is followed by listening. The fourth-year midwifery students value reading a little more than the other groups. It may be related to the fact that they are about to graduate, and some of them may be planing to have ÜDS exam or to follow an academic career. In the interviews, the students also highly valued speaking even though most of them thought the skills were equally important. In the study of Chia et al. (1999), the medical students consider reading the most important skill followed by listening, writing and speaking. However, the present study shows that in general, although the students value all the skills, it can be also observed that they value speaking and listening more than reading and writing, and writing gets the lowest mean average. Lee's study (1998) conducted with the in-service and full time nursing students supports the present study, and speaking and listening skills were considered the most important skills by both of the groups in that study.

In terms of reading skills, genereally all the skills are perceived as important by the groups. Translation skill is deemed very important by the third-year nursing and the fourth-year midwifery students. In general, the students who are about to graduate find translation more important.

In general, listening skill gets high mean averages according to the questionnaire results of the students. In the study, most of the student groups also found understanding foreign patients very important. Particularly, in the interviews, the students suggested that it be very useful to to the records or watch videos on illnesses/midwife/nurse-patient dialogues or on different topics in English to improve their listening skill. In the study of Hwang and Lin (2010), the majority of the respondents claimed that they liked learning from television/video/DVD/films, CDs/cassettes (40.8%), radio (37.0%) and the internet (33.8%), as well. Thus, the results indicate that the instructors need to integrate some audio-visual materials for both improving the students' listening comprehension and making the classes more enjoyable.

Among speaking skills, "talking to foreign patients" is the item that is found more important than the other items by the students, particularly by the second-year nursing and midwifery and the third-year nursing students. According to the study of Lee (1998), in-service students agreed that they needed English for nursing purposes (ENP) in their daily career tasks. The interviews conducted with the students also reveal that the students wish to carry out dialogues or sketches in the classes to improve their communication skills with foreign patients and daily language. Hwang and Lin (2010) indicated that that a great amount of the students studying in the medical faculty believed carrying on daily conversations was the most important speaking skill. Taşçı (2007) also suggests that role play activities be used in the classes to practice communicating with foreign patients in real life situations in the medical context. Besides, speaking activities could be very helpful in increasing the students' motivation, their speaking abilities and the knowledge of vocational English.

In general, the results of the questionnaire and interviews conducted with the students revealed that the four English skills should be developed, in particular speaking and listening acitvities. The materials need to be improved by integrating some speaking and listening skills. In the classes, an environment could be created in which the students do not have to memorize some words but participate in the classes and develop their communication and comprehension skills through dialogues and sketches and subject-specific texts.

REFERENCES

Baştürkmen, H. (1998). A needs analysis project at Kuwait University. *Forum.* 36 (1), 2-5.

Brown, J. (1995). *The elements of language curriculum. A systematic approach to curriculum development.* Boston: Heinle & Heinle

Çelik, S. (2007). *An investigation into students' academic and occupational English language needs.* Unpublished master's thesis, University of Bilkent. Ankara.

Chia, H.-U., Johnson, R., Chia, H. L., & Olive, F. (1999). English for college students in Taiwan: A study of perceptions of English needs in a medical context. *English for Specific Purposes.* 18 (2). 107-119.

Cohen, L. (2003). *Research methods in education.* London: Routledge.

Dudley-Evans, T. & St. John, M. J. (2001). *Developments in English for specific purposes: A multi-disciplinary Approach.* Cambridge: Cambridge University Press.

Evans, S. & Green, C. (2007). Why EAP is necessary: A survey of Hong Kong tertiary students. *Journal of English for Academic Purposes.* 6 (1). 3-17.

Hutchinson, T., & Waters, A. (2004). *English for specific purposes: A learning-centered Approach.* Cambridge: Cambridge University Press.

Hwang, Y., & Lin, S. (2010). A study of medical students' linguistic needs in Taiwan. *The Asian ESP Journal.* 6 (1). 35-58.

Kırkgöz, Y. (2005). Motivation and student perception of studying in an English-medium university. *Journal of Language and Linguistic Studies.* 1 (1). 101-123.

Kostak, M.A., Akarsu, Ö., & Ergül, G.D. (2012). Edirne Sağlık Yükseokulu öğrencilerinin profili. *Fırat Sağlık Hizmetleri Dergisi.* 7 (19). 39-59

Krajka, J. (2009). English for specific purposes on the world wide web: A proposal for a web-based coursebook supplement. *ESP World.* 25 (8). Retrieved August 16, 2009, from

http://www.esp-world.info/articles_5/ESP%20ON%20THE%20WWW 2.htm

Lee, C. Y. (1998). English for nursing purposes: A needs assessment for professional-oriented curriculum design. *Academic Journal of Kang-Ning*. 1 (1). 55-72.

Mazdayasna, G., & Tahririan, M.H. (2008). Developing a profile of the ESP needs of Iranian students: The case of students of nursing and midwifery. *Journal of English for Academic Purposes.* 7 (4). 277-289.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis (*2nd ed.). Thousand Oaks. CA: Sage.

Miyake, M., & Tremarco, J. (2005). Needs analysis for nursing students utilizing questionnaires and interviews. *Kawasaki Journal of Medical Welfare. 11 (1)*. 23-34.

Nugraha, M. (2002). Triangulation of instrumentation and data source: A stronger method in assessing English language needs. *K@ta*. 4 (2). 148-161.

Richards, J. (2001). *Curriculum development in language teaching*. Cambridge: Cambridge University Press.

Taşçı, Ç. (2007). *An analysis of medical students' English language needs*. Unpublished master's thesis. University of Bilkent. Ankara.

Yiğit, R., Esenay, F. I., & Derebent, E. (2007). Türkiye'de hemşirelik son sınıf öğrencilerinin profili. *Cumhuriyet Üniversitesi HYO Dergisi*. 11(3). 1-12.

THE EFFECT OF SOCIAL AND EMOTIONAL LEARNING NEEDS ON DECREASING THE MENTAL SYMPTOMS IN ELEMENTARY SCHOOL STUDENTS[*]

Zekavet KABASAKAL[a]; Tarık TOTAN[b**]

[a]Dokuz Eylül University, Buca Faculty of Education, Guidance and Counseling, İzmir/Turkey
[b]Adnan Menderes University, Faculty of Education, Guidance and Counseling, Aydın/Turkey

ABSTRACT

The objective of this study is to examine whether the social and emotional learning needs are affective in preserving the mental health of students during elementary level education. To this end, it was assessed at what level and in what direction the social and emotional learning needs of students in the second stage of elementary level education relationships their mental symptoms. The participants of this study are 320 elementary school students (Girls $n= 149$, 48.10%; boys $n= 161$, 51.90%) who were enrolled to an elementary level school during the 2009-2010 school year in the central district of Izmir. The Social-Emotional Learning Scale developed by Coryn, Spybrook, and Blinkiewicz (2009) and adopted into Turkish by Totan (2011) and the Brief Symptom Inventory and the personal information form developed by Derogatis (1992) and adopted into Turkish by Şahin, Durak Batıgün, and Uğurtaş (2002) were used as data acquisition tools in the study. According to the research findings, negative and statistically significant relationships were determined between social and emotional learning needs and the mental symptoms. Also, it was determined as a result of multiple linear regression analysis that the social and emotional learning needs of second grade elementary level students are effective in decreasing the mental symptoms.

Keywords: *Social and emotional learning, mental symptoms, protective guidance services, multiple linear regression analysis*

INTRODUCTION

Social and emotional learning came up during the nineties due to the facts that schools only emphasized academic education and hence neglected the social and emotional learning requirements of the students (Elias et.al., 2003). It is observed especially during the past decade that many states in the US base their school guidance services on social and emotional learning. Social and emotional learning is defined as the process by which students gain awareness, arrangement skills, social relationships and emotions hence becoming better at managing their lives successfully. Another definition regards social and emotional learning as the process by which individuals gain awareness of their emotions and manage them, start taking other individuals into account, make better decisions, display moral and responsible behavior, develop positive relationships and avoiding negative behavior (Zins and Elias, 2006). Some individuals may succeed in this without any need for support. However, some individuals require support to meet their social and emotional learning needs (Norris, 2003). Hence, the meeting of the social and emotional learning needs of students is as critical as the necessity for academic education.

Today, the importance of developing social and emotional learning skills has been accepted in many countries. Schools in Singapore, Malaysia, Hong Kong, Japan, Korea, Australia, New Zealand and some

---

[*]This paper was presented at Second International Conference on New Trends in Education and Their Implications on April 27-29, 2011, Antalya-Turkey.
[**]**Co-Author:** tarik.totan@adu.edu.tr

Latin America and Africa countries along with England and more than a dozen countries in Europe add classes for increasing social and emotional learning skills to their curriculum (Schonert-Reichl and Hymel, 2007). Whereas in our country the research on social and emotional learning carried out at schools is very limited (Türnüklü, 2004). However, the importance of gaining social and emotional learning skills between the ages of 12-14 is emphasized (Kabakçı and Korkut Owen, 2010).

Social and emotional learning needs are basic requirements that develop the social and emotional learning skills and they are as important as academic education. Giving guidance services at school to help develop the social and emotional learning skills of students not only increase the academic success levels of students but also help them stay away from problematic behavior (Elias et.al., 1997). The increasing of social and emotional learning skills is among the sole responsibilities of both the teachers and the families. Since in early childhood physical development and health along with communication and language development constitute the indicator of social and emotional development, these development areas are critical for the mental health development of the child.

Protecting the mental health of children and supporting their psychological well-being are quite important for their social, emotional and academic development. It is stated by various studies that as mental symptoms decrease many positive behaviors are observed to increase (Payton et.al., 2000; Elias, 2003; Cohen, Onunaku, Clothier, and Poppe, 2005). It is emphasized that starting from early childhood the development of the social and emotional learning needs and the protection of their mental health are effective (Cohen, Onunaku, Clothier, and Poppe, 2005). The development of social and emotional learning needs and skills is important for the protection of the mental health of elementary and secondary school students (Elias et.al., 2003). Both the theoretical and experimental research findings indicate that activities that aim to increase the social and emotional learning needs and skills of students prevent substance abuse, violence and aggressiveness while increasing their well-being and protect their mental health (Payton et.al., 2000; Elias, 2003).

The effect of social and emotional learning needs on the protection of the mental health of students is carefully evaluated in USA and it is included in the school psychological consultancy and guidance services. For instance social and emotional learning is considered as a resource for the protection of the mental health of students in the State of Illinois (Illinois Violence Prevention Authority, 2011). Even though the development of social and emotional learning is considered to be an important variable in the protection of the mental health of individuals, no study has been found in our country about this subject. Hence, the objective of this study is to examine at what levels and in what directions do social and emotional learning needs affect mental symptoms of second stage elementary school students.

METHOD

Participants

The participants of the study is a group of 310 students attending the second stage of an elementary school in the Karşıyaka province of Izmir of whom 149 (%48.10) are girls and 161 (%51.90) are boys. Of the participants determined according to proper sampling method 104 (%33.50) students were 6th grade, 101 (%32.60) were 7th grade and 105 (%33.90) were 8th grade students.

Procedure

The research data was collected by the researchers during the fall semester of the 2010-2011 education year from the second stage of an elementary school at Izmir, Karşıyaka. The data was obtained from a total of 12 different classes. The students took 20-25 minutes on average to fill out the research data acquisition form.

Instruments

Social-emotional learning scale (SELS): The scale developed by Coryn, Spybrook, Evergreen and Blinkiewicz (2009) which was adopted into Turkish by Totan (2011) is a 5-point Likert type scale consisting of 20 items and 3 sub-dimensions. Task Articulation, which is the first sub-dimension, is related with the student being aware of his/her responsibilities, his/her ability to decide in the direction of these responsibilities and his/her ability to articulate these responsibilities. Peer Relations, the second sub-dimension, is a measure of the social relations and the social closeness of the student with his/her peers. Self-regulation, which is the third sub-dimension, evaluates the student's ability to overcome the problems he/she faces while trying to reach his/her goals and his/her ability to develop strategies to re-organize these problems. Coryn et.al. (2009) have determined as a result of corrective factor analysis that their theoretical scale is validated [χ^2= 520.58, *df*= 167, χ^2/*df*= 3.12, AGFI= .90, CFI= 91, GFI= .92, NFI= .90, RMSEA= .06]. They have calculated the Cronbach Alfa coefficients of these sub-dimensions as .69, .80 and .80 for task articulation, peer relations and self-regulation respectively. During the Turkish adaptation of the scale, Totan (2011) has performed the language validity using a bilingual design and has determined relations varying between .51-.79 for Turkish and English forms. Following the corrective factor analysis, the researcher has reported that the original model is validated in the Turkish form as well [χ^2= 487.63, *df*= 167, χ^2/*df*= 2.92, GFI= .92, NFI= .98, CFI= .99, RFI= .99, SRMR= .033, RMSEA= .057]. Totan (2011) has calculated the internal consistency coefficient for task articulation as .82, for peer relations as .88, for self-regulation as .84 and for the total scale as .94 whereas the test-re-test coefficients were calculated to be .80 for task articulation, .78 for peer relations, .96 for self-regulation and .93 for the total scale.

Brief Symptom Inventory (BSI): Prepared by Derogatis (1993) by abridging the 90 item long form. It is a 5-point Likert type scale with 53 items. The scale was adopted into Turkish by Şahin, Durak Batıgün, and Uğurtaş (2002). As a result of their studies, the researchers have determined that the scale consists of 5 factors explaining 32% of the variance. They have named these five sub-dimensions as depression (14 items), anxiety (17 items), negative self-concept (9 items), somatization (7 items) and hostility (4 items). The Cronbach Alfa coefficients were determined to be .88 for depression, .84 for anxiety, .74 for negative self-concept, .70 for somatization, .73 for hostility and .94 for the total.

Personal information form: There are a total of two questions one being a closed ended two-choice question aimed to determine the gender of the participants and the other a closed ended three-choice question aimed to determine the class level of the participants. The research form also contains a briefing form about the study, an e-mail for contacting the researchers and instructions.

Data analysis

Pearson Product Moment Correlation coefficient and multiple linear regression analysis methods have been used for data analysis. The hypothetical criteria were examined prior to the analyses. It was observed that there were no related variables exceeding .90 for multicollinearitiy. The outlier value was determined from the research data by univariate 6 observations, by multivariate Mahalanobis Distance from 5 observations. It was determined that the missing values in the research data do not exceed 5%. A negative linearity was determined between social-emotional learning and mental symptoms when examined using linearity scatter plots. While in binary relations the importance level was determined as .002 by making a Bonferroni correction, the importance level for regression analyses was accepted to be .050 and the analyses were carried out using IBM SPSS PAWS 18 (2009).

RESULTS

Relationship Among Variables

The objective of the study was to examine the protective effect of social and emotional learning needs on mental symptoms. To this end, multiple-linear regression analysis has been used. Prior to the multiple regression analysis, the binary relations between the dependent and independent variables were examined using Pearson Product Moment Correlation coefficients. A Bonferroni correction was made during correlation analysis in order to prevent a type one error. Bonferroni correction factor is calculated by dividing the importance level ($p \leq .05$) by the number of binary relationships between the variables (36 relations) (Green and Salkind, 2009) and a new importance level is thus determined for use in the evaluation of binary relations (.05/36= .002). Results obtained from the correlation analysis carried out by keeping in mind the .002 importance level obtained after correction have been listed in the table below.

Table 1. Relationships between social and emotional learning needs and mental symptoms

	1	2	3	4	5	6	7	8	m	sd.
TA [1]	-								39.94	11.15
PR [2]	.67*								20.26	5.43
SR [3]	.71*	.76*							16.87	5.27
SELT [4]	.82*	.83*	.82*						77.07	12.73
DEP [5]	-.23*	-.31*	-.39*	-.41*					16.65	3.23
ANX [6]	-.10*	-.34*	-.30*	-.35*	.69*				19.36	2.90
NS [7]	-.26*	-.10*	-.23*	-.31*	.65*	.43*			13.28	2.37
SOM [8]	-.19*	-.16*	-.37*	-.39*	69*	.58*	.54*		20.01	3.43
HOS [9]	-.09*	-.13*	-.14*	-.19*	.52*	.50*	.48*	.46*	12.31	2.29

TA: Task articulation, PR: Peer relations, SR: Self-regulation, SELT= Social-emotional learning total,
DEP: Depression, ANX: Anxiety, NS: Negative self-concept, SOM: Somatization, HOS: Hostility
*$p<.002$

As a result of the analyses low and medium negative relationships that can be accepted to be significant were determined between social and emotional learning needs and mental symptoms. According to the results, negative and statistically significant relationships were determined between the social and emotional learning needs of task articulation with depression at a level of -.23 ($r^2= .06$), with anxiety at a level of -.10 ($r^2= .01$), with negative self-concept at a level of -.26 ($r^2= .07$), with somatization at a level of -.19 ($r^2= .04$) and with hostility at a level of -.09 ($r^2= .08$); peer relations with depression at a level of -.31 ($r^2= .10$), with anxiety at a level of -.34 ($r^2= .12$), with negative self-concept at a level of -.10 ($r^2= .01$), with somatization at a level of -.16 ($r^2= .03$) and with hostility at a level of -.13 ($r^2= .02$); self-regulation with depression at a level of -.39 ($r^2= .15$), with anxiety at a level of -.30 ($r^2= .09$), with negative self-concept at a level of -.23 ($r^2= .06$), with somatization at a level of -.37 ($r^2= .14$) and with hostility at a level of -.14 ($r^2= .02$); and lastly social and emotional learning needs with depression at a level of -.41 ($r^2= .17$), with anxiety at a level of -.35 ($r^2= .13$), with negative self-concept at a level of -.31 ($r^2= .10$), with somatization at a level of -.39 ($r^2= .15$) and with hostility at a level of -.19 ($r^2= .04$). In addition, the fields of social and emotional learning needs were determined to be significantly and positively related at a level of between .67-.83 and the mental symptoms were determined to be significantly and positively related at a level of between .43-.69.

Multiple linear regression analyses

After determining the negative and significant relationships between the social and emotional learning needs and mental symptoms in dual relations, multiple linear regression analyses were carried out in

order to determine the level and direction for the prediction of depression, anxiety, negative self-concept, somatization and hostility by the social and emotional learning needs of task articulation, peer relations, self-regulation along with the total social and emotional learning needs as the predictive factors. As a result of the multiple regression analyses, it was observed that when all of the predictive variables are included in the model that task articulation is left out. Hence, task articulation was taken out of the model and the analyses were repeated.

Table 2. Predictive power of social and emotional learning needs for mental symptoms

DV	IDV	Unstandardized coefficients		β	t	p	%95 Confidence Interval	
		B	s.e.				Lower Limit	Upper Limit
DEP	Constant	25.395	1.10		23.022	.000	23.224	27.567
	PR	-.102	.03	-.178	3.137	.002*	-.166	-.038
	SR	-.104	.04	-.175	2.551	.011*	-.184	-.024
	SELT	-.062	.01	-.255	3.830	.000*	-.095	-.030
ANK	Constant	27.217	1.03		26.329	.000	25.182	29.252
	PR	-.139	.03	-.263	4.561	.000*	-.199	-.079
	SR	-.027	.03	-.049	.700	.485	-.102	.048
	SELT	-.058	.01	-.258	3.805	.000*	-.088	-.028
OB	Constant	17.089	.88		19.381	.000	15.353	18.825
	PR	.048	.02	.112	1.838	.067	-.003	.099
	SR	-.042	.03	-.095	1.290	.198	-.106	.022
	SELT	-.052	.01	-.284	3.980	.000*	-.078	-.026
SOM	Constant	27.920	1.20		23.230	.000	25.554	30.286
	PR	-.017	.03	-.028	.484	.628	-.087	.053
	SR	-.129	.04	-.205	2.905	.004*	-.216	-.042
	SELT	-.068	.01	-.262	3.835	.000*	-.103	-.033
HOS	Constant	15.342	.85		17.925	.000	13.657	17.027
	PR	-.034	.02	-.085	1.356	.176	-.084	.015
	SR	-.002	.03	-.005	.061	.952	-.064	.060
	SELT	-.029	.01	-.168	2.275	.024*	-.054	-.004

DV: Dependent variable, INV: Independent variable
PR: Peer relations, SR: Self-regulation, SELT= Social-emotional learning total
DEP: Depression, ANX: Anxiety, NS: Negative self-concept, SOM: Somatization, HOS: Hostility
*$p<.050$

As a result of the multiple linear regression analysis, it was determined that models of depression ($F_{3-275}= 26.599$, $p= .000$), anxiety ($F_{3-275}= 22.321$, $p= .000$), negative self-concept ($F_{3-275}= 11.477$, $p= .000$), somatization ($F_{3-275}= 20.605$, $p= .000$) and hostility ($F_{3-275}= 4.203$, $p= .006$) are significant in the prediction of social and emotional learning needs by mental symptoms. According to the obtained results, the R value of depression was calculated to be .474 ($R^2= .225$), the R value for anxiety was calculated to be .443 ($R^2= .196$), the R value for negative self-concept was calculated to be .404 ($R^2= .163$), the R value for somatization was calculated to be .428 ($R^2= .184$) and the R value for hostility was calculated to be .209 ($R^2= .044$). It was determined that all the unstandardized regression coefficients obtained for the multiple regression analysis models were between the lower and upper limits within a confidence interval of 95%.

When the models tested during multiple linear regression analyses were handled one by one, it was determined that peer relations (β= -.18), self-regulation (β= -.18) and social and emotional learning (β= -.26) were negatively significant predictors of depression. Social and emotional learning is a significant

negative predictor for the negative self-concept (β= -.28). Self-regulation (β= -.21) and social and emotional learning needs (β= -.26) are significant negative predictors for somatization. (β= -.26) Lastly, it was determined that social and emotional learning needs (β= -.17) are significant negative predictors for hostility.

DISCUSSION

Previous studies contain reports regarding a relationship between social and emotional learning and mental health (Payton et.al., 2000; Elias, 2003; Cohen, Onunaku, Clothier, and Poppe, 2005). It has also been concluded in this study that low and medium level negative significant relations exist between social and emotional learning needs and mental symptoms. According to the obtained results it was determined that there are low levels of negative relationships between the social and emotional learning needs of task articulation, peer relations and self-regulation with the mental symptoms of depression, anxiety, negative self-concept, somatization and hostility and that in addition the social and emotional learning needs have a low level relationship with hostility and have acceptable levels of relationships with other mental symptoms. It was also determined via multiple linear regression analyses that peer relations, self-regulation and social and emotional learning needs are significant negative predictors of depression, peer relations and social and emotional learning needs are significant negative predictors of anxiety, social and emotional learning needs are significant negative predictors of negative self-concept and hostility and that self-regulation and social and emotional learning needs are significant negative predictors of somatization.

In a study examining the developmental differences among social and emotional problems between different bullying statuses (O'Brennan, Bradshaw, and Sawyer, 2009), it was determined that bullies/victims have a higher risk of displaying aggressive behavior and social and emotional problems. In addition, while bullying elementary school students display more aggressive behavior; it was determined that bullying high school students repress their problems more. In their studies, Seah and Ang (2008) have determined that reactive aggressiveness is positively and significantly related with weak interpersonal relations. In another study (La Greca and Harrison, 2005), it was determined that adolescents in peer groups have low social anxiety levels and that the adolescents who are subject to bullying have high social anxiety levels. Similarly, it was determined that the depression symptoms of adolescents in peer groups were less and that adolescents who were subject to peer bullying displayed higher levels of depression symptoms.

In a study carried out in Hong Kong on adolescents (Cheng, Cheung, and Cheung, 2008) the relationship between being subject to peer bullying and depression was examined according to gender differences. When the results of the study are examined, a strong relationship was determined among males between depression symptoms and being subject to peer bullying. In a longitudinal study carried out on adolescents (Allen et.al., 2005), it was determined that popularity among peers decreases hostility and predicts the increase of social adaptation. It was determined that social and emotional learning programs implemented at elementary education level increase the social and emotional learning skills of students, their attitudes towards others and themselves, their positive social behavior and academic success; while it decreasing behavior disorders and emotional distress (Payton et.al., 2008). In a study carried out on adolescents who live away from their parents (Luo, Gao, and Zhang, 2011) it was determined that those who establish good relationships with their peers, especially the female students experience lower levels of anxiety and depression. Lin et.al. (2008) have determined in a study they carried out that the decreased satisfaction in peer group and the depression state of adolescents are related.

Whereas in another study (Kocovski and Endler, 2000), it was determined that self-regulation predicts social anxiety. In another study examining the relationships between cognitive self-regulation processes and depression symptoms (Scott et.al., 2008), it was determined that whereas academic self-sufficiency

was positively related with goal orientation, goal importance and goal activation; it was negatively related with depression symptoms.

The decrease of depression and anxiety with increasing peer relations is in accordance with the findings of other studies (Allen et.al., 2007; La Greca and Harrison, 2005; La Greca and Lopez, 1998; Vernberg, Abwender, Ewell, and Berry, 1992; Demir, Baran, and Ulusoy, 2005). It is also reported in many studies that self-regulation is negatively related with depression and somatization (Strauman, 2002; Martin et.al., 1996, Aspinwall and Taylor 1997). In conclusion, explanations regarding the effectiveness of social and emotional learning in the protection of the mental health of students have been validated (Payton et.al., 2000; Elias, 2003; Cohen, Onunaku, Clothier, and Poppe, 2005).

Since social and emotional learning is affective in decreasing the mental symptoms and protecting the mental health of the student, social and emotional learning needs and skills should be taken into account especially in the field of Mental Health and Psychological Guidance. It can be stated that the inclusion of social and emotional learning needs of students in the school guidance services in our country within the framework of preventive guidance, will be effective in the protection of the mental health of students. Lack of peer relations and self-regulation skills may be thought to be the precursors of mental health problems. Hence, it may be useful to determine those with insufficient peer relations and self-regulation skills at schools and plan preventive guidance activities.

REFERENCE

Allen, J. P., Porter, M. R., McFarland, F. C., Marsh, P., & McElhaney, K. B. (2005). The two faces of adolescents' success with peers: Adolescent popularity, social adaptation, and deviant behavior. *Child Development, 76*(3), 747-760.

Allen, J. P. et. al. (2007). The relation of attachment security to adolescents' paternal and peer relationships, Depression and externalizing behavior. *Child Development*, *78*(4), 1222-1239.

Aspinwall, L. G. & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin, 121*(3), 417-436.

Cheng, S. T., Cheung, K. C. C., & Cheung, C. K. (2008). Peer victimization and depression among Hong Kong Adolescents. *Journal of Clinical Psychology, 64*(6), 766-776.

Cohen, J., Onunaku, N., Clothier, S., & Poppe, J. (2005). *Helping young children succeed: Strategies to promote early childhood social and emotional development*. (Research and Policy Report). Washington, D.C.: National Conference of State Legislatures.

Coryn, C. L. S., Spybrook, J. K., Evergreen, S. D. H., & Blinkiewicz, M. V. (2009). Development and evaluation of the Social-Emotional Learning Scale. *Journal of Psychoeducational Assessment*, *27*(3), 283-295.

Derogatis, L. R. (1993). *The Brief Symptom Inventory- BSI administration, scoring, and procedures manual* (4th Edition). Minnesota: National Computer Systems.

Durlak, J. & Weissberg, R. (2010). Social and emotional learning programmes that work. In R. Slavin (Ed.). *Better: Evidence-based education. Social-emotional learning*, *2*(2), 4-5, York: Instute for Effective Education, University of York.

Elias, M. J. (2003). *Academic and social-emotional learning*. Geneva: International Academy of Education and the International Bureau of Education.

Haslam, J. (2010). Bring evidence into the classroom. In R. Slavin (Ed.). *Better: Evidence-based education. Social-emotional learning*, *2*(2), 22-23, York: Institute for Effective Education, University of York.

Illinois Violence Prevention Authority. (2011). *SEL and the Illinois Children's Mental Health Act.* www.ivpa.org

Green, S. B. & Salkind, N. J. (2008). *Using SPSS for Windows and Macintosh. Analyzing and understanding data*. (5th Edition). New Jersey: Pearson, Prentince Hall.

Kabakçı, Ö. M. & Korkut Owen, F. (2010). Sosyal Duygusal Öğrenme Becerileri Ölçeği geliştirme çalışması. [A study of development to Social Emotional Learning Skills Scale]. *Eğitim ve Bilim*, *35*(157), 152-166.

Kocovski, N. L., & Endler, N. S. (2000). Social anxiety, self-regulation, and fear of negative evaluation. *European Journal of Personality, 14*, 347-358.

La Greca, A. M. & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal Of Abnormal Child Psychology*, *26*(2), 83-94.

La Greca, A. M. & Moore Harrison, H. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child & Adolescent Psychology, 34*(1), 49-61.

Lin, H. C., Tang, T. C., Yen, J. Y., Ko, C. H., Huang, C. F., Liu, S. C., & Yen, C. F. (2008). Depression and its association with self-esteem, family, peer and school factors in a population of 9586 adolescents in southern Taiwan. *Psychiatry and Clinical Neurosciences, 62,* 412-420.

Luo, J., Gao, W., & Zhang, J. (2011). The influence of school relationships on anxiety and depression among Chinese adolescents whose parents are absent. *Social Behavior and Personality, 39*(3), 289-298.

Norris, J. A. (2003). Looking at classroom management through a social and emotional learning lens. *Theory Into Practice*, *42*(4), 313-318.

Martin, T. R. et. al. (1996). Personality correlates of depression and health symptoms: A test of a self-regulation model. *Journal of Research in Personality*, *30*(2), 264-277.

O'Brennan, L. M., Bradshaw, C. P., & Sawyer, A. L. (2009). Examining developmental differences in the social-emotional problems among frequent bullies, victims, and bully/victims. *Psychology in the Schools, 46*(2), 100-115.

PAWS (2009). *PASW Statistics 18 core system user's guide*. Chicago, IL: SPSS Inc.

Payton, J. W., Wardlaw, D. M., Graczyk, P. A., Bloodworth, M. R., Tompsett, C. J., & Weissberg, R. P. (2000). Social and emotional learning: A framework for promoting mental health and reducing risk behaviours in children and youth. *Journal of School Health*, *70*(5), 179-185.

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students: Findings from three scientific reviews.* Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.

Scott, W. D., Dearing, E., Reynolds, W. R., Lindsay, J. E., Baird, G. L., & Hamill, S. (2008). Cognitive self-regulation and depression: Examining academic self-efficacy and goal characteristics in youth of a northern plains tribe. *Journal of Research on Adolescence, 18*(2), 379-394.

Seah, S. L. & Ang, R. P. (2008). Differential correlates of reactive and proactive aggression in Asian adolescents: Relations to narcissism, anxiety, schizotypal traits, and peer relations. *Aggressive Behavior, 34,* 553-562.

Strauman, T. J. (2002). Self-regulation and depression. *Self and Identity, 1*(2), 151-157.

Şahin, N. H., Durak Batıgün, A., & Uğurtaş, S. (2002). Kısa Semptom Envanteri (KSE): Ergenler için kullanımının geçerlik, güvenirlik ve faktör yapısı [The validity, reliability and factor structure of the Brief Symptom Inventory (BSI)]. *Türk Psikiyatri Dergisi*, *13*(2), 125-135.

Tabachnick, B. G. & Fidell, L. S. (2007). *Using multivariate statistics* (5th Edition). Boston: Allyn and Bacon.

Totan, T. (2011). Problem çözme becerileri eğitim programının ilköğretim 6. sınıf öğrencilerinin sosyal duygusal öğrnme becerileri üzerine etkisi [The effect of problem solving skills training program on the social and emotional learning abilities of 6th grade students]. Unpublished doctoral dissertation, Dokuz Eylül University, Institute of Educational Sciences, İzmir, Turkey.

Türnüklü, A. (2004). Okullarda sosyal ve duygusal öğrenme [Social and emotional learning in schools]. *Kuram ve Uygulamada Eğitim Yönetimi*, *37*(10), 136-152.

Schonert-Reichl, K. & Hymel, S. (2007). Educating the heart as well as the mind social and emotional learning for school and life success. *Education Canada*, *47*(2), 20-25.

Özcan Demir, N., Görgün Baran, A., & Ulusoy, D. (2005). Türkiye'de ergenlerin arkadaş-akran grupları ile ilişkileri ve sapmış davranışlar: Ankara örneklemi [Relations of adolescents with their peer groups-friends in Ankara and deviated behaviors] *Bilig*, *32*, 83-108.

Vernberg, E. M., Abwender, D. A. Ewell, K. K., & Berry, S. H. (1992). Social anxiety and peer relationships in early adolescence: A prospective analysis. *Journal of Clinical Child & Adolescent Psychology*, *21*(2), 189-196.

Zins, J. E., Elias, M. J., & Greenberg, M. T. (2003). Facilitating success in school and in life through and emotional learning. *Perspectives in Education*, *21*(4), 59-60.

USE OF TECHNOLOGY ASSISTED MATHEMATICS EDUCATION AND ALTERNATIVE MEASUREMENT TOGETHER

İbrahim YILDIRIM[a*]; Server DEMİR[a]

[a]Gaziantep University, Faculty of Education, Gaziantep/Turkey

ABSTRACT

The aim of this study is to figure out student ideas about technology supported instructions and alternative measurement and evaluation could be used together. At this research, 20-hours-technology assisted lessons were processed on the sub-field of Mathematics which is Trigonometry. During technologically designed lessons for 10th grade, some software were appropriately used. In addition to this process, alternative assessment methods were used to evaluate students. After completion of the process, every single participant was interviewed about the process. Descriptive analysis method was used to analyze the interviews. In this study, it was obtained that students' participation to lessons, their interests and their achievement perceptions positively changed; furthermore, in the evaluation process, it was also observed that students think that alternative measurement process better reflects their achievement and they prefer alternative measurement methods over traditional measurement methods. In the consideration of whole study, it was concluded that technology supported instructions and alternative measurement and evaluation process could be effectively used.

Keywords: Technology supported instruction, alternative measurement and evaluation.

INTRODUCTION

It is accepted that developments in information and communication fields will increase incrementally and knowledge will become the most efficient factor shaping the future of humanity (Şataf; 2010:1). The innovations in information and communication technologies have an effect on education as well as other fields. Elementary school environments and school instruments and should keep up with these developments and changes to answer the needs of the age (Erginbaş 2009:1). Various technologies can be used in current education environments. Technologies that may be used in education can be examined under two main titles as hardware and software. Hardware includes computer, graphical calculators, datashow, interactive boards, calculating instruments, digital cameras, scanners, printers, CDs. Software includes computer programmes designed for using in courses (Oldknow&Taylor,2003:2-65).

Developments in information and communication technologies affected Mathematics courses as well as all other courses. Mathematics has always been a field which is difficult both to learn and to teach, the reason of which is the problem of objectifying the abstract units. Mathematics software used in this context is in a constant change and development process. Programmes like Geometer's Sketchpad, Geogebra, Graphic Analysis and different technological instruments are used purposelessly.

As Harris and Hofer (2009) stated, technology integration is a complex, dynamic and slow process. In this process, given the structure of learning environments, technologies should be considered as efficacious instruments and be successfully integrated to education process.

---

* **Co-Author:** iyildirim84@gmail.com

Within the frame of technology aided education; changes are inevitable in programme development process defined (p.105) as overall dynamic relationships between target, content, teaching and learning process and assessment by Demirel (2008). Bayrak and Erden (2007) mentioned about the requirement of carrying out education process with modern learning- teaching approaches, which has emerged worldwide recently, and the necessity to change current education programmes in our country. This state may be accepted for mathematics education, which accepts the same philosophy. Within the scope of this change, some alterations were made on mathematics curriculum in 2005 and a necessity of change in assessment step of the curriculum emerged as in other steps. According to MNE (2004), traditional assessment and evaluation aimed at targets should be replaced with alternative assessment and evaluation aimed at process (qtd. in: Arslan, Kaymakçı and Arslan, 2009).

Alternative assessment instruments are the entire instruments apart from traditional assessment instruments including multiple choice tests. Alternative assessment instrument are capable of assessing more correlated and higher level skills when compared with traditional assessment instruments. According to most defenders of alternative assessment instruments, these instruments give more accurate and valid results. One of the most important positive elements of alternative assessment instruments is that they can assess the process as well as results. Different skills can be assessed by different assessment instruments and students can be motivated better (Bahar, Nartgün, Durmuş and Bıçak, 2009:49).

Even though our country adopts structuring system in education system, in application, traditional methods are still used in learning- teaching process and assessment steps. In this teacher based system, teacher is transferring and student is receiving position. Students were made to believe that mathematics is system of unchanging lines, and to feel obliged to memorize this system (Gelibolu, 2009:1-2). The results of recent studies like Taşlıbeyaz (2010), Turgut (2010), Gelibolu (2009), Şataf (2010) etc. indicated the necessity and benefits of technology aided education. Similarly; various publications like Arslan et al. (2009), Mert (2008), Karahan (2007) etc. stressed the necessity to use alternative assessment instruments. However, there is deficiency of studies including technology assisted education and alternative measurement together. This study is important in harmonizing these two processes, considering education process as a whole.

This study aims to present the views of students about the course in which technology aided mathematics education and alternative assessment instruments were used together.

METHOD

The study is a qualitative research and case study method was used in the study. Case study method enables a more profound examination on exceptions without any need of generalization or proving (Yıldırım and Şimşek, 2008:279-292). The study group of the research consisted of entire students (11 students) of Science Class-A of 10th grade of a high school in Gaziantep province. The study lasted for 20 course hours in second semester of 2009- 2010 School Year.

This study has some constraints because only one learning domain and only one teacher's practices were used in. But; this study's results are important because they are based on in-class observations and video records.

The outputs aimed to be obtained at the end of the research are the acquisitions containing the first 22 hour course of trigonometry sub-learning in "Elementary School (9th, 10th, 11th and 12th grades) Mathematics Course Curriculum (MNE, 2005)" of MNE. However in this research, regulations were made in content, process and assessment steps pursuant to technology aided education. Activities in textbook were sometimes used exactly within the context of content and learning teaching process, sometimes these activities suited to technology aided education through some partial regulations and sometimes new activities were designed. Computer, datashow, interactive board, web connection,

computer programmes (Geometer's Sketchpad, Geogebra, Graphical Analysis, Microsoft Office, Paint, NetOpSchool) technologies were used in giving lectures. In assessment step, alternative assessment instruments were used instead of traditional assessment instruments. During study, computerized diagnostic tree, structured grid, word association test, concept map, project, problem solving exercises, technological assessment instruments were used within the scope of alternative assessment instruments.

Data collection tool of the study was the interviews with the students conducted at the end of the process. Interviews were made separately with each student after the course period was completed. The outline of the questions directed to students is as follows:

- What is the difference of the mathematics course taught normally in class with the mathematic course aided with technology and alternative assessment in the context of your interest and participation in the course, your feelings about the course, comprehension level, your success level and capacity to memorize of what you learnt?

- Which assessment type do you think would demonstrate your success, only single exam at the end of 20 hour course or alternative assessment instruments applied throughout process?

In the first question, the opinions and perceptions of students about class environment where technology aided education and alternative assessment were jointly used was presented, and in the second question eagerness of students to be subjected to alternative assessment was aimed be demonstrated.

The interviews were videotaped. Afterwards video tapes were written out. Written data were evaluated with descriptive analysis and coded. The codes were reciprocally controlled by researchers and concurrent validity in codes was determined 85%. The codes belonging to the part of the interviews about class environment where technology aided education and alternative assessment were jointly used were divided into four main topic as positive interest for the course, participation, effect to learning and success perception. The topic of "positive interest for the course" covers the sentences regarding the interests and senses of students for the course. In this topic, positive interest, exciting and entertaining codes were included. "Participation" topic covers sentences regarding participation and being active in class and attending to course in general. In this topic, participation, activeness and interest codes were used. The topic of "effect to learning" covers the sentences regarding the effects of technology aided education to the learning process of students. In this topic, enduring, better understanding, learning assistant, better solving questions, efficient, focusing and skill developer codes were used. "Success perception" topic covers sentences regarding how students perceived their successes in technology aided environment. The codes belonging to the part of interviews regarding alternative assessment instruments were divided into three main topics as reflecting success, preference and causing to be preference. The topic of "reflecting success" covers the sentences regarding whether traditional assessment instruments or alternative assessment instruments reflects the successes of students. "Preference" topic covers the sentences regarding whether students prefers traditional assessment instruments or alternative assessment instruments to evaluate their success. The topic of "causing to be preference" covers sentences regarding the reasons of students' preference of assessment method.

Codes and tables regarding each student's opinions were created.

The first topic was determined to be "Positive interest for course". This topic included sentences and codes regarding interests and senses of students about course. This topic was mentioned 24 times by 10 students under the codes as positive interest, exciting, entertaining and different. Students demonstrated their interest for the course with sentences like *I look forward to the day of the course"*.

The second topic was determined as "Participation". This topic included sentences and codes regarding participation in the class, being active during the course and attending to the course in general. This topic was mentioned 12 times by 9 students under the codes as participation, activeness and eagerness. Students demonstrated their participation with sentences like "*The course was lectured so well and I wanted to take all courses*".

The third topic was determined as "Effect to learning". This topic included sentences and codes regarding the effect of technology aided education to the learning of students. This topic was mentioned 22 times by 11 students under the codes as better understanding, faster understanding, learning assistant, better solving questions, efficient, focusing and skill developer. Students demonstrated the effect of technology aided education to their learning with sentences like "*At first I was nervous that the notes on computer would not be enduring as previously we had been writing them on our notebooks. Bu after taking notes on computer, I open them and say to myself that mmm… I remember this one, and this one, too. So I think that this is more enduring and permanent.*"

Table 1. Analysis results of 1.2.3.4. students' interviews

	Student 1	*Student 2*	*Student 3*	*Student 4*
Class Environment Where Technology Aided Mathematics Education and Alternative Assessment Instruments Were Jointly Used				
Positive Interest for Course	**Positive interest** (We studied.) (I felt before the course that this course would be good)	**Positive interest** (I became more interested) (It became more interesting for me for example mathematics.) (I wish all other courses was like this)	**Entertaining** (It becomes more entertaining.) (I enjoyed more) (It is more pleasing in my opinion.)	**Positive interest** (My interest increased.) **Different** (It was very different**.**)
Participation	**Participation** (The participation in computer courses was good) **Wish** (I attended on my own wish.)	**Participation** (The course was going well and I wanted to attend all courses.) **Wish** (I wished to attend all courses.)		
Effect to Learning	**Better Understanding** (I began to solve problems after becoming to use computer and smart board. I became to better understand questions.)	**Enduring** (At first I was nervous that the notes on computer would not be enduring as previously we had been writing them on our notebooks. Bu after taking notes on computer, I open them and say to myself that mmm… I remember this one, and this one, too. So I think that this is more enduring and permanent.)	**Enduring** (As they are on computer, they are permanent.) **Efficient** (It is more efficient as we see all details.)	**Enduring** (They are more permanent.) **Focusing** (I try to be more careful in all subjects.) **Skill Developer** (It developed my skill)

		Better solving question (I can solve questions better.)		
Success Perception	**Success Perception** (This study increased my success 90%.)	**Success Perception** (My success increased to 100% from 50%)	**Success Perception** (My success increased to 95% from 70%)	**Success Perception** (My success increased to 100% from 10%)

Alternative assessment and evaluation

Reflecting Success	**Doubtful**	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**
Preference	**Doubtful**	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**
Preference Reason	(I would like to be graded by the average of my studies in class- I can be successful in single exam)	(I don't think the problem is the exam, you become **excited** as you take only one exam and your success in dependent on it.)	(I may fail in some part of written exam, for example **there might be a situation in that time**, psychologically maybe) (It was **difficult** to have one week after 20 hour course, **in total**. However, it is more **practical** to have an exam from a topic you are continuously lectured.)	

Table 2. Analysis results of 5.6.7.8. students' interviews

	Student 5	Student 6	Student 7	Student 8
Class Environment Where Technology Aided Mathematics Education and Alternative Assessment Instruments Were Jointly Used				
Positive Interest for Course		**Positive Interest** (I willingly attend the course, I began to do homework) **Exciting** (I attend the course excitingly.)	**Positive Interest** (I feel very good)	**Positive Interest** (It attracted my interest.) (It helped me love this course.)
Participation	**Wish** (I want to take this course on computer)	**Participation** (I participate in the course. I began to do homework, I began to solve questions you gave)	**Activeness** (I am more active)	**Participation** (I try to participate more.)
Effect to Learning	**Enduring** (Graphics, procedures are enduring.) **Better understanding** (I understood lessons better) **Faster Understanding** (I understood faster.)	**Enduring** (They can be remembered easily.)	**Enduring** (We lecture our course on computer and it is enduring.) (I understand very well.) **Better understanding** (I clearly understood.) (I understood better.)	**Learning assistant** (It helped me understand better.)
Success Perception	**Success Perception** (My success increased to 100% from below 50%)	**Success Perception** (My success increased to 50-75% from 10-15%)	**Success Perception** (My success increased to 100% from 50%)	**Success Perception** (My success increased to 100% from 50%)
Alternative assessment and evaluation				
Reflecting Success	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**
Preference	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**
Preference Reason		(I became **more successful** in alternative assessment.)	(We spare **more time** to alternative assessment.)	

Table 3. Analysis results of 9.10.11students' interviews

	Student 9	*Student 10*	*Student 11*
Class Environment Where Technology Aided Mathematics Education and Alternative Assessment Instruments Were Jointly Used			
Positive Interest for Course	**Positive Interest** (I looked forward to the day of the course.) (I became happy.) (I became happy as the course was mathematics.)	**Positive Interest** (There are a lot of differences.)	**Positive Interest** (This was a little different.) (I loved this course.) (I was affected much because for the first time we lectured the course on smart board.)
Participation	**Participation** (My participation level changed) (We came to class earlier.)	**Wish** (I was very eager.)	**Participation** (My participation is better in computer classes.)
Effect to Learning	**Enduring** (It stays in my mind longer.)	**Enduring** (It is very enduring.) (It stays here longer.) (It becomes more enduring.)	**Enduring** (The questions I solved is still in my mind.)
Success Perception	**Success Perception** (My success increased to 100% from 50%)	**Success Perception** (My success increased to 100% from 50%)	**Success Perception** (My success increased to 90% from 50%)
Alternative assessment and evaluation			
Reflecting Success	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**	**Alternative assessment and evaluation reflects my success better.**
Preference	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**	**Alternative assessment and evaluation**
Preference Reason	(I believe I will be **more successful** in this.)	(It is **better** than the studies here.)	(This type is better. I would be preferred **to be graded by only single exam**.) (We study and we remember. **We cannot remember in written exam**.)

The seventh topic was determined as "Preference reason". This topic covers the codes regarding the reasons why students preferred assessment and evaluation method. In this topic, 8 students stated their opinions 10 times. Three students stated that they preferred alternative assessment as they thought they were more successful according to its results. One student preferred it as he did not wanted to be graded from one single exam, one student as the state of the student affected the results in single exam, one student as he could not remember the answers during written exam, and another student as he became excited when his success was dependent on one single exam. While one student mentioned about the difficultness of single exam and practicality of alternative assessment, another student stressed that they had more time alternative assessment. One student also demonstrated his doubtfulness with his two opposite opinion by stating that he would prefer single exam but he would prefer to be graded by alternative assessment methods.

RESULTS AND DISCUSSION

Many of the studies showed that use of technology significantly enhances students' achievement and attitude (Gelibolu, 2009; Phonguttha, Tayraukham and Nuangchalerm, 2009). In addition, studies showed that use of alternative measurement tools demonstrate students' achievement more correctly (Mert, 2008; Stears and Gopal, 2010).

The literature of the field has some problems in using technology and alternative assessment instruments in learning- teaching processes (Hughes, 2005; Janisch, Liu and Akrofi, 2007). The use of both factors was expected with the change of education (MNE, 2005). Various studies demonstrated some negativeness like time inadequacy in using two factors jointly (Janisch, Liu and Akrofi, 2007; Taşlıbeyaz, 2010). Both variables can be used efficiently with a good planning in education processes. Also, positive opinions of learners about this issue may be a proof of joint usability of technology and alternative assessment instruments.

The results of the study are as follows:
- An increase in the interests of students for course, their participation and their success perception for the course was observed,
- Technology aided education affected learning positively,
- Better and faster learning was observed in technology aided environment and what was learnt was more enduring,
- Students thought that alternative assessment instruments reflected their success better,
- Students preferred alternative assessment instruments instead of traditional ones in grading their success,
- What lied beneath the reasons why students preferred alternative assessment instead of traditional one was that alternative assessment was more practical, stress- free; it enabled separate evaluation not from the whole; it gave more time; had not a negative structure that made them forget what they knew,
- Technology aided education and alternative assessment and evaluation can jointly be used in mathematics education.

REFERENCE

Arslan, A.S., Kaymakçı Y.D. & Arslan S. (2009). Alternatif Ölçme-Değerlendirme Etkinliklerinde Karşılaşılan Problemler: Fen Ve Teknoloji Öğretmenleri Örneği. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi,* (23):1-2.

Bahar, M., Nartgün, Z., Durmuş, S. & Bıçak, B. (2009). *Geleneksel Tamamlayıcı Ölçme ve Değerlendireme Teknikleri.* 3. Press, Pegem Akademi, Ankara, pp.13-142.

Bayrak, B., & Erden, A.M. (2007). Fen bilgisi öğretim programının değerlendirilmesi. *Kastamonu Eğitim Dergisi*, 15(1), 137-154.

Demirel Ö. (2008). *Kuramdan Uygulamaya Eğitimde Program Geliştirme*. 11. Press, Pegem Akademi, Ankara, p.105.

Erginbaş, E. (2009). *Teknoloji Destekli Matematik Öğretiminin Sınıf Yönetiminin Öğrenci Özellikleri Açısından Etkililiği*. (Unpublished Master Thesis). Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü, Isparta,

Gelibolu M.F. (2009). *Gerçekçi Matematik Eğitimi Yaklaşımıyla Geliştirilen Bilgisayar Destekli Mantık Öğretimi Materyallerinin 9.Sınıf Matematik Dersinde Uygulanmasının Değerlendirilmesi*. (Unpublished Master Thesis). Ege Üniversitesi Fen Bilimleri Enstitüsü, İzmir.

Harris, J., & Hofer, M. (2009). Instructional Planning Activity Types as Vehicles for Curriculum-Based TPACK Development. *Proceedings of Society for Information Technology and Teacher Education International Conference* 2009. s. 4087-4088. Chesapeake, VA: AACE.

Hughes, J. (2005). The Role of teacher knowledge and learning experience in forming technology-integrated pedagogy. *Journal of Technology and Teacher Education*, 13(2):284-302.

Janisch, C., Liu, X. & Akrofi, A. (2007). Implementing Alternative Assessment: Opportunities and Obstacles. *The Educational Forum* ,Volume 71:221-230.

Karahan, U.(2007). *Alternatif Ölçme Ve Değerlendirme Metodlarından Grid, Tanılayıcı Dallanmış Ağaç Ve Kavram Haritaları'nın Biyoloji Öğretiminde Uygulanması*. (Unpublished Master Thesis). Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara,

Mert, V. (2008). *Enerji Konusunda Alternatif Ölçme Araçlarının Geliştirilmesi*. (Unpublished Master Thesis). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

MNE, (2004). *İlköğretim fen ve teknoloji dersi (4-5. sınıflar) öğretim programı*. Ankara: Devlet Kitapları Müdürlüğü Basımevi.

MNE, (2005). *Talim Terbiye Kurulu Başkanlığı Ortaöğretim Matematik Dersi Öğretim Programı*, Mirasyedioğlu, Ş. (Kom. Başk.), Ankara, pp.1-312.

Oldknow A. & Taylor, R. (2003). *Teaching Mathematics Using İnformation and Communications Technology*. 2nd edition, Continuum, London, pp.2-65.

Phonguttha, R., Tayraukham, S., & Nuangchalerm, P. (2009). Comparisons of Mathematics Achievement, Attitude towards Mathematics and Analytical Thinking between Using the Geometer's Sketchpad Program as Media and Conventional Learning Activities. *Australian Journal of Basic and Applied Sciences, 3*(3), 3036-3039.

Stears M. & Gopal N. (2010). Exploring alternative assessment strategies in science classrooms. *South African Journal of Education*. Vol 30:591-604.

Şataf, H.A. (2010). Bilgisayar Destekli Matematik Öğretiminin İlköğretim 8.Sınıf Öğrencilerinin "Dönüşüm Geometrisi" Ve "Üçgenler" Alt Öğrenme Alanındaki Başarısı Ve Tutuma Etkisi (Isparta Örneği). (Unpublished Master Thesis).Sakarya Üniversitesi. Sosyal Bilimler Enstitüsü. Sakarya

Taşlıbeyaz, E. (2010). Ortaöğretim Öğrencilerinin Bilgisayar Destekli Matematik Öğretiminde Matematik Algılarına Yönelik Durum Çalışması: Lise 3.Sınıf Uygulaması. (Unpublished Master Thesis). Atatürk Üniversitesi Fen Bilimleri Enstitüsü, Erzurum.

Turgut, M. (2010). Teknoloji Destekli Lineer Cebir Öğretiminin İlköğretim Matematik Öğretmen Adaylarının Uzamsal Yeteneklerine Etkisi. (Unpublished doctoral dissertation), Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Yıldırım A. & Şimşek H. (2008). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri*. 6. Press, Seçkin Yayıncılık, Ankara, pp.119-120.

THE RELATIONSHIP OF ORGANIZATIONAL CORRUPTION WITH ORGANIZATIONAL DISSENT AND WHISTLEBLOWING IN TURKISH SCHOOLS

Murat ÖZDEMİR[a*]

[a]Çankırı Karatekin University, Faculty of Art, Çankırı/Turkey

ABSTRACT

The objective of this study was to analyze the relationship between organizational corruption, organizational dissent and whistle-blowing in schools. 193 teachers, who worked at primary and secondary schools in Turkey, participated in the study. Measures of organizational corruption, organizational dissent, and whistle-blowing were used. Data were analyzed with correlation and regression analysis. Findings revealed that there was a positive and significant relationship between organizational corruption, organizational dissent and whistle-blowing and that organizational corruption predicted organizational dissent and whistle-blowing. The results suggest that organizational dissent and whistle-blowing are two main techniques that teachers use to resist organizational corruption in schools.

Keywords: Organizational corruption, organizational dissent, whistle-blowing.

INTRODUCTION

Studies on organizational corruption have expanded at an astonishing rate in recent years due to the growing number of scandals both in public and private sector organizations (Kayes 2006). In fact, there are over 22 million web-pages related to organizational corruption on the Internet and this number increases daily. Likewise the 2010 Corruption Perception Index (CPI) published by Transparency International (TI), which rates companies from highly clean (10) to highly corrupt (0), shows that nearly three quarters of the 178 countries in the index score below five. The results clearly reflect the seriousness of the problem. But, the debate on corruption is not new. Indeed, corruption has been pervasive in almost all states throughout history. For example Kautilya, a famous Indian political philosopher, discussed the principles of governing the state and included the problems of corruption in a manifesto entitled *Arthashastra* (Science of Polity) in the fourth century B.C. (Aguilera & Vadera 2008). The problem of corruptive behaviors of public servants forced administrators to take various actions to prevent corruption in Athens and Susa city-states (Hanbury 2004). Apparently, corruptive behaviors were common among public administrators and public servants in ancient Rome and Babylon (Palmier 1983). Others have argued that giving and taking bribes in public administration and in adjudication was one of the determinant causes of the collapse of the Ottoman Empire (Mumcu 1969), where it was illegal to offer a bribes to public officials and for public officials to accept bribes (Çadırcı 1997, p. 123).

Based on historical precedent, one can assume that corruption continues to be pervasive in contemporary organizations including public schools. But, with a few exceptions (e.g. Waite & Allen 2003; Heyneman 2004; Rodal & Mendoza 2004) corruption has received very little focused attention in the education literature despite the increasing interest afforded to corruption in other disciplines. For example, sociological and political works on corruption have increased in recent years (Wilson 1966; Peters & Welch 1980; Johnston 1986; Fackler & Tin 1995; Welch & Hibbing 1997; Seligson 2002; Alt & Lassen 2003; Anderson & Tverdova 2003; Warren 2004; Redlawsk & McCann 2005). Corruption has also

---

received considerable attention from researchers who study management and organizational practices (e.g., Caiden & Caiden 1977; Berkman 1983, 1992; Werner 1983; Stapenhurst & Langseth 1997; Davis 2004; Johnson & Sharma 2004) as well as psychologists (e.g., Darley 2005). This does not mean that corruption has received no attention in education. It is possible to locate several studies dealing with the corruption in educational organizations. But in these cases it seems to be a by-product rather than a focus of the study (e.g. McCluskey 2005; Hallak & Poisson 2007).

Hence, there is a greater need to focus on how corruption in educational settings relates to other workplace behaviors. Two such behaviors are organizational dissent and whistle blowing. Indeed, studies on the functions of organizational dissent and whistle-blowing indicated that both variables play a crucial role in the fight against corruption in organizations (e.g. Keenan 2000; De Maria 2008; Uys 2008; Mansbach & Bachner 2010). In addition, other studies have revealed that whistle blowing reduced the rates of unethical behaviors in organizations, including fraud and misconduct (Eaton & Akers 2007; Pascoe & Welsh 2011). There also is empirical evidence demonstrating a clear relationship between whistle blowing and corruption in public sector organizations in South Africa (Mbatha 2005). Miethe and Rothschild (1994) suggested that whistle blowing might help detect and control organizational misconduct. Similar findings can also be seen in organizational dissent literature, with several researchers claiming that organizations can benefit from the type of corrective feedback that dissenting employees provide (Hegstrom 1995; Kassing 2006; Redding 1985). So, previous literature indicates that organizational corruption ought to relate to organizational dissent and whistle blowing. In particular, whistle blowing and organizational dissent may be potential factors that reduce the rate of organizational corruption within organizations. However, the relationship between these variables has yet to be examined in detail in the educational context. There are few studies dealing with teachers' dissent (Zoraloğlu et al., 2004) and whistle blowing in educational institutions (Vinten 1999). Yet, these studies do not directly focus on the relationships between organizational corruption, organizational dissent and whistle blowing in schools. Therefore, currently we do not know how organizational corruption relates to organizational dissent and whistle-blowing in the educational context.

Organizational Corruption

Corruption has been evaluated as "a complex and multifaceted phenomenon with multiple causes and effects, occurring as it takes on various forms and functions in differing contexts" (Luo 2004, p. 121). Doig and Theobald (2000, p. 6) define corruption as "the public official, appointed or elected, who uses his/her authority illegitimately or illegally to advance his/her own interests". There are two different types of corruption in social life. The first type consists of giving bribes or gifts to public servants for specific purposes by some individuals or organizations. The second type includes civil servants demanding bribes from individuals or organizations (Klitgaard 1998). Johnston (1994) mentions that both forms of corruption are dangerous, illegal, unethical and illegitimate for developing and developed societies and economies. Additional corruption definitions exist outside the public arena. For example, Argondona (2003, p. 255) suggests that corruption occurs "when a manger or employee exercises a certain power or influence over the performance of a function, task or responsibility within a private organization or corporation."

In terms of the scope of the present study, the definitions of corruption mentioned above are too broad, as a more precise definition of organizational corruption is warranted. Sayed and Bruce (1998) define organizational corruption as "any illegal conduct or misconduct involving the use occupational power for personal, group or organizational gain". However, Waite and Allen (2003) claim that organizational corruption is related to culture. Hence, Waite and Allen think that it is more than financial benefit. Therefore other benefits can come into play, like social acceptance and maintaining positive relationships with corrupt managers. Waite and Allen (2003) also argue that organizational corruption consists of abusing of position or public power for individual, collective or organizational benefit. This form of

culture is defined as the "culture of corruption" by Schein (1985). For example, a teacher who thinks that 'going to class on time' is an ethical principle and responsibility may adopt a 'going to class late' orientation if the principle of 'going to class on time' is not being embraced in his or her school (Balcı et. *al.,* 2009).

Schools could be the place for corruptive behaviors enacted by school administrators and teachers. Because of their position, school administrators and teachers hold and use public power (Balcı et. *al.,* 2009). Hence, it is possible that that organizational corruption may be common among school administrators and teachers (Tanaka 2001). Some common corrupt behaviors in school settings include getting presents from students in exchange for good grades, giving grades based on students' race, culture, or social class, forcing students to adopt the teacher's values, disclosing private information about students, abusing students sexually or discriminating against them in some way, making students buy certain publisher's books or the teacher's own materials, using the school's materials for one's personal gain, and ignoring colleagues' troubling behaviors (Heyneman 2004).

In sum, based on the literature, organizational corruption in educational arena could be defined as the school administrators and teachers working in public or private educational institutions use of their occupational power to gain financial or social benefits, as well as their efforts to treat their co-workers or students in a despotic, unfair, and unjust manner.

Organizational Dissent

Organizational dissent has been studied comprehensively in recent years (e.g. Kassing 1997, 1998). It has two parts; one of which is to feel distanced from one's organization and the other is to determine how best to communicate disagreement about organizational policies and practices (Kassing & DiCioccio 2004; Redding 1985). Organizational dissent results from dissatisfaction with current practices and entails advocating practices that differ from the organizational status quo. Graham (1986) considers dissent as a principled action and argues that some employees in the workplace protest and attempt to change the organizational status quo because of their conscientious objection to current policy or practice. Therefore, dissent requires open protest and voicing objection, becomes inherently adversarial, and predominantly involves issues of principle (Kassing 1997). Hence, dissent can be defined as a "particular form of employee voice that involves the expression of disagreement or contradictory opinions about organizational practices and policies" (Kassing 2002, p. 189). There are several organizational events that trigger the organizational dissent. The most common ones are employee treatment, organizational change, decision making, inefficiency, role-responsibility, resources, ethics, performance evaluation and preventing harm (Kassing & Armstrong 2002). Nevertheless these events alone are not enough for workers to express their contradictory opinions to management. Graham (1986, p. 34, *cited in* Kassing 2002) argues that once the worker becomes aware of the contradictory opinions, "he or she weighs the perceived seriousness of the issue, the degree of personal responsibility tied to the issue, and his or her possession of the necessary skills and resources to act."

The studies on organizational dissent show that there are several ways of expressing dissent. Kassing (1998) conceptualized the expression of organizational dissent as articulated, latent or displaced. Articulated dissent involves "expressing dissent openly and clearly within organizations to audiences that can effectively influence organizational adjustment". Latent dissent occurs when employees want to express their opinions but lack sufficient avenues to effectively express themselves. So, they become frustrated and resort to expressing their contradictory opinions and disagreements aggressively to ineffectual audiences across organizations. Displaced dissent "entails disagreeing without confronting or challenging and involves expressing dissent to some external audiences (e. g., non-work friends, spouses or partners, strangers, and family members) but not the media or political sources sought by whistle-blowers" (Kassing & Avtgis 1999, p. 103).

Studies concentrating on organizational dissent indicate that employees choose to express articulated dissent when they possess lower levels of verbal aggressiveness, have an internal locus of control, communicate effectively with their managers, hold higher positions in the organizational hierarchy, and have comparatively higher degrees of self-efficacy and job satisfaction (Kassing 1998; Kassing & Avtgis 1999, 2001; Kassing 2000; Kassing & Armstrong 2001). Other studies have found that a high correlation exists between articulated dissent and job security and between articulated dissent and greater prospects for alternative jobs (Cannings 1992; Farrell and Rusbult 1992). Organizational identification (Kassing 2000), work experience (Kassing & DiDicoccio 2004), organizational self-respect (Payne 2007), organizational burnout syndrome (Avtgis and et *al.* 2007), organizational communication (Sprague & Ruud 1998) and organizational justice (Kassing & McDowel 2008; Goodboy & et *al.* 2008) have also been found to be correlated with the organizational dissent expression. Studies on the consequences of the dissent propose that dissenters can be punished or reinforced depending on the organizational climate (Graham 1986; Hegstrom 1990). It must be mentioned here that the possible effects of the dissent on the dissenters as an agent or on the whole organization are not known comprehensively, yet.

Whistle-Blowing

Whistle-blowing is also one of the most comprehensively examined organizational processes in past few decades (e.g. Truelson 1989). It is defined as "unauthorized disclosure of organizational wrongdoing to those who are perceived to be in a position to take action" (Uys 2008, p. 904). As an organizational process, it involves at least four elements: the whistle-blower, the complaint, the party to whom the complaint is made, and the public organization against which the complaint is lodged (Near & Miceli 1985). Whistle-blowing can take two forms which include 'internal whistle-blowing' and 'external whistle-blowing'. While internal whistle-blowing consists of reporting to superiors inside organizations, external whistle-blowing includes disclosing wrongdoing outside organizations to the media, lobby groups, public authorities and regulators (Dworkin & Baucus 1998). Studies indicate that whistle-blowing involves basically the expression of dissent to external audiences (Dozier & Miceli 1985; Near & Jensen 1983). It was found that employees either blow the whistle overtly (his/her identity is known to the public) or covertly (his/her identity is not known to public). Some whistle-blowers commonly use hidden letters, telephone conversations, faxes or e-mail to express their critical opinions (Aktan 2006). Studies on whistle-blowing within administration literature usually take two different approaches. The first approach focuses on how whistle-blowing can enrich the ethical life of organizations (e.g. Brooks 1993; Miceli & Near 1994). The second approach involves examining the influence of whistle-blowing on fraud. For example, major determinants of whistle-blowing on less serious fraud were identified in several studies (e.g. Keenan 2000). In addition, other studies also revealed that whistle blowing decreased fraud in organizations (Eaton & Akers 2007; Pascoe & Welsh 2011).

As a conclusion, it can be said that organizational corruption might be related with organizational dissent and whistle-blowing. The basic assumption of the present study is that the more corruption that employees perceive to be occurring in their organizations the more likely they will be to express dissent and whistle-blowing within their organizations. As it was mentioned before, schools are the contemporary organizations where corruption, dissent and whistle-blowing may exist together. This research was carried out in schools. A study on teachers would provide considerable data about the prevalence of corruption, dissent and whistle-blowing. In addition, with the current study it was expected that the data would reveal the magnitude of relationships between corruption, dissent and whistle-blowing. The present research thus empirically examines the relationship between organizational dissent, whistle-blowing and organizational corruption in schools. To explore these relationships, two research questions are posed.

RQ_1: Is there a significant relation between organizational corruption, organizational dissent and whistle-blowing in schools?

RQ$_2$: To what extent is the variation in organizational dissent and whistle-blowing explained by organizational corruption in schools?

METHOD

Sample

A sample of one hundred and ninety-three (*N* = 193) teachers participated in this study. Respondents worked for a variety of schools in Ankara and İzmir in Turkey. Approximately 78% of the sample was female and 22% male. The ages of the teachers participating in this study were as follows: 59 participants were between 25-30, 57 between 31-35, 41 between 36-40, 18 between 41-45, and 18 were over 46. About 90% of the participants have bachelor of arts/science degrees and 10% have master degrees. Approximately 78% of the sample was married and 22% was single. Job tenure of teachers taking part in this study ranged from 1 year to 25 year (1-5 year was 31; 6-10 year was 78; 11-15 year was 52; 16-20 year was 13; and 21-25 years was 19).

Instrumentation

Three survey scales were used in the study. Organizational corruption perceptions of the participants were measured using the instrument designed by Balcı and *et al.* (2009). The Scale for Organizational Corruption consisted of 22 items. Example items include: "Administrators use their occupational power for personal gain at this school" and "administrators discriminate against teachers and students according to their ethnicity at this school". Respondents were asked to indicate their opinions on a 5-point scale (1 = completely disagree to 5 = completely agree). The scale has one single factor which explained 49% of the variance. Alpha value was .95 and item-total correlations ranges between .94, 1 and .94, 4. In addition, KMO value was calculated as .88 and it was seen that Bartlett value was significant (p< .05).

Whistle-blowing was measured using the instrument designed by Özdemir (2010), which includes 5 items. Examples of the items include: "I report organizational wrongdoing at this school to the media"; "I report organizational wrongdoing at this school to non-governmental organizations, such as teachers unions". Respondents were asked to indicate their opinions on a 5-point scale (1 = completely disagree to 5 = completely agree). The total variation explained by the single-factor scale was 60%, with an alpha value of.87 and item-total correlations ranges between .73, 6 and .78, 7. In process of developing the scale, KMO value was calculated as .81 and also it was seen that Bartlett value was significant (p< .05).

Organizational dissent was measured using the instrument designed by Özdemir (2010). The procedure followed while developing the scales is as following; firstly the researcher has prepared an item pool for the scale based on the conceptual basis and the related studies (Kassing, 1997, 1998). Then 15 experts in the field of management and organization were asked to examine the item pool for content validity. Finally, draft form was composed of 12 items. 104 high school teachers participated in the pre-application studies. Respondents were asked to indicate their opinions on a 5-point scale (1 = completely disagree to 5 = completely agree). One of the example items for this instrument was "I object to my superiors directly when I disagree with them". Total variance explained by the scale was 54%; item-total correlations ranged between .34 and .62; Cronbach alpha coefficient was .85. In addition, KMO value was calculated as .85 and it was seen that Bartlett value was significant (p< .05).

Statistical Analysis

Pearson r was used for the analysis of the first research question and simple regression was used for the analyzing the second research question.

RESULTS

Pearson correlation statistics were computed to see if significant relationships existed between the variables of interest. Descriptive statistics including the arithmetic means (M) and standard deviations (SD) for the all scales as well as and the correlation coefficients between the variables are presented in Table 1.

Table 1. Means, standard deviations and correlations between variables

Variables	M	SD	1	2	3
1. Organizational corruption	50.59	18.10	1**		
2. Organizational dissent	39.41	10.18	.45**	1**	
3. Whistle blowing	9.35	4.06	.30**	.72**	1**

Note: **Correlation is significant at $p < .01$

As seen in Table 1, there is a moderate relationship (.45) between organizational corruption and organizational dissent. There is also a moderate relationship (.30) between organizational corruption and whistle blowing. Considering the results obtained, the dependent variable of organizational dissent has the highest degree of relationship with the independent variable of organizational corruption. Considering the second research question involved the use of simple regressions. The results of which appear in Table 2 and 3.

Table 2. Results of regression analysis to predict organizational dissent

Variable	β	T	p
Constant		13.41	.000
Corruption	.252	6.82	.000

R = .45 R^2 = .20 $F_{(1-191)}$ = 46.54   p = .000

As seen in Table 2, the independent variable organizational corruption explains 20% of the variance in organizational dissent. Considering standard regression coefficients, this result indicates that organizational corruption is a significant predictor of organizational dissent.

Table 3. Results of regression analysis to predict whistle blowing

Variable	β	T	p
Constant		6.98	.000
Corruption	.068	4.32	.000

R = .30 R^2 = .09 $F_{(1-191)}$ = 18.72   p = .000

As seen in Table 3, the independent variable organizational corruption explains 9% of the variance in whistle blowing. Considering standard regression coefficients, this result indicates that organizational corruption is a significant predictor of whistle blowing. Hence, these all findings clearly imply that organizational corruption predicts organizational dissent and whistle blowing to some degree in schools.

DISCUSSION AND CONCLUSION

The results of this study suggest that (a) organizational corruption exists in Turkish schools to some degree according to the views of teachers who participated in the survey, (b) corruption in schools is correlated with dissent and whistle blowing and, (c) corrupt practices or behaviors within an organization predict organizational dissent and whistle blowing. These results are consistent with the previous literature that suggests that whistle blowing and organizational dissent are related variables with unethical

organizational practices within the organization (Eaton & Akers 2007; Kassing 2006; Miethe & Rothschild 1994; Pascoe & Welsh 2011). As it can be appreciated, corruption in organizations is a form of unethical conduct. The present study reveals that some organizational members resist unethical conduct including corruption within their organizations by expressing dissent and practicing whistle blowing. Indeed, some researchers argue that whistle blowing plays a crucial role in the fight against corruption in organizations (e.g. Keenan 2000; De Maria 2008; Uys 2008; Mansbach & Bachner 2010). So, the present research has supported this argument. In addition, Zoraloğlu *et al.* (2004) found that some teachers resisted various school policies including unethical behaviors of school administrators.

This study is also consistent with the literature indicating that whistle-blowing might enrich the ethical life of organizations (e. g. Brooks 1993; Miceli & Near 1994). In fact, the present study shows that the resistance mechanisms including whistle blowing and dissent are triggered by corruptive behaviors in organizations. Keenan (2000) showed that there is a negative relationship between whistle blowing and fraud. In other words, as the occurrence of whistle blowing increases some unethical conduct including fraud decreases. The findings of this study are consistent with earlier findings, indicating that dissent and whistle blowing can play a crucial role in fighting against corruption in schools. The reason why some teachers resist corruption can be explained with the concept of organizational citizenship which is defined as 'psychological attachment of organization members to their organizations' (O'Reilly and Chatman 1986). The workers who have high degrees of attachment to their organization might be expected to resist all kinds of unethical practices within organizations including corruption.

LIMITATION AND IMPLICATION

Although the current study carried out in Turkish schools and produced some interesting results, some of its limitations must be mentioned. First, because the focus of the study was to analyze the relationships between various variables, the sample size was restricted with a relatively small group (N=193). In further research, it is suggested that it would be useful to study larger groups in order to strengthen the possibility of generalizing the findings. Indeed, it would be interesting to examine corruption and dissent at different school levels, such as primary schools and secondary schools. It would also be interesting to see whether public or private teachers react in similar ways. In addition, more than ¾ of the respondents were women teachers in the present study. Based on this data, it could be assumed that over representation of the woman in the study could have influenced the results. Therefore, there is a need for extra studies which specifically focus on the effects of gender on perception of corruption, organizational dissent and whistle blowing. And lastly, it must be mentioned that schools are the organizations where children are educated for specific purposes. As a very specific and vulnerable group children should be protected from the damaging effects of the corruption. Because they are main target of the education, it is possible that they perceive the corrupt behaviors of school principals or teachers. So, it might be suggested that children could be the target population of future studies of organizational corruption, dissent and whistle blowing.

This study has several implications for school principals and teachers who are concerned with the ethical administration of schools. First, principals must be aware that if there is considerable dissent and whistle blowing occurring, this may signal that something is wrong at a given school. Therefore, they must attend closely to the dissent expressions of the teachers to create a healthy and effective school climate. Parallel with this suggestion, if teachers want to work under an ethical administration, they must resist unethical conduct and express dissent and whistle blowing when confronted with corruption.

REFERENCES

Aguilera, R. V. & Vadera, A. K. (2008). The dark side of authority: antecedents, mechanism, and outcomes of organizational corruption. *Journal of Business Ethics, 77*(4), 431-449.

Aktan, C. C. (2006). Organizasyonlarda yanlış uygulamalara karşı bir sivil erdem, ahlaki tepki ve vicdani red davranışı: whistleblowing. *Mercek Dergisi,* 1-13.

Alt, J. E. & Lassen, D. D. (2003). The political economy of institutions and corruption in American states. *Journal of Theoretical Politics, 15*, 341–365.

Anderson, C. J. & Tverdova, Y. V. (2003). Corruption, political allegiances, and attitudes toward government in contemporary democracies. *American Journal of Political Science, 47*, 91–109.

Argandona, A. (2003). Private-to-private corruption. *Journal of Business Ethics, 47*, 253–267.

Avtgis, T. A., Thomas-Maddox, C., Taylor, E. & Patterson, B. R. (2007). The influence of employee burnout syndrome on the expression of organizational dissent. *Communication Research Reports, 24,* 97–102.

Balcı, A., Özdemir, M., & Özen, F. (2009). Organizational corruption: its relation with organizational culture, job attitudes and work ethics. 11nd International Congress of European Turks. 14-16 may, Antwerp-Belgium.

Berkman, Ü. (1983). *Azgelişmiş ülkelerde kamu yönetiminde yolsuzluk ve rüşvet.* Ankara: TODAİE Yayınları.

Berkman, Ü. (1992). Bureaucracy and bribery: a conceptual framework. *International Journal of Public Administration, 15*(6), 1345-1368.

Brooks, L. (1993). Whistleblowers: learn to love them. *Canadian Business Review, 20*(2), 19–21.

Caiden, G. E. & Caiden, N. J. (1977). Administrative corruption. *Public Administration Review, 37*(3), 301-309.

Cannings, K. (1992). The voice of the loyal manager: distinguishing attachment from commitment. *Employee Responsibilities and Rights Journal, 5,* 261-272.

Çadırcı, M. (1997). *Tanzimat döneminde Anadolu kentlerinin sosyal ve ekonomik yapısı.* Ankara: TTK Yayınları.

Darley, J. M. (2005). The cognitive and social psychology of contagious organizational corruption. *Brooklyn Law Review, 70*(4), 1177-1179.

Davis, J. (2004). Corruption in public service delivery: experience from South Asia's water and sanitation Sector. *World Development, 32*(1), 53-71.

De Maria, W. (2008). Whistleblowers and organizational protesters. *Current Sociology, 56*(6), 865-883.

Doig, A. & Theobald, R. (2000). Introduction: why corruption? in Alan Doig and Robin. Theobald, eds. *Corruption and democratisation.* London: Frank Cass. pp. 1-12.

Dozier, J. B. & Miceli, M. P. (1985). Potential predictors of whistle-blowing: a prosocial behavior perspective. *Academy of Management Review*, *10*, 823-836.

Dworking, T. & Baucus, M. (1998). Internal vs external whistleblowers: a comparison of whistleblowing processes. *Journal of Business Ethics, 17*(12), 1281-1298.

Eaton, T. V. & Akers, M. D. (2007). Whistleblowing and good governance. *The CPA Journal, 77*(6), 66-71.

Fackler, T. & Lin, T. (1995). Political corruption and presidential elections, 1929–1992. *Journal of Politics, 57*, 971–993.

Farrell, D. & Rusbult, C. E. (1992). Exploring the exit, voice, loyalty, and neglect typology: the influence of job satisfaction, quality of alternatives, and investment size. *Employee Responsibilities and Rights Journal, 5,* 201-218.

Gerring, J. & Thacker, S. C. (2004). Political institutions and corruption: the role of unitarism and parliamentarism. *British Journal of Political Science, 34,* 295-330.

Goodboy, A. K., Chory, R. M. & Dunleavy, K. N. (2008). Organizational dissent as a function of organizational justice. *Communication Research Reports, 25*(4), 255-265.

Graham, J. W. (1986). Principled organizational dissent: a theoretical essay. *Research in Organizational Behavior, 8,* 1-52.

Hallak, J. & Poisson, M. (2007). *Corrupt schools, corrupt universities: what can be done.* Paris: International Institute for Educational Planning.

Hegstrom, T. G. (1990). Mimetic and dissent conditions in organizational rhetoric. *Journal of Applied Communication Research, 18,* 141-152.

Hegstrom, T. G. (1995). Focus on organizational dissent: A functionalist response to criticism. In J. Lehtonen eds. *Critical perspectives on communication research and pedagogy* (pp. 83-94). St. Ingbert, Germany: Rohrig University Press.

Heyneman, S. P. (2004). Education and corruption. *International Journal of Educational Development*, *24*, 637- 648.

Hunbury, G. L. (2004). A "pracademic's" perspective of ethics and honor: imperatives for public services in the 21st century! *Public Organization Review, 4*, 187-204.

Johnston, M. (1986). Right and wrong in American politics: popular conceptions of corruption, *Polity*, *18*, 367-391.

Johnson, R. A. & Sharma, S. (2004). *The Struggle against corruption: a comparative study.* New York: Palgrave MacMillan.

Kassing, J. W. (1997). Articulating, antagonizing, and displacing: a model of employee dissent. *Communication Studies, 48,* 311-332.

Kassing, J. W. (1998). Development and validation of the organizational dissent scale. *Management Communication Quarterly, 12*(2), 183-229.

Kassing, J. W. (2000). Investigating the relationship between superior-subordinate relationship quality and employee dissent. *Communication Research Reports, 17,* 58-70.

Kassing, J. W. (2002). Speaking up: identifying employees' upward dissent strategies. *Management Communication Quarterly, 16*(2), 187-209.

Kassing, J. W. & Avtgis, T. A. (1999). Examining the relationship between organizational dissent and aggressive communication. *Management Communication Quarterly, 13,* 76-91.

Kassing, J. W. & Armstrong, T. A. (2001). Examining the association of job tenure, employment history, and organizational status with employee dissent. *Communication Research Reports, 18,* 264-273.

Kassing, J. W. & Avtgis, T. A. (2001). Dissension in the organization as a function of control expectancies. *Communication Research Reports, 18,* 118-127.

Kassing, J. W. & Armstrong, T. A. (2002). Someone's going to hear about this: examining the association between dissent-triggering events and employee's dissent expressions. *Management Communication Quarterly, 16,* 39-65.

Kassing, J. W. & DiCioccio, R. L. (2004). Testing a workplace experience explanation of displaced dissent. *Communication Reports, 17,* 111-120.

Kassing, J. W. (2006). Employees' expressions of upward dissent as a function of current and past work experiences. *Communication Reports, 19*(2), 79-88.

Kassing, J. W. & McDowell, Z. (2008). Talk about fairness: exploring the relationship between procedural justice and employee dissent. *Communication Research Reports, 25,* 1–10.

Kayes, D. C., (2006). Organizational corruption as theodicy. *Journal of Business Ethics, 67,* 51-62.

Keenan, J. P. (2000). Blowing the whistle on less serious forms of fraud: a study of executives and managers. *Employee Responsibilities and Right Journal, 12*(4), 199-217.

Klitgaard, R. (1998). International cooperation against corruption. *Finance and Development, 35*(1), 3-6.

Luo, Y. (2004). An organizational perspective of corruption. *Management and Organization Review, 1*(1), 119-154.

Mansbach, A. & Bachner, Y. G. (2010). Internal or external whistleblowing: nurses' willingness to report wrongdoing. *Nursing Ethics, 17*(4), 483-490.

Mbatha, J. S. (2005). *The ethical dilemmas of whistle-blowing and corruption in the South African public sector.* Unpublished Doctoral Dissertation. University of Zululand.

McCluskey, N. (2005). Corruption in the public schools: the market is the answer. *Policy Analysis, 542,* 1-20.

Miceli, M. & Near, J. (1994). Whistleblowing: reaping the benefits. *Academy of Management Executive, 8,* 65–73.

Miethe, T. D. & Rothschild, J. (1994). Whistleblowing and the control of organizational misconduct. *Sociological Inquiry, 64*, 322–347.

Mumcu, A. (1969). *Osmanlı devleti'nde rüşvet.* Ankara: A.Ü. Hukuk Fakültesi Yayını.

Near, J. P. & Jensen, T. C. (1983). The whistleblowing process: retaliation and perceived effectiveness. *Work and Occupations*, *10*, 3-28.

Near, J. P. & Micelli, M. P. (1985). Organizational dissidence: the case of whistle-blowing. *Journal of Business Ethics, 4*(1), 1-16.

O'Reilly, C. & Chatman, J. (1986). Organizational commitment and psychological attachment: the effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology, 71*(3), 492-499.

Özdemir, M. (2010). *The opinions of administrators and teachers working in public high schools in Ankara Province on organizational dissent.* Unpublished Doctoral Dissertation. Ankara University.

Palmier, L. (1983). Bureaucratic corruption and its remedies, in M. Clarke, eds. *Corruption.* London: Frances Printer Ltd. London, pp. 207-219.

Pascoe, J. & Welsh, M. (2011). Whistleblowing, ethics and corporate culture: theory and practice in Australia. *Common Law World Review, 40,* 144-173.

Payne, H. J. (2007). The role of organization-based self-esteem in employee dissent expression. *Communication Research Reports, 24,* 235-240.

Peters, J. G. & Welch, S. (1980). The effects of charges of corruption on voting behavior in congressional elections. *American Political Science Review*, *71*(3), 697-708.

Redlawsk, D. P. & McCann, J. A. (2005). Popular interpretations of 'corruption' and their partisan consequences. *Political Behavior, 27*(3), 261-283.

Redding, W. C. (1985). Rocking boats, blowing whistles, and teaching speech communication. *Communication Education, 34,* 245-258.

Rodal, C. A. S. & Mendoza, E. C. (2004). *Transparency in Education: report card in Bangladesh*. Paris: International Institute for Educational Planning.

Sayed, T. & Bruce, D. (1998). Police corruption: towards a working definition. *African Security Review*, *7*(1), 3-14.

Seligson, M. (2002). The impact of corruption on regime legitimacy: a comparative study of four Latin American countries. *Journal of Politics, 62*, 408–433.

Schein, E. (1985). Defining organizational culture. In M. Shafritz and J. Ott, eds. *Classics of Organization theory* (1992). Belmont, CA: Wadsworth.

Sprague, J. A. & Ruud, G. L. (1988). Boat-rocking in the high technology culture. *American Behavioral Scientist, 32,* 169-193.

Stapenhurst, F. & Langseth, P. (1997) The role of the public administration in fighting corruption. *International Journal of Public Sector Management, 10*(5), 311 – 330.

Tanaka, S. (2001). Corruption in education sector development: a suggestion for anticipatory strategy. *The International Journal of Educational Management, 15*(4), 158-166.

Truelson, J. A. (1989). Implications of whistleblowing for public administration education. *Policy Studies Review, 8*(4), 871-876.

Uys, T. (2008). Rational loyalty and whistleblowing: the South African context. *Current Sociology, 56*(6), 904-921.

Vinten, G. (1999). A whistleblowing code for educational institutions. *The International Journal of Educational Management, 13*(3), 150-157.

Waite, D. & Allen, D. (2003). Corruption and abuse of power in educational administration. *The Urban Review*, *35*(4), 281- 296.

Warren, M. E. (2004). What does corruption mean in a democracy? *American Journal of Political Science, 48,* 328–343.

Welch, S. & Hibbing, J. R. (1997). The effects of charges of corruption on voting behavior in congressional elections, 1982–1990. *Journal of Politics, 59*, 226–239.

Werner, S. B. (1983). New directions in the study of administrative corruption. *Public Administration Review, 43*(2), 146-154.

Wilson, J. Q. (1966). Corruption: the shame of the states. *The Public Interest, 2,* 28–38.

Zoraloğlu, Y. R., Şahin, İ. & Fırat, N. Ş. (2004). İlköğretim okullarının finansal kaynak bulmada karşılaştıkları güçlükler ve bu güçlüklerin okula etkileri. *Eğitim Bilim Toplum, 2*(8), 4-17.

THE USE OF ICT IN ENGINEERING DEPARTMENTS

Songül AYNAL[*a]; Müjgan ÖZENİR[b]

[a]Adana Science and Technology University, The School of Foreign Languages, Adana/TURKEY
[b]Istanbul Technical University, Maritime Faculty, Istanbul/TURKEY

ABSTRACT

This paper examines the use of Information and Communication Technologies (ICT), mainly computer, for teaching and learning purposes at the university level. The paper gives a brief overview of the use of ICT in learning and teaching at university level. It also discusses the students' perceptions on the use of ICT in their daily life and in school environment. For this purpose, a questionnaire consisting of 25 items were given to 300 students studying at the engineering departments from 2 different universities in Turkey. The result supports the necessity of using ICT for making classes more vivid, pleasant and appealing to the students.

Key Words: ICT, computer, technology, education, engineering.

INTRODUCTION

ICT merely stands for Information and Communication Technologies and Blurton (1999) defines it as a "various set of technological tools and resources used to communicate, create, disseminate, store, and manage information". These technologies consist of computers, the Internet, broadcasting technologies (radio and television), and telephony. Maximizing efficiency and effectiveness by means of using the Internet and computers is an increasing interest not only for communication but also for education at all levels and in both formal and non-formal settings during recent years.

From the earliest times when computers were commercially available, they could be found in educational institutions, and educators (e.g. Bork, 1980; Carnegie Commission on Higher Education, 1977; Hernes, 2002) strongly believed that computers would support learning. Several educational institutions, including public and private schools opened CALL centers for this purpose. International dialogue and international access to educational items became possible only after ICT was developed and the Internet became available in schools. The development of ICT, particularly the Internet, has eased the development of the globalization and therefore the quality of education. With open access to knowledge and the new communication technologies, it is now possible to widen the range of opportunities for more equal education even in the poorest countries provided that they have the Internet.

The use of ICT in education provides several benefits for extending educational opportunities to groups of people. ICTs are potentially powerful tools for extending educational opportunities, for formal or/and non-formal,—scattered or/and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, females, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus. It also enables students to concentrate on the lessons as well as to become aware of the developments worldwide. The benefits of ICT can be listed as:

---

[*] **Co-Author:** songul.aynal@adanabtu.edu.tr

• *Use of ICT requires no limit in time and space*
It is possible to use the ICTs anytime and anywhere, 24 hours a day, 7 days a week via asynchronous learning/teaching no matter what the time lag is between the delivery of instruction and its receptor. The only condition needed would be the access to the Internet. Teleconferencing, radio or TV broadcast would also be possible for those in diverse areas.

• *Resources are no more remote with ICT*
With ICT it is possible to access a wealth of learning materials in almost every subject from anywhere at any time by unlimited number of people. ICT also facilitates access to resource persons, mentors, experts, researchers, peers, writers, poets, artists, professionals, politicians, etc. all over the world. With the Internet it is possible to find any information about any subject.

• *ICT provides no limit in fun*
There are many Internet resources that provide fun for 24 hours. Music, comics, funny movies etc are there to help those to enjoy life. Downloadable materials also make the family gatherings become a ceremonial event.

• *ICT brings no limit in communication*
Such communication sources as Facebook, Skype, Msn, Twitter, Google talk, Yahoo talk, and others facilitate the communication between people on the two edges of the world, which prevents isolation as well.

• *ICT provides no limit in learning*
Technology helps schools provide opportunity to value deep understanding in the disciplines and take into account students' needs, interests, and strengths. Students with different learning styles can benefit from the facilities ICT provides.

• *There is no excuse for not using the ICT*
ICT helps to improve the quality in education, prepare individuals for the workplace, and develop inventive thinking and effective communication. It is particularly important to use ICT to enhance the quality of education by increasing learner motivation, to provide better teacher professional career, to facilitate a student-centered environment. Distant courses, remote resources, different techniques of providing information underpin the multiple intelligent learning. Linking the traditional approaches to the Gardner's Multiple Intelligences and matching these with complementary digital strategies, tools and activities is also possible. In Gardner's Multiple Intelligences (MIs) there are eight intelligences, which is a disciplinary in itself. Every individual has his own learning style as shown in the diagram below and this could be developed by the help of ICT.

Gardner (1999) claims that "the computer revolution is already changing how students acquire and use information; if schools do not rise to this technological opportunity and challenge, they risk becoming completely anachronistic". Gardner's Multiple Intelligence theory can best be fed and put into practice by the ICT, which might provide opportunity to blend the MIs disciplines given in Figure1.

If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning no matter which type of intelligence he or she has. It is, therefore, required to employ ICT in education.

Cradler (2002) gives seven requirements for effective use of ICT in education:

- Suiting technology to education goals and standards
- Having a vision for the use of technology to support curriculum

- Providing for both in-service and pre-service training
- Ensuring access to appropriate technology
- Providing for administrative support for technology use
- Providing time for teachers to plan and learn how to integrate technology
- Providing for ongoing technical support for technology use
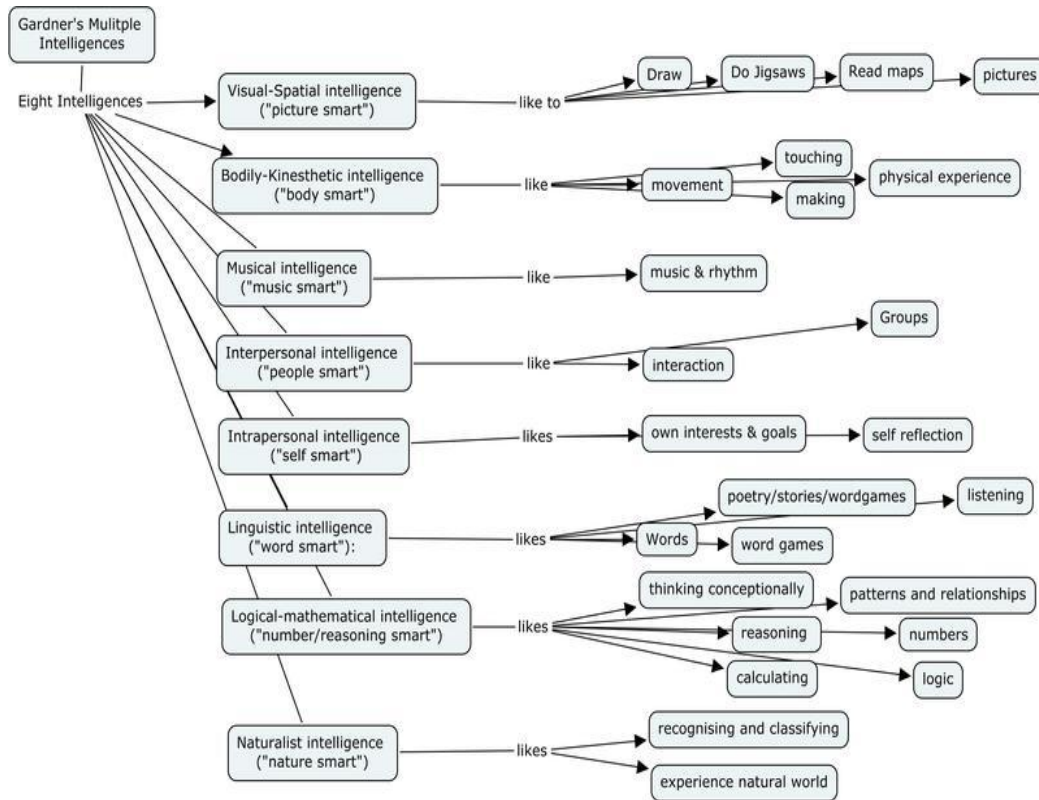
Figure 1. Gardner's Multiple Intelligences
(http://edorigami.wikispaces.com/Gardners+Multiple+Intelligences+and+ICT)

In general, these requirements fall into five areas of impact:

- providing the infrastructure of hardware and software,
- providing curriculum and technical support for teachers,
- school organization, design, policies and practices,
- schooling,
- management support.

The British Educational Communications and Technology Agency (BECTA) suggest that the effective use of ICT can lead to benefits in terms of:

- greater motivation
- increased self-esteem and confidence
- enhanced questioning skills

- promoting initiative and independent learning
- improving presentation
- developing problem solving capabilities
- promoting better information handling skills
- increasing 'time on task'
- improving social and communication skills (BECTA 2002).

Since students enjoy spending time on the computer and sharing their interests in social platforms, the Internet, it should be considered wise to get them involved into the ICT used educational environment. The British Educational Communications and Technology Agency (BECTA 2002) also claims that ICT can enable children to:

- combine words and images to produce a 'professional' looking piece of work
- draft and redraft their work with less effort
- test out ideas and present them in different ways for different audiences
- explore musical sequences and compose their own music
- investigate and make changes in computer models
- store and handle large amounts of information in different ways
- do things quickly and easily which might otherwise be tedious or time consuming
- use simulations to experience things which might otherwise be too difficult or dangerous for them to attempt in real life
- control devices by turning motors, buzzers and lights on or off or by programming them to react to changes in things like light or temperature sensors
- communicate with others over a distance.

On the other hand, the use of ICT might of course cause some handicaps in teaching especially in overcrowded classes. Schacter (1999, p. 5), for instance, claims that the "level of effectiveness of educational technology is influenced by the specific student population, the software design, the educator's role, and the level of student access to the technology."

Teachers' competence for the use of ICT might be another problem. Clearly with the critical role played by teachers, education systems need to take account of the needs of teachers first (Lankshear & Snyder, 2000). The problems teachers have with the use of computers may be viewed in terms of: access to adequate infrastructure, and access to support for implementation using that infrastructure. BECTA (2002) points out that the user problems are mainly due to the lack of experience of teachers and the lack of consideration of appropriate educational problems to solve. All of these barriers may be addressed by considering technical and curriculum support for teachers.

In his book entitled "*Managing Technological Change: Strategies for college and university leaders*", Bates (2000) draws attention to the points discussed above and states that:

> "Although technology infrastructure plans are essential, they are not sufficient. It is equally important to develop academic or teaching plans that specify the ways in which technologies will be incorporated into teaching learning activities" (p. 46).

 Bates (2000) also emphasizes that "it is important for universities and colleges to achieve high quality in any technology-based teaching and learning materials and programs that they develop." (p. 64). He further stresses the necessity of computer access in departments:

"The real challenge for a department considering requiring students to have computer access is in ensuring that the computer will provide genuine value-added teaching. The worst policy is to make computer access optional." (p. 90).

The **RATIONALE** of the STUDY

Since ICT has so many advantages in teaching and learning, it becomes mandatory to use ICT in education. With this reason in mind, we have questioned whether ICT is used at the university level and the perception of students regarding the use of ICT. We gave the questionnaire to the engineering students at the departments of computer engineering, electrical and electronic engineering and marine engineering.

The reason why we chose the engineering departments is due to reports published by UNESCO in 2010 and 2011.The report published by UNESCO in October 2010 was a comprehensive report on engineering and development, which spells out the great importance of engineering for human society in addressing and solving global issues. ICTs are a series of instruments that transform the way human collectively produce and consume information on a global scale. While many teachers and students are already utilizing some of its capabilities, school and government agencies must design appropriate resource allocation policies to better capture these revolutionary opportunities.

The report in 2011 sheds new light on the need to:

- develop public and policy awareness and understanding of engineering, affirming the role of engineering as the driver of innovation, social and economic development;
- develop information on engineering, highlighting the urgent need for better statistics and indicators on engineering;
- transform engineering education, curricula and teaching methods to emphasize relevance and a problem-solving approach to engineering;
- more effectively innovate and apply engineering and technology to global issues and challenges such as poverty reduction, sustainable development and climate change – and urgently develop greener engineering and lower carbon technology (UNESCO, 2011).

Today's "digital native" students are the most effective source of innovation in the formats and content of ICT-enabled educational services and products. Therefore, engineering schools should be the operating base for the learning activities that systematically involve engineering students and other appropriate participants in the creation and refinement of ICT-enabled educational programmes and infrastructures. The design and implementation process of these "learning activities" should be guided by appropriate technology-independent quality standards (UNESCO, 2010).

FOCUS and METHODOLOGY

The study focuses on the use of ICT and the perceptions of the students on ICT in engineering departments**.** The study is based on a questionnaire given to the students mainly at the engineering departments at 2 different universities in Turkey. The questionnaire is adopted from the OECD Programme for International Student Assessment (PISA, 2009). 300 students answered the questionnaire in total. The students from computer engineering, electric - electronics engineering and marine engineering departments answered the questions voluntarily. The questions were mainly related to the frequency of using the ICT in classroom or at home, their perceptions on the use of ICT and their attitudes towards the use of ICT. The results of only seven questions are discussed in this paper because of the scope and framework of the research. Due to the scope of the study, the picture painted of the

general situation in Turkey is very broad-brush. Finally, again, due to the scope of the study, the findings of the research are mainly trends and should not be considered as representative "hard facts".

FINDINGS

Since the survey was carried out at the engineering departments, particularly Computer Engineering, Electric - Electronics Engineering and Marine Engineering, our expectancy was to get highly positive answers to the questions related to the use of ICT both in social and private life. We also expected very high rank of the use of ICT related to school. The findings, however, were surprisingly different from what we had been expecting, as seen in the following tables. The tables show the questions asked and the number of the students marking the choices. The numbers in parentheses show the total percentages of the students' perceptions in all three departments.

Table 1. The frequency of ICT use for the activities out of the school

	Never or hardly ever	Once or twice a month	Once or twice a week	Everyday or almost every day
Play one-player games	88 (29.3%)	64(21.3%)	79(26.3%)	51(17%)
Play collaborative online games	119(39.6%)	70(23.3%)	62(20.6%)	39(13%)
Do homework on the computer	24(8%)	105(35%)	114(38%)	31(10.3%)
Use e-mail	17(5.6%)	26(8.6%)	103(34.3%)	155(51.6%)
Msn, chat in the facebook, twitter etc	18(6%)	29(9.6%)	72(24%)	169(56.3%)
Browse the Internet for fun (such as watching videos, e.g. you tube)	12(4%)	37(12.3%)	79(26.3%)	170(56.6%)
Download music, movies, games or software from the Internet	33(11%)	67(22.3%)	91(30.3%)	91(30.3%)
Publish and maintain a personal website, weblog or blog	154(51.3%)	51(17%)	31(10.3%)	39(13%)
Participate in online forums, virtual communities or spaces(*e.g.* second life or my space)	93(31%)	64(21.3%)	66(22%)	91(30.3%)
Communicate with family and friends	52(17.3%)	41(13.6%)	74(24.6%)	147(49%)

Table 1 reflects the use of ICT out of school environment. Students usually use ICT for fun, listening to music, watching movies, using Msn, skype or Facebook for chat as highlighted in the Table. They make use of ICT at home for social and entertainment purposes rather than participating forums, conducting personal websites or doing homework on the computer. This might be due to the lack of responsibility of surfing the Internet for the purpose of research or assignments or it might be because their class teachers do not give them responsibility of doing homework related to the ICT.

The departments in which this research was conducted allow students access the Internet for free almost everywhere in and around their departments. Therefore, we asked the following questions related to the frequency, time and effective use they devoted on the use of ICT, as shown in table 2,3 and 4.

Table 2. The frequency of ICT use for the activities at school

	Never or hardly ever	Once or twice a month	Once or twice a week	Everyday or almost every day
I chat online at the department	131(43.6%)	55(18.3%)	29(9.6%)	8(2.6%)
Use e-mail at the department	113(37.6%)	79(26.3%)	52(17.3%)	12(4%)
I collect information for homework and study of the draft project from the Internet	98(32.6%)	100(33.3%)	53(17.6%)	11(3.6%)
I download materials or documents	81(27%)	95(31.6%)	61(20.3%)	13(4.3%)
I send my homework or project to my department's website	75(25%)	105(35%)	50(16.6%)	6(2%)
I play simulation games	153(77.6%)	59(19.6%)	27(9%)	5(1.6%)
I do practice with ICT at subject of courses	103(34.3%)	51(17%)	37(12.3%)	10(3.3%)
I study and do my homework as an individual	132(44%)	74(24.6%)	39(13%)	2(0.6%)
I join the group works and communicate with other students	121(40.3%)	73(24.3%)	37(12.3%)	11(3.6%)
I use ICT for project work and necessary to department lectures.	95(31.6%)	79(26.3%)	46(15.3%)	4(1.3%)
I play computer games.	148(49.3%)	58(19.3%)	21(7%)	13(4.3%)
I use database	114(38%)	57(19%)	33(11%)	5(1.6%)
I use Table programs	117(39%)	56(18.6%)	30(10%)	5(1.6%)
I use word processor	117(39%)	59(19.6%)	33(11%)	4(1.3%)
I use desktop publishing	121(40.3%)	66(22%)	23(7.6%)	4(1.3%)

Table 2 shows that the frequency of using ICT, mainly computer, at the campus is rather low, even for fun; the highest percentage is 13 % which is for downloading materials or documents to department's website and playing computer games. This fact is surprising when it is considered that these students are candidates of engineers and they are somehow involved in technology. Table 2 puts forward the fact the percentage of ICT use by students is very low.

A question might arise related to these results, inquiring the ICT literacy level of students. Table 3 clarifies the question of students' knowledge level of ICT.

Engineering students can manage average tasks on computer namely creating file, preparing PowerPoint presentations, using windows, copying shapes etc. However, they have difficulty in more subtle tasks such as creating database, using spread sheet for creating graphic, web authoring tools. Creating and editing files have the highest frequency of using the computer. Yet, following online courses or getting involved to the scholastic forums or carrying out research using ICT requires minimum knowledge of handling computer tasks.

Table 3. The literacy level of using the ICT

	Cannot	*low*	*Moderate*	*High*
I can copy digital photography or graphic shapes.	21(7%)	55(18.3%)	86(28.6%)	111(37%)
I can create a database	60(20%)	68(22.6%)	84(28%)	66(22%)
I can use spreadsheet for creating a graphic.	137(45.6%)	64(21.6%)	59(19.6%)	27(9%)
I can use a PowerPoint presentation	10(3.3%)	20(6.6%)	104(34.6%)	161(53.6%)
I can prepare a Multi-media presentation	29(9.6%)	56(18.6%)	94(31.3%)	104(34.6%)
Windows /other operating systems	26(8.6%)	48(16%)	99(33%)	104(34.6%)
File (Creating a new file-editing etc.)	6(3%)	41(13.6%)	68(22.6%)	168(56%)
Word processor	55(18.3%)	52(17.3%)	84(28%)	90(30%)
Web authoring tools	61(20.3%)	66(22%)	74(24.6%)	45(15%)

When asked how much time the students spend on computer apart from their academic studies, the percentage of the answers was evenly distributed, as seen in Table 4.

Table 4. The time spent on ICT apart from academic studies

	No time	**30 minutes**	**31-60 minutes**	**More than 60 minutes**
Use of ICT in one day	43(14.3%)	46(15.3%)	41(13.6%)	34(11.3%)

Students' answers show an interesting distribution to this question. When asked the time they devote on the ICT every day, almost equal number of students answered evenly. Yet, students claim that they do not spend too much time on computer even when it is not related to their academic field.

Table 5. The necessity of the ICT (including Internet access) at the following locations

	Not needed	**Maybe**	**Needed**
In a computer lab.	14(4.6%)	27(9%)	204(68%)
In classrooms at the school	20(6.6%)	100(33.3%)	176(58.6%)
At student's home	7(2.3%)	27(9%)	245(81.6%)
At dormitories	10(3.3%)	28(9.3%)	241(80.3%)
At the lecture halls	27(9%)	76(25.3%)	179(59.6%)
At libraries	12(4%)	30(10%)	239(79.6%)
At canteens	39(13%)	75(25%)	161(53.6%)

Students were asked to value the necessity of ICT in their daily life and school environment. A very high percentage of students answered to this question positively. Students believe that ICT, including the Internet access, is useful in their life although 81.6% believe that they need it at home or at dormitories 80.3%.

Table 6. Producing assignments using ICT related tools and resources

	0-25 %	26-49 %	50-75 %	76-100 %
Word processor	135(45%)	86(28.6%)	38(12.6%)	17(5.6%)
Spreadsheet	114(38%)	88(29.3%)	46(15.3%)	8(2.6%)
Databases	99(3%)	80(26.6%)	57(19%)	24(8%)
PowerPoint	57(19%)	81(27%)	87(29%)	52(17.3%)
Publisher	18(6%)	39(13%)	98(32.6%)	114(38%)
References from the Internet	24(8%)	38(13.6%)	89(29.6%)	128(42.6%)
Teacher moderated online discussions	161(53.6%)	63(21%)	52(17.3%)	31(10.3%)

When students were asked which ICT related tools they make use of while preparing the assignments, publishers (38%) and references from the Internet (42,6 %) got the highest percentage. Students get references from the Internet while they avoid using it as databases. Preparing PowerPoint presentation and teacher moderated online discussions are also used as ICT related tools although the frequency is lower.

Table 7. The need for using ICT

	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
It is very important for me to work with a computer	14(4.6%)	14(4.6%)	148(49.3%)	104(34%)
I think playing or working with a computer is really fun	13(4.3%)	24(8%)	122(40.6%)	114(38%)
I use a computer because I am very interested	9(3%)	28(9.3%)	161(53.6%)	114(38%)
I download music, film etc.	9(3%)	20(6.6%)	130(43.3%)	127(42.6%)
I communicate with my family and friends	5(3.8%)	18(6%)	125(41.6%)	118(39.3%)
I search my lesson topics	8(2.6%)	16(5.3%)	136(45.3%)	111(37%)
I lose track of time when I am working with the computer	18(6%)	73(24.3%)	103(34.3%)	81(27%)
I believe that using computers cause health problems.	23(7.6%)	84(28%)	128(42.6%)	57(19%)
I think computer usage is not safe	73(24.3%)	117(36.9%)	72(24%)	17(5.6%)
I am very busy. I have no time for using computer	130(43.3%)	106(35.3%)	29(9.6%)	9(3%)
I am not interested in computer usage	70(53.8%)	87(29%)	31(10.3%)	14(4.6%)
Internet usage is too expensive	143(47.6%)	81(27%)	88(29.3%)	38(12.6%)
I haven't got a computer	191(65.3%)	57(19%)	15(5%)	13(4.3%)
I can't use a computer	187(62.3%)	41(13.6%)	19(6.3%)	4(1.3%)

In order to measure students' attitudes towards the ICT, the statements above were asked to be graded. Most of the students agreed that it is very important to work with a computer. The most frequent reason was given as "I use computer because I am very interested" (53.6%). Students also claim that they use computers in order to make research on their subject areas (45.3%). However, this result contradicts with the result in Table 1. This might show that students are not working systematically on computer and therefore they are not guided to work on computer but they do use the computer for self-study.

CONCLUSION

Technological developments and communication technologies help both students and teachers ease learning and teaching process. ICT has become a very important tool in education. For the last 20 years, many books, articles have been written, many researches have been made. Yet, the importance of ICT has not been fully understood and not enough attendance has been given to the implementation of ICT in education.

The main purpose of this research was to find out whether students devote time on technological means and if they do, how much of the time devoted to computer is spared to educational activities. Since the students were purposely selected from the engineering departments, the expectancy was that the level of ICT literacy and use would be quite high.

The result of the research did not meet our expectancy. Contrary to our expectancy, the students mainly use the computer at home for fun. Using the ICT for education purposes is not given the value it deserves. The new trend "Blended Teaching Method", mixing the traditional classes with ICT, is still not used adequately in our schools.

In traditional teaching method teacher is the center of the learning process, controlling each factor in the process. Students focus on what they learn from the teacher and course books, thus they have difficulty in expressing themselves freely and creatively. In blended teaching, on the other hand, ICT is regarded as a compulsory element to support the process.

While preparing the students for the technological requirements of the time, ICT not only enriches these two sources but also enables the process contemporary, contribute the classes being more vivid and fruitful. However, there is a shortage of qualified and competent teachers who will be able to use ICT in their classes or who can guide students use the computer in their subject areas. Therefore, it is important to give teacher training courses based on digital teaching. Teachers uploading digitalized lectures, and students downloading those lectures might even help reviving, saving and learning. Bringing forth these lectures into the class atmosphere might make the teaching effective, participatory and enjoyable.

REFERENCES

Bates, A.W. (2000). *Managing Technological Change: Strategies for University and College Leaders*. San Francisco: Jossey Bass.

Blurton, C. (1999). "*New Directions of ICT-Use in Education*", Retrieved on 24.4. 2012 from http://www.unesco.org/education/educprog/lwf/dl/edict.pdf; UNESCO World Communication and Information Report.

British Educational Communications and Technology Agency (BECTA). (2002). *The Impact of Information and Communication Technologies on Pupil Learning and Attainment.* (ICT in Schools Research and Evaluation Series – No.7): DfES. Retrieved on 22.4.2012 from http://cw.routledge.com/textbooks/0415306752/resources/pdf/05BenefitsofICT.pdf

Bork, A. (1980). Preparing student-computer dialogs: Advice to teachers. In R. Taylor (Ed.), *The computer in the school: Tutor, tool, tutee* (pp. 15-52). New York: Teachers College Press,Columbia University.

Carnegie Commission on Higher Education. (1977). *The fourth revolution: Instructional technology in higher education*. New York, NY: McGraw-Hill.

Cradler, J., & Bridgforth, E. (2002). *Recent research on the effects of technology on teaching and learning.* Retrieved on 22.04.2012, from the World Wide Web:

www.wested.org/techpolicy/research.html

Educational origami. Gardners Multiple Intelligences and ICT. Retrieved on 22.04.2012 from http://edorigami.wikispaces.com/Gardners+Multiple+Intelligences+and+ICT and http://www.tecweb.org/styles/gardner.html

Gardner, H. (1999). *Intelligence Reframed. Multiple intelligences for the 21st century*, New York: Basic Books

Hernes,G. (2002),"Emerging Trends in ICT and Challenges to Educational Planning,"in Haddad,W. and A. Drexler (eds.), *Technologies for Education: Potentials, Parameters, and Prospects* (Washington DC: Academy for Educational Development and Paris:UNESCO),p. 25.

Lankshear, C., & Snyder, I. (2000). *Teachers and Technoliteracy.* St Leonards, NSW.: Allen & Unwin.

OECD Programme for International Student Assessment (PISA). (2009). Ict Familiarity Component For The Student Questionnaire Pısa 2009 (International Optıon) Cito Institute for Educational Measurement. Retrieved on 22.04.2012 from http://pisa2009.acer.edu.au/downloads.php

UNESCO (2011). Policy Brief: ICTs for New Engineering Education[online]. Retrieved on 22/04/2012 from http://iite.unesco.org/publications/3214681

UNESCO (2010). Engineering: Issues Challenges and Opportunities for Development. The United Nations Educational, Scientific and Cultural Organization 7, place de Fontenoy, 75352 Paris 07 SP, France. Retrieved on 22.04.2012 from http://unesdoc.unesco.org/images/0018/001897/189753e.pdf

Schacter, J. (1999). *The impact of education technology on student achievement: what the most current research has to say.* Santa Monica, CA.: Milken Exchange on Education Technology.

MOTIVATION AND LEARNING STRATEGIES AS PREDICTORS OF HIGH SCHOOL STUDENTS' MATH ACHIEVEMENT

Devrim ERDEM KEKLİK[*a]; İbrahim KEKLİK[b]

[a]Niğde University, Faculty of Education, Niğde/Turkey
[b]Hacettepe University, Faculty of Education, Ankara/Turkey

ABSTRACT

As a country striving toward economic and technological development, having remarkable number of school age children, in need of improving it's science and mathematics education-particularly given the disappointing PISA results, and aiming at establishing highly functional school counseling services, Turkey will greatly benefit from studies exploring student variables associated with their success in various subject areas. Thus, the purpose of this study was to examine as to which motivation and learning strategies high school students use for mathematics courses predict their achievement level in the respective courses. A convenient sample of 440 high school students attending to two public high schools in the Altındağ District of Ankara, Turkey during the academic year of 2010-2011. A Personal Information Form and Motivation and Learning Strategies Scale were used for data collection. Step-wise regression analysis was used as the data analytic procedure. Results showed that factors such as task value (M), time/study environment (LS), self-efficacy (M), extrinsic goal orientation (LS), test anxiety (M), peer learning (LS) and organization (LS)] significantly predicted students' mathematics achievement. Some factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to gender. Different factors of motivation and learning strategies significantly predicted students' achievement levels in mathematics for each grade level. Results, limitations of the study, implications for school counseling services, mathematics education and future research were discussed.

Keywords: Motivation, learning strategies, mathematics achievement, high school students, regression analysis.

INTRODUCTION

Focusing on improvement of their educational system is a vital goal of countries striving toward advancement. A very vital component of these efforts involves a focus on science and mathematics education. A historical example of these efforts was the United States' (US) reaction to Soviet Union's launching of Sputnik in 1957, the first artificial satellite to be put into the Earth's orbit. The US perceived this as a failure in its competition with the Soviets and thus allocated enormous amounts of resources to science and mathematics education in an effort to not only catch up with this move by the Soviets but also to win the competition in the long run. Through the reminder of the last Century and in the wake of the new Millennium, many countries view advancement of their educational systems (and science and mathematics education) among their essential national priorities.

Parallel to this national and global focus on science and mathematics education, researchers and educators have also made remarkable improvements in science and mathematics education. They have accumulated

---

a significant body of research regarding educational inputs, processes and outcomes. A significant number of these studies involve research on student variables. Some of these investigations have specifically focused on classroom variables such as students' motivational and learning strategies. Historically, studies exploring students' motivation and learning strategies were inspired by the self-regulated learning approach which views the student as capable monitoring and regulating his or her own learning processes. This approach is in line with the wish of various educators who believe "education should teach students how to learn." Indeed, an educational approach geared toward teaching "how to learn" will have to improve students' skills in effectively regulating a variety of aspects of their learning processes. It is worth noting that, recent studies have linked self-regulation with prefrontal cortex and mental disorders such as attention deficit hyperactivity disorder (Barkley, 2010; Heatherton & Wagner, 2011). Thus, according to these findings, self-regulation is not only closely related students' academic performance but also to their overall functioning and wellbeing (Dunn, Lo, Mulvenon & Sutcliffe, 2012).

The term "self-regulated learning" conceptualizes students as actively managing and monitoring cognitive, behavioral and motivational aspects of their learning processes. Part of its roots dates back to Albert Bandura's social learning theory. While there are various definitions of self-regulated learning, all definitions encompass three essential components (Pintrich & DeGroot, 1990). The first one involves individual's planning, monitoring and regulating one's metacognitive strategies. The second one has to do with the student's control and management of his or her effort through learning experiences (i.e., continuing focusing on the task despite existence of distracting stimuli in the learning environment). The third component involves cognitive strategies (i.e., rehearsal, elaboration and organization) students use toward understanding, acquiring and recalling learning material. Advocates of the self-regulated learning approach (i.e., Pintrich, 1988) claim that knowledge of cognitive and metacognitive strategies may not be sufficient to promote student learning. Students should also have reasons to use this knowledge. In other words, they should be motivated to use these strategies and regulate their cognition and effort.

As noted by Pintrich and De Groot (1990) the motivation and learning strategies line of research conceptualizes student motivation in accordance with a general expectancy-value model of motivation. The model proposes that there are three motivational components possibly associated with the three different components of self-regulated learning: (a) an expectancy component, which involves students' beliefs about their ability to perform a task, (b) a value component, involving students' goals and beliefs about the importance and interest of the task at hand, and (c) an affective component, having to do with students' emotional reactions to the given task. While the expectancy component of student motivation has been viewed "in a variety of ways in the motivational literature such as 'perceived competence', 'self-efficacy', 'attributional style', and 'control beliefs' (Pintrich & De Groot, 1990. p. 33), in all such definitions, it refers to students' beliefs regarding their ability to perform the given task. Various authors have viewed the value component of motivation in different lights, such as "learning vs. performance goals, intrinsic vs. extrinsic orientation, task value, and intrinsic interest" (Pintrich & De Groot, 1990. p. 34). It basically has to do with the students' reasons for doing the task. Likewise, there have been various ways in which the affective component has been conceptualized, yet it often refers to test-anxiety (Wigfield & Eccles, 1989). Literature shows that the expectancy and value components have positive relationship with the three self-regulated learning components while their relationship with test anxiety is not as simple (Pintrich & DeGroot, 1990).

Since students' academic performance depends in part on their motivation and learning strategies, Schunk and Zimmerman (1998) state that students learning depends on the following self-regulatory processes: (a) setting specific and attainable goals; (b) utilizing effective strategies toward attaining these goals; (c) observing their performance for signs of progress; (d) arranging their physical and social environment in ways that are compatible with the realization of the goals; (e) using their time efficiently; (f) self-evaluating their methods; (g) associating their methods and the resulting outcomes; and (h) developing methods for the future (Zimmerman, 2002). Indeed, Zimmerman (2002) goes further as to claim that

"with such diverse skills as chess, sports, and music, the quantity of an individual's studying and practicing is a strong predictor of his or her level of expertise'' (p. 66).

There are numerous studies reporting significant relationships between students' motivation and learning strategies (self-regulation) and achievement (i.e., Mousoulides & Philippou, 2005; Tanner & Jones, 2003). For example, using Self-Regulated Learning Interview Schedule (SRLIS by Zimmerman & Martinez-Pons, 1986), Zimmerman and Martinez-Pons (1988) compared high and low achievement groups of high school students. Their results showed that groups differed significantly on all fourteen self-regulated learning strategies (self-evaluating; organizing and transforming; goal-setting and planning; seeking information; keeping records and monitoring; environmental structuring; self-consequating; rehearsing and memorizing; seeking peer, teacher, or adult assistance; and reviewing tests, notes, and textbooks) but self-regulation. The authors examined the results as to control for students' general abilities and found that the fourteen self-regulated learning strategies contributed to student achievement independent of students' general levels of ability.

Given the high proportion of 0–18 year old population of Turkey (over 1/3 of the general population), the country's urgent need for development and the disappointing (29th place among the participating 30 countries) PISA (Programme for International Student Assessment) results in both 2003 and 2006 which was held by the Organization for Economic Cooperation and Development (Eraslan, 2009), the need for improving student learning for Turkey is vital. Part of the success of such improvement efforts will to great extent depend upon the degree to which such work is guided by empirical data. In other words, these efforts will lead to desirable results in part if they are based on scientific studies examining student achievement according to a rich variety of variables.

Part of such studies should involve exploration motivation and learning strategies of students in specific courses and age groups. Indeed, studies following the self-regulated learning tradition focus on specific courses as opposed to one's general motivation and learning strategies. Thus, mathematics classes in high school were chosen for this study because of math being one of the major areas in which student in Turkey scored poorly in PISAs. More specifically, this study attempts to examine the degree to which motivation and learning strategies high school students use predict their achievement levels in mathematics courses. Results of the study are hoped to have implications for both high school mathematics education and school counseling and guidance services. Further, given societal emphasis on gender role differences (Dinç Kahraman, 2010) exploring students' motivation and learning strategies and mathematics achievement according to gender could contribute to the diversity of research on self-regulated learning. Likewise, examining these variables according to students' grade level might provide important insight on their use of these strategies through time. Finally, identifying motivation and learning strategies male and female students and those attending to different grades use for mathematics classes will guide efforts toward improvement of mathematics education.

In short, the purpose of this study was to examine as to which motivation and learning strategies high school students use for mathematics courses predict their achievement level in these courses. Thus, the study sought answers to the following specific research questions:
1. Which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics?
2. Which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to gender?
3. Which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to grade level?

METHOD

Model and Participants

In this correlational survey study, students' scores on factors of Motivation and Learning Strategies Scale were used to predict their levels of achievement in their respective mathematics courses. A convenient sample of 440 high school students attending to two public high schools in the Altındağ District of Ankara, Turkey during the academic year of 2010-2011 was utilized. Male and female students constituted 58.6% and 41.4% of the sample respectively. Students' age ranged between 14 and 17 years with a mean of 15.92 (SD=0.933). Thirty-eight percent of the students were ninth graders, 28% tenth graders and almost 35% were eleventh graders.

Procedure

Upon obtaining permission from school administration, students present in their respective mathematics classrooms were provided information about the nature and purpose of the study and their consent was obtained. Students who volunteered to participate were given the surveys during their respective class sessions. The survey consisted of the MSLQ scale and a Personal Information Form. Completion of the instruments took about 20–30 minutes.

Instruments

The Motivated Strategies for Learning Questionnaire (MSLQ): MSLQ was developed by Pintrich, Smith, Garcia and McKeachie in 1991, as a self-report instrument designed to measure college students' motivational orientation and their use of different learning strategies for a college course. The MSLQ consists of 81 items divided into two sections: (1) a *motivation* section and (2) a *learning strategies* section. The motivation section is made of 31 items that assess students' goals and value beliefs for a course, their beliefs about their skills to succeed in the course and their anxiety about tests in the course. The learning strategy section consists of 50 questions: 31 items regarding students' use of different cognitive and metacognitive strategies and 19 items concerning students' management of different learning resources (Garcia & Pintrich, 1996). The motivation section has six factors and the learning strategies section has nine factors. Table 1 lists these two sections and their subscales.

Students rate themselves on a 7-point Likert type scale which has responses ranging between 1 (*not at all true of me*) and 7 (*very true of me*). Scores for the individual scales are computed by taking the mean of the items that make up the scale. Several items within the MSLQ are negatively worded and must be reversed before the respective score is computed. The MSLQ "assumes that students' responses to the questions might vary as a function of different courses, so that the same individual might report different levels of motivation or strategy use depending on the course" (Duncan & McKeachie, 2005, p. 119).

The MSLQ was adapted into Turkish by Karadeniz, Büyüköztürk, Akgün, Çakmak and Demirel (2008). In the adaptation study the scale was administered to 1114 students aged between 12 and 18 years. Results of the confirmatory factor analyses showed that the first subscale, "motivation", had six factors, and the second subscale, "learning strategies", consisted of nine factors which were parallel to the factor-structure of the original scale. Based on the results of the confirmatory factor analysis; 6 items from motivation subscale and 5 items from learning strategies subscale were eliminated due to their low factor loadings. The corrected item-total correlations ranged between 0.58 and 0.15 for motivation subscale, and between 0.68 and 0.19 for learning strategies subscale (Karadeniz et al., 2008). The authors found an internal consistency coefficient of 0.26 for control beliefs. Internal consistency coefficients for other motivation factors ranged between 0.54 and .72; between 0.51 and 0.83 for learning strategies factors.

Table 1. Listing of motivation and learning strategies in MSLQ

Scale	Subscale
Motivation	1. Value Components
	a. Intrinsic Goal Orientation
	b. Extrinsic Goal Orientation
	c. Task Value
	2. Expectancy Components
	a. Control Beliefs
	b. Self-Efficacy for Learning and Performance
	3. Affective Components
	a. Test Anxiety
Learning Strategies	1. Cognitive and metacognitive Strategies
	a. Rehearsal
	b. Elaboration
	c. Organization
	d. Critical Thinking
	e. Metacognitive Self-Regulation
	2. Resource Management Strategies
	a. Time and Study Environment
	b. Effort Regulation
	c. Peer Learning
	d. Help Seeking

Personal Information Form: Participants were given a personal information form inquiring information on their age, gender (female or male), grade level (open ended) and their grades in mathematics courses which was to be based on their grade report cards of the Fall Semester of the 2010-2011 academic year.

RESULTS

In this study, six factors of motivation and nine factors of learning strategies of MLSQ were used to predict high school students' mathematics achievement. Step-wise regression analysis was used as the data analytic procedure. Mathematics achievement was the outcome variable. In all analyses 0.05 was used as the level of significance.

Prior to the analyses, data was examined to test for normality, linearity and multicollinearity assumptions. As illustrated in Figure 1, standardized residual values histogram shows that the normality assumption is met. Likewise, in Figure 2 the normal probability plot resembles a straight line which was considered as indicative of normal distribution.

In order to test the data for linearity assumption, the standardized residuals plot for standardized residuals and standardized predicted values (Figure 3) was used. As seen in Figure 3, residuals clustered around the zero line for the predicted values which was considered as supporting evidence for the linearity assumption.

In order to test for multicollinearity among predictor variables, tolerance statistics, variance inflation factor (VIF) and condition indices (CI) were calculated. Given that the tolerance statistics were higher than 0.10, the VIF was lower than 10 and the condition index was lower than 30, thus it was concluded that multicollinearity was not present among the predictor variables.
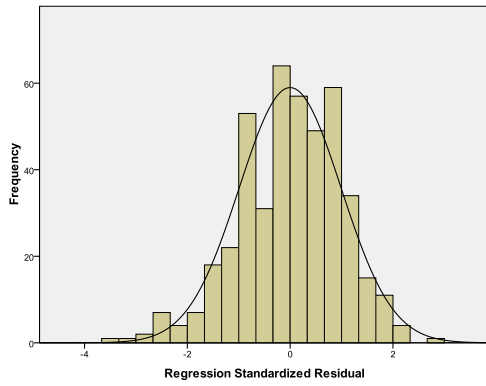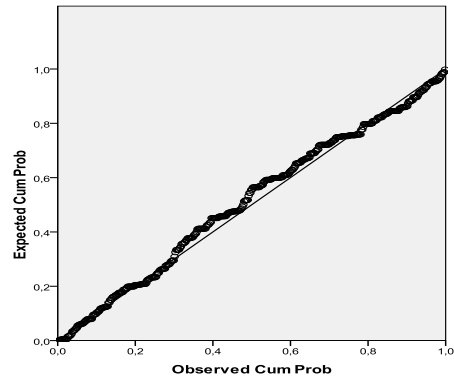
Figure 1. Histogram
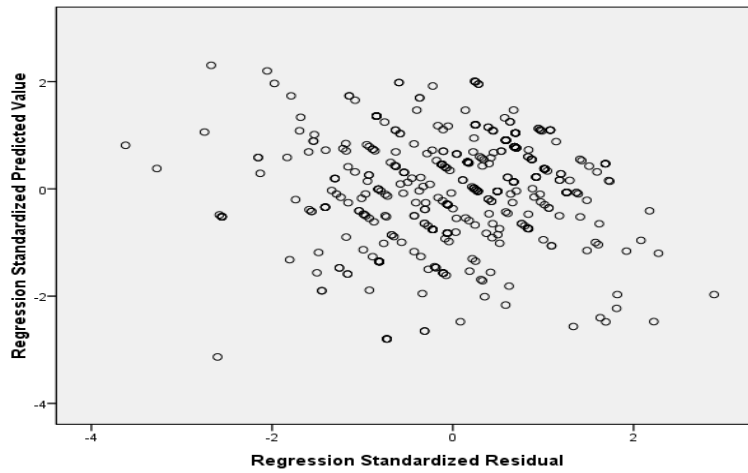

Figure 2. Normal probability plot

Figure 3. Standardized Residuals Plot

Step-wise regression analysis was used to determine as to which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics. Results showed that seven factors [task value (M), time and study environment (LS), self-efficacy for learning and performance (M), extrinsic goal orientation (LS), test anxiety (M), peer learning (LS) and organization (LS)] were significant in predicting mathematics achievement. As illustrated in Table 2, multiple correlation (R), coefficient of determination (R^2), adjusted R^2, change in R^2 and change in F values were obtained by entering each significant predictor variable to the regression model at each step.

Table 2. Summary of the regression model

Model	Step	R	R^2	R^2_{adj}	ΔR^2	F_{chg}	df_1	df_2	p
1	(M) Task value	.504	.254	.252	.254	148.75	1	438	.000
2	(LS) Time/s.env.	.555	.308	.305	.055	34.435	1	437	.000
3	(M) Self-efficacy	.577	.333	.329	.025	16.627	1	436	.000
4	(M) Extrinsic g.	.593	.351	.345	.018	11.930	1	435	.001
5	(M) Test anxiety	.606	.368	.360	.016	11.177	1	434	.001
6	(LS) Peer learning	.616	.380	.371	.012	8.709	1	433	.003
7	(LS) Organization	.628	.395	.385	.014	10.336	1	432	.001

As shown in Table 2, the task value factors factor of motivation (M) had a relationship of 0.504 with mathematics achievement. All significant independent variables had a multiple-correlation coefficient of 0.628 with mathematics achievement. While task value factor explained 25.4% of the variance in mathematics achievement, all independent variables having significant relationships with the outcome variable accounted for 39.5% of the variance in mathematics achievement. Change in the coefficient of determination (ΔR^2) indicates the change in the variance of the outcome variable upon entry of an additional independent variable to the model. As such, while the task value factor of motivation by itself had 25.4% contribution to the variance in mathematics achievement, the time and work environment factor of learning strategies had 5.5% contribution; self-efficacy had 2.5%, extrinsic goal orientation had 1.8%, test anxiety 1.6%, peer learning had1.2% and organization had 1.4% contribution to the variance in mathematics achievement.

Partial and bivariate correlations between the outcome variable (mathematics achievement) and of the independent variables are shown in Table 3. The correlation coefficients in the table show that the task value factor had a moderate and positive relationship with mathematics achievement (r_{yx1}=.504). The two variables had a correlation of 0.231 when all other variables were partialed out. Time and study environment factor had a moderate and positive relationship with mathematics achievement (r_{yx2}=.421). These two variables had a correlation of 0.203 when all other variables were partialed out. Self-efficacy for learning and performance factor had a moderate and positive relationship with mathematics achievement (r_{yx3}=.434). These two variables had a correlation of 0.239 when all other variables were partialed out. Extrinsic goal orientation factor had a low and negative relationship with mathematics achievement (r_{yx4}=-.100). The two variables had a correlation of -0.204 when all other variables were partialed out. Test anxiety factor had a low and positive relationship with mathematics achievement (r_{yx5}=.056). On the other hand, these two variables had a negative correlation of -0.142 when all other variables were partialed out. Peer learning factor had a low and negative relationship with mathematics achievement (r_{yx6}=-0.032). These two variables had a correlation of -0.188 when all other variables were partialed out. Organization factor had a low and positive relationship with mathematics achievement (r_{yx7}=.317). The two variables had a correlation of 0.153 when all other variables were partialed out.

Given the standardized regression coefficients (β), their relative predictive importance was listed as follows: self-efficacy for learning and performance, task value, time and study environment, extrinsic goal orientation, peer learning, organization and test anxiety.

Table 3. Coefficients table for regression model

Variables	B	β	t	p	Zero-order r	Partial r	Collinearity Statistics	
							Tolerance	VIF
Constant	46.37	-	11.63	.000	-	-	-	-
(M) Task value	.608	.252	4.938	.000	.504	.231	.536	1.865
(LS) Time/s.envir.	.402	.208	4.305	.000	.421	.203	.599	1.670
(M) Self-efficacy	.571	.253	5.124	.000	.434	.239	.575	1.740
(M) Extrinsic goal	-.655	-.188	-4.331	.000	-.100	-.204	.746	1.341
(M) Test anxiety	-.221	-.129	-2.984	.003	.056	-.142	.746	1.341
(LS) Pear learning	-.541	-.169	-3.969	.000	-.032	-.188	.770	1.298
(LS) Organization	.351	.167	3.215	.001	.317	.153	.521	1.919
R= .628 R^2=.395	R^2_{adj}=.385	F(7,432)=40.210	p=.000					

These seven factors had a correlation of 0.623 with mathematics achievement which was significant [F(7,432) =40.210; p=.000]. These variables accounted for approximately 40% of the variance in the outcome variable.

The second research question of this study inquired as to which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to gender. The results of multiple regression analysis are shown in Table 4.

Table 4. Results of multiple regression according to gender

Gender	Variables	B	β	t	p	ΔR^2	Zero-order	Partial
							Correlation r	
Female	Constant	54.993		10.876	.000			
	(M) Self-efficacy	.861	.447	6.128	.000	.253	.503	.418
	(LS) Time/s.environ.	.541	.281	3.838	.000	.038	.424	.277
	(M) Test anxiety	-.336	-.237	-3.490	.001	.030	-.003	-.254
	(M) Extrinsic goal	-.540	-.159	-2.392	.018	.021	.009	-.177
R= .586 R^2=.543 R^2_{adj}=.329 F(4,137)=23.137 p=.000								
Male	Constant	25.525		5.844	.000			
	(M) Task value	1.013	.412	6.588	.000	.280	.530	.383
	(LS) Effort regulation	.646	.248	4.046	.000	.053	.315	.247
	(M) Self-efficacy	.454	.188	3.200	.002	.028	.424	.198
	(LS) Organization	.492	.231	3.158	.002	.012	.297	.195
	(LS) Metacognitive	-.215	-.194	-2.25	.025	.012	.300	-.141
R= .622 R^2=.386 R^2_{adj}=.374 F(5,252)=31.750 p=.000								

As illustrated in the table 4, self-efficacy for learning and performance, time and study environment, test anxiety and extrinsic goal orientation were significant factors predicting mathematics achievement of female students [F(4,137)=23.137; p=.000]. These variables accounted for 54% of variance in mathematics achievement of female students. Task value, effort regulation, self-efficacy for learning and performance, organization, metacognitive self-regulation significantly predicted mathematics achievement of male students [F(5,252)=31.750; p=.000]. These variables accounted for 39% of variance in mathematics achievement of male students.

The third research question of this study inquired as to which factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to grade level. The results of multiple regression analysis are shown in Table 5. The results show that the task value factor significantly predicted mathematics achievement of 9th grade students [F(1,165)=41.354; p=.000]. It accounted for 20% of variance in mathematics achievement of 9th graders. Self-efficacy for learning and performance, organization, effort regulation and peer learning factors were significant in predicting 10th grade students mathematics achievement [F(4,114)=25.947; p=.000]. These factors accounted for 48% of the variance in the outcome variable. Four out of 6 motivation factors and 8 out of 9 learning strategies factors were significant in predicting mathematics achievement of 11th graders. These factors accounted for 82% of the variance in mathematics achievement.

Table 5. Results of multiple regression according to grade level

Grade	Variables	B	β	t	p	Δ R²	Correlations Zero-order	Partial
9th Grade	(Constant)	49.236		11.540	.000			
	(M) Task value	.949	.448	6.431	.000	.200	.448	.448
R= .448 R²=.200 R²adj=.196 F(1,165)=41.354 p=.000								
10th Grade	(Constant)	34.763		5.501	.000			
	(M) Self-efficacy	.959	.436	5.877	.000	.348	.590	.482
	(LS) Organization	.702	.251	3.508	.001	.060	.393	.312
	(LS) Effort regu.	.554	.186	2.536	.013	.040	.414	.231
	(LS) Peer learning	-.668	-.175	-2.521	.013	.029	-.252	-.230
R= .690 R²=.477 R²adj=.458 F(4,114)=25.947 p=.000								
11th Grade	(Constant)	71.054		11.818	.000			
	(M) Intrinsic	3.827	1.155	12.454	.000	.387	.622	.724
	(LS) Organization	1.890	1.046	11.104	.000	.122	.465	.683
	(LS) Peer learning	-1.487	-.494	-9.682	.000	.113	.047	-.632
	(M) Learning contr.	-1.718	-.272	-6.267	.000	.057	.074	-.467
	(LS) Metacognitive	-.722	-.797	-5.725	.000	.026	.475	-.434
	(G) Extrinsic goal	-1.171	-.327	-6.845	.000	.012	-.086	-.499
	(G) Task value	-1.487	-.573	-5.993	.000	.013	.545	-.451
	(LS) Critical thin.	.937	.433	7.218	.000	.024	.320	.519
	(LS) Time/s.env.	1.059	.625	5.878	.000	.018	.499	.444
	(LS) Effort reg.	-.878	-.348	-4.513	.000	.017	.458	-.355
	(LS) Rehearsal	.754	.343	4.488	.000	.022	.421	.354
	(LS) Elaboration	-.393	-.279	-3.017	.003	.012	.406	-.246
R= .906 R²=.822 R²adj=.806 F(12,141)=54.119 p=.000								

DISCUSSION

Results of this study showed that factors such as task value (M), time/study environment (LS), self-efficacy (M), extrinsic goal orientation (LS), test anxiety (M), peer learning (LS) and organization (LS)] significantly predicted students' mathematics achievement. The relationships between mathematics achievement and extrinsic goal orientation; peer learning and test anxiety were negative. These results are overall in line with those by Öztürk, Bulut and Koç (2007) who worked with a sample of 752 9th graders from Turkey and tested if scores on subscales of Motivation and Learning Strategies Questionnaire (MLSQ, Pintrich et al., 1991) significantly predicted their mathematics achievement. The authors report that factors of self-efficacy, test-anxiety and extrinsic goal orientation were significant in predicting students' mathematics achievement. These factors accounted for 10% of the variance in mathematics achievement. Similar with the current study, Öztürk and colleagues also reported a significant negative relationship between mathematics achievement and test-anxiety and extrinsic goal orientation. Likewise, findings of the current study are only partially parallel to those by Üredi and Üredi (2005) who examined the degree to which factors of self-regulated learning predicted mathematics achievement levels of 8th grade students. These investigators also found that self-efficacy, test-anxiety and extrinsic goal orientation were significant in predicting students' mathematics achievement. Self-efficacy had a positive relationship with mathematics achievement while test-anxiety and extrinsic goal orientation had a negative relationship.

Results of the current study showed that some factors of motivation and learning strategies significantly predict students' achievement levels in mathematics according to gender. While factors of self-efficacy,

time and study environment, test-anxiety and extrinsic goal orientation significantly predicted female students' achievement levels in mathematics, effort regulation, self-efficacy and metacognitive self-regulation were factors significantly predicting male students' levels of mathematics achievement. Furthermore, self-efficacy accounted for 25% of variance in predicting female students' mathematics achievement whereas task-value accounted for 28% of variance. On the other hand, Üredi and Üredi (2005) who worked with a sample of 8th graders from Turkey and found motivation and learning strategies overall predicting male students' mathematics achievement better than that of female students. Use of cognitive strategies and self-regulation were factors significantly predicting female students' mathematics achievement while use of cognitive strategies, self-regulation, self-efficacy and intrinsic value perception were significant in predicting male students' mathematics achievement. The authors attributed this result to male students' higher scores on self-efficacy and intrinsic goal orientation. Their findings regarding male students scoring higher on self-efficacy was confirmed by the findings of the current study as well as a number of previous studies (i.e., Pintrich & De Groot, 1990). On the other hand, comparisons between findings from samples of differing age groups should be done carefully. Some authors (i.e., Schraw & Moshman, 1995; Moschner, Anschuetz, Wernke & Wagener, 2008) have warned that adolescents mastery on metacognitive processes (awareness, knowledge and control over one's cognition) continue through teen years. Thus, these authors suggest that while investigating self-regulation strategies of elementary school students, results should be interpreted with caution.

Self-efficacy for learning and performance factor of MSLQ consists of items measuring two aspects of expectancy; expectancy for success and self-efficacy. The two aspects are about students expectations and beliefs as to what degree they see the task (i.e., mathematics course) manageable ("doable") and their self-appraisals about their ability to master the task. In the case of participants of this study, self-efficacy for learning and performance refers to students' judgments about their ability to succeed in the mathematics course and their confidence in their skills toward doing so. The factor of task value on the other hand, has to do with high school students' evaluation of how interesting, how important and how useful their respective mathematics courses are. In other words, it is about students' perceptions of the course material with respect to their interest, importance and utility. Thus, task value is closely associated with one's degree of involvement in his or her learning. Given that findings of this study showed that self-efficacy accounted for 25% of variance in predicting female students' mathematics achievement whereas task-value accounted for 28% of variance, might be taken as evidence female students' trust in their ability to succeed in high school mathematics courses is an essential part of their motivation and success in these courses whereas the degree to which male students perceived their respective mathematics classes was essential part of their motivation and success in this courses. Indeed, various studies have documented that overall, female students report lower self-efficacy in mathematics than their male peers (i.e., Lynch, 2010; Ferla, Valcke & Cai, 2009). It appears that self-efficacy is an essential factor associated with female students' performance in mathematics. Previous studies attempting to predict mathematics achievement of male and female students by factors of MLSQ found mixed results. For instance, Yükseltürk and Bulut (2009) found that test anxiety accounted for significant proportion of variance in female students' mathematics achievement while self-efficacy and task value did so for variance in male students' mathematics achievement.

Findings showed that different factors of motivation and learning strategies significantly predicted students' achievement levels in mathematics for each grade level. Task value was the only significant factor predicting mathematics achievement for 9th graders, while self-efficacy for learning and performance, organization, effort regulation and peer learning factors significantly predicted mathematics achievement for 10th graders. Finally, none of the several factors significantly predicting mathematics achievement levels of 11th graders were significant for 9th or 10th graders. Four out of 6 motivation factors and 8 out of 9 learning strategies factors were significant in predicting mathematics achievement levels of 11th graders.

Overall, findings related to grade levels seem to point to unique sets of factors for each grade levels. Similar results were reported by Öztürk and colleagues (2007) who found that self-efficacy for learning and performance was the most powerful factor in predicting mathematics achievement, explaining 7.4% of the variance. Likewise, many studies have reported self-efficacy as the most important factor in predicting mathematics as well as other courses (Ergöz, 2008; Yükseltürk & Bulut, 2005; Coutinho & Neuman, 2008; Mousoulides & Philippou, 2005; Niemcyzk & Savenye, 2005; Pintrich & DeGroot, 1990; Wolters & Pintrich, 1998). However, findings of the current study partially differ from those. For example, self-efficacy was among factors significantly predicting mathematics achievement levels of 9th and 11th graders. On the other hand, it was the first factor to enter into the regression equation and by itself explained 34.8% of variance in mathematics achievement levels of 10th graders.

Another unique finding of this study was that the task value accounted for 25.4% variance in mathematics achievement of all students and 28% of variance in mathematics achievement of male students. Task value also by itself, explained 20% of variance in mathematics achievement of 9th graders. Although Pintrich, Marx and Boyle (1993) propose that task value (the degree to which the student find the task worth the effort/completion) in general increases individuals effort toward successful completion of the task, Ergöz (2008) did not find task value as a significantly contributing mathematics achievement of 7th graders and Öztürk and colleagues (2007) did not find it significant contributing to mathematics achievement of 9th graders. Studies regarding task value have yielded to mixed results. Contrary to findings by Ersöz (2008), Öztürk and colleagues (2007), Seo and Taherbhai (2009) found task value as a significant factor in determining Korean 5th grade students' success or failure in mathematics courses.

LIMITATIONS AND RECOMMENDATIONS

This study explored relationship of motivation and learning strategies to mathematics achievement of 9th, 10th and 11th grade high schoolers by using multiple regression which could also be seen as a limitation of the study. Multiple regression assumes linear relationships. However, relationships between psychological constructs are not always linear. Sole reliance on self-report and use of a convenient sample were among other limitations of the current study. Thus, future studies can use nonlinear analyses, diverse assessment procedures and more representative samples in exploring these variables.

Results of this study showed that regression equations predicting mathematics achievement according to gender and grade level were significant. Thus, mathematics achievement seems at least in part a function of gender and grade level. Yet, no further inferences can be made based on findings of correlational studies such as the current one. Hence, the correlational nature of this study also poses limitations to the inferences that can be made about its results. Therefore, using causal models, future studies can acquire further insight into sources of mathematics achievement.

The most striking finding of this study was that factors predicting mathematics achievement differed remarkably according to grade level. Studies with more representative national samples can further examine achievement levels in each course or at least subject area according to a host of variables. Also, longitudinal studies can provide vital insight regarding what factors influence mathematics (or other courses) achievement through grades and age as well as according to family, personal, community and regional variables. Such insight will guide teachers and school counselors toward improved levels personal as well as national achievement in mathematics and other areas.

Results of the study have several implications for educators and school counseling and guidance personnel. For example, they show that teachers and counselors should not view students' overall (general) motivation or learning strategies but rather look into individual variables impacting student achievement on a course-to-course basis for each student. School counselors can develop programs geared toward improvement of students' self-regulated learning strategies. Ideally, as noted by Cleary and

Zimmerman (2004), such programs can have a "microanalytic assessment procedures to assess students' self-regulation beliefs and study strategies" and coach "students to use these strategies in a cyclical, self-regulation feedback loop" (p. 41). Given that factors associated with students' achievement in mathematics might change with gender, grade (perhaps age and many other variables), motivational and learning strategies can be viewed on an individual basis by counselors and teachers so as to reinforce their existing strengths but also empower and strengthen areas (factors) in need of improvement. Similarly, school counselors in collaboration with teachers, can explore factors associated with students' underachievement with respect to motivation and learning strategies. Indeed, such an approach is in line with student-centered views held by contemporary educators and school counselors.

Likewise, school counselors and educators can particularly be sensitive to building female students' self-efficacy as way of contributing to their achievement levels in traditionally male dominated areas such as mathematics and sciences and thus can contribute to efforts toward eliminating gender inequalities. Considering that countries wish impressive visions for their educational systems have the inspiring goal of leaving no child behind, providing teaching and counseling/guidance services not only in individualized manners but even specific to each course will have remarkable contributions to student learning and thus to their academic and personal development.

REFERENCES

Barkley, R. A. (2010). Differential diagnosis of adults with ADHD: The role of executive function and self-regulation. *Journal of Clinical Psychiatry*, *71*, e17. Retrieved from http://www.psychiatrist.com/abstracts/abstracts.asp?abstract=201007/0710e17.htm

Cleary, T. J., & Zimmerman, B. J. (2004). Self-regulation empowerment program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the Schools, 41*, 537-550.

Coutinho, S. A., & Neuman, G. (2008). A model of metacognition, achievement goal orientation, learning style and self-efficacy. *Learning Environments Research 11* (2): 131–151.

Dinç Kahraman, S. (2010). Kadınların toplumsal cinsiyet eşitsizliğine yönelik görüşlerinin belirlenmesi.12.Ulusal Halk sağlığı Kongresi'nde poster olarak sunulmuştur Erciyes Üniversitesi Atatürk Sağlık Yüksekokulu Talas/ Kayseri.

Duncan, T. G., & McKeachie, W. J. (2005). The making of the motivated strategies for learning questionnaire. *Educational Psychologist, 40*, 117-128.

Dunn, K. E., Lo, W. J., Mulvenon, S. W., & Sutcliffe, R. (2012). Revisiting the Motivated Strategies for Learning Questionnaire: A Theoretical and Statistical Reevaluation of the Metacognitive Self-Regulation and Effort Regulation Subscales. *Educational and Psychological Measurement, 72*(2), 312-331.

Eraslan, A. (2009). Finlandiya'nın PISA'daki başarısının nedenleri: Türkiye için alınacak dersler. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi*, *3* (2), 238–248.

Ergöz, G. (2008). Investigation of self-regulated learning and motivational beliefs in mathematics achievement. Yüksek Lisans Tezi. Ankara: Orta Doğu Teknik Üniversitesi.

Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. *Learning and Individual Differences, 19*, 499–505.

Garcia, T, & Pintrich, P. R. (1996). Assessing Students' Motivation and Learning Strategies in the Classroom Context: The Motivated Strategies for Learning Questionnaire. *Alternatives in Assessment*

of Achievements, Learning Processes and Prior Knowledge Evaluation in Education and Human Services, 42, 319-339.

Heatherton, T. F., & Wagner, D. D. (2011). Cognitive neuroscience of self-regulation failure. *Trends in Cognitive Sciences*, *15*, 132-139.

Karadeniz, Ş., Büyüköztürk, Ş., Akgün, Ö. E., Kılıç-Çakmak, E., & Demirel, F. (2008). The Turkish adaptation study of Motivated Strategies for Learning Questionnaire (MSLQ) for 12–18 year old children: Results of confirmatory factor analysis. *The Turkish Online Journal of Educational Technology, 7* (4), article 12.

Lynch, D. J. (2010). Motivational beliefs and learning strategies as predictors of academic performance in college physics. *College Student Journal, 44,* 920–928.

Moschner, B., Anschuetz, A., Wernke, S., & Wagener, U. (2008). Measurement of epistemological beliefs and learning strategies of elementary school children. In M. S. Khine (Ed.), *Knowing, knowledge and beliefs. Epistemological studies across diverse cultures*. New York: Springer.

Mousoulides, N., & Philippou, G. (2005). Students' motivational beliefs, self-regulation strategies and mathematics achievement. In Chick, H. L. & Vincent, J. L. (Eds.). *Proceedings of the 29th Conference of the International Group for the Psychology of Mathematics Education*, Vol. 3, pp. 321–328. Melbourne: PME.

Niemczyk, M. C., & Savenye, W. (2005). Self-regulation in a computer literacy course. *Academic Exchange Quarterly* 9 (4): 55–61.

Özturk, B., Bulut, S., & Koç, Y. (2007). Motivation and self-regulation in mathematics. *Academic Exchange Quarterly,* 11(2): 149–154.

Pintrich, P. R. (1988). A process-oriented view of student motivation and cognition. In J. S. Stark & L. Mets (Eds.), Improving teaching and learning through research. *New directions for institutional research, 57* (pp. 55-70). San Francisco: Jossey-Bass.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology* 82(1): 33–40

Pintrich, P. R., Marx, R. W., & Boyle, R. A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational Research* 63: 167–199.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A Manual for the use of the motivated strategies for learning.* Michigan: School of Education Building, The University of Michigan. ERIC database number: ED338122.

Schraw, G., & Moshman, M. (1995). Metacognitive theories. *Educational Psychology Review, 7*(4), 351–371.

Schunk, D. H. & Zimmerman, B. J. (1998). *Self-regulated learning: From teaching to self reflective practice*. New York, NY: Guilford Press.

Seo, D. C., & Taherbhai, H. (2009). Motivational beliefs and cognitive processes in mathematics achievement, analyzed in the context of cultural differences: A Korean elementary school example. *Asia Pacific Education Review* 10 (2): 193–203.

Tanner, H., & Jones, S. (2003). Self-efficacy in mathematics and students' use of self-regulated learning strategies during assessment events. In N.A. Pateman, B.J. Dougherty, & J.T. Zilliox, *Proceedings of the 27th Conference of the International Group for the Psychology of Mathematics Education* (PME27), pp. 275-82. Honolulu, HI.

Üredi, I., & Üredi, L. (2005). İlköğretim 8. sınıf öğrencilerinin öz-düzenleme stratejileri ve motivasyonel inançlarının matematik başarısını yordama gücü. *Mersin Üniversitesi Eğitim Fakültesi Dergisi, 1*(2), 250-261.

Wigfield, A., & Eccles, J. (1989). Test anxiety in elementary and secondary school students. *Educational Psychologist, 24*(2), 159–183.

Wolters, C. A., & Pintrich, P. R. (1998). Contextual differences in student motivation and self-regulated learning in mathematics, English, and social studies classrooms. *Instructional Science* 26: 27–47.

Yükseltürk, E., & Bulut, S. (2005). Relationships among self-regulated learning components, motivational beliefs and computer programming achievement in an online learning environment. *Mediterranean Journal of Educational Studies 10* (1): 91–112.

Yükseltürk, E., & Bulut, S. (2009). Gender differences in self-regulated online learning environment. *Educational Technology & Society*, *12* (3), 12–22.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), 64–72.

Zimmerman, B. J., & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal, 23,*(4)**,** 614-628.

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology, 80,* 284–290.

COMMON RELIABILITY AND VALIDITY STRATEGIES IN INSTRUCTIONAL TECHNOLOGY RESEARCH

Fatma Burcu TOPU[*a]; Özlem BAYDAŞ[a];
Zeynep TURAN[a]; Yüksel GÖKTAŞ[a]

[a]Atatürk University, Kazım Karabekir Faculty of Education, Erzurum/Turkey

ABSTRACT

The purpose of this study is to identify the reliability and validity strategies used in Instructional Technology research studies in Turkey. For this purpose, 42 doctoral dissertations published between 2005 and 2011 in the field of Instructional Technology were content analyzed, and then codes were created. Based on the code list, these doctoral dissertations were re-examined by means of the descriptive analysis method. The results show that the main reliability and validity strategies employed in the dissertations are explanation of the data collection instruments, explanation of the administration and the data analysis process, explanation of the participants' characteristics and their selection process, and surveying expert opinions. However, the strategies of inter-rater reliability between the evaluators, peer reviews, control of consistency in the results, member checking, and the use of language experts were all observed less frequently in the theses. The identification of these strategies should allow researchers to better understand reliability and validity methodologies, so that they may enhance their usage in Instructional Technology studies.

Keywords*: Instructional technology, validity, reliability.*

INTRODUCTION

Research studies should be reliable, accurate, and relevant, so that they may direct new developments and regulations (Yıldırım & Şimşek, 2006). The reason that such studies possess authority is their supposed qualities of validity and reliability, which are two of the fundamental aspects of scientific research (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2010). However, there are no clear-cut validity and reliability methodologies for quantitative, qualitative, and mixed research designs in scientific research studies (Johnson & Christensen, 2004). In fact, within different guide books that are focused upon research methods, a diversity of strategies can be found to provide validity and reliability (Bogdan & Biklen, 1998; Brinberg & McGraft, 1985; Creswell, 2005; Fraenkel & Wallen, 2012; Johnson & Christensen, 2004; McMillan & Schumaher, 2010; Patton, 2002). Because of this apparent confusion, this study was designed to determine which validity and reliability methodologies were used, and to what extent, in recent Instructional Technology research studies (conducted as doctoral dissertations) in Turkey. The results should assist future researchers to better understand, and thereby to enhance validity and reliability methodologies in their own research studies. The following questions guided this study:

1. What are the validity and reliability methodologies in the examined doctoral theses that have a qualitative research design?
2. What are the validity and reliability methodologies in the examined doctoral theses that have a quantitative research design?
3. What are the validity and reliability methodologies in the examined doctoral theses that have a mixed research design?

---

[*] **Co-Author:** burcu.topu@atauni.edu.tr

METHOD

The sample was 42 doctoral theses of which accessibilities were permitted of 55 doctoral theses in the field of Computer and Teaching Technologies, which have been archived in the YOK National Theses Center. Thirteen of these theses featured qualitative methods, 13 featured quantitative methods, and 16 employed a mixed research design. The theses were first examined by means of the content analysis method, and then were re-examined with the descriptive analysis method.

FINDINGS

Validity and Reliability Methodologies in the Doctoral Theses with a Qualitative Research Design

In all of the qualitative theses, the following were used as validity methodologies: "provision of a rationale for the methodology used," "association of the research methodology with those found in the literature," "clarification of the sampling methodology," "clarification of the sample characteristics," "explanation of the data collection tools and process," "description of the procedure," and "description of the data analysis process." Most of the theses also used: "description of the population."

In the theses that featured a qualitative design, the following were used as reliability methodologies: "description of the researcher's role," "provision of the participants' consent," "explanation of the implications and limitations," "surveying expert opinions," "conducting triangulation," and "prevention of data loss by using a voice recorder." Most of the theses also used: "use of a pilot study," and "explanation of the reliability scores." In addition, in almost half of the theses, "peer reviews," "inter-rater reliability between the evaluators," and "checking for consistency between the data" were also employed as reliability methodologies.

Validity and Reliability Methodologies in the Doctoral Theses with Quantitative Designs

In all of the quantitative theses, the following were used as validity methodologies: "clarification of the sampling characteristics," "explanation of the data collection tools and process," "description of the procedure," and "description of the data analysis process." Most of the theses also used: "association of the research methodology with those found in the literature," "provision of a rationale for the methodology used," "clarification of the sample characteristics," and "description of the population." In nearly half of the theses, "provision of the participants' consent," and "explanation of the implications and limitations" were used.

In the theses that featured a quantitative design, the following appeared as reliability methodologies: "surveying expert opinions," "use of a pilot study," and "explanation of the reliability scores." However, these methodologies were seldom used: "surveying the participants' opinions," "conducting triangulation," "language checks by experts," "inter-rater reliability between the evaluators," "peer reviews," and "checking for consistency between the data."

Validity and Reliability Methodologies in the Doctoral Theses with Mixed Designs

In all of the theses with a mixed design, the following methodologies were used to provide validity: "clarification of the data collection tools and process," "description of the data analysis process," "explanation of the validity and reliability methodologies," and "description of the procedure." Most of the theses also used: "description of the sampling methodology," "clarification of the sample characteristics," "description of the population," "association of the research methodology with those found in the literature," "provision of a rationale for the methodology used," and "explanation of the

implications and limitations." Half of the studies also featured: "description of the role of the researcher" and "provision of the participants' consent."

In all of the theses with a mixed design, "surveying expert opinions" was used as a reliability methodology. Most of the theses employed: "peer reviews," "explanation of the reliability scores," "conducting triangulation," "use of a pilot study," and "prevention of data loss by using a voice recorder." Almost half of the theses featured: "inter-rater reliability between the evaluators," "surveying the participants' opinions," and "language check by experts."

CONCLUSION and DISCUSSION

The results show that in most of the theses, the data collection tools, data analysis, the sample selections and characteristics, and the procedures were the focus when discussing validity methodology. Day (2000), and Ekmekçi and Konaç (2009) have stated that these are all fundamental elements of the academic writing process. In the theses examined, discussion of the selected methodology and comparisons with the literature appear to be the most prevalent strategies. Clarifying the validity methodology in a study is essential for others to assess the accuracy of the information given (Greenhalgh, 1997). Another common validity methodology in the theses is the explanation of the population. While the population influences the sample selection methodology, it is significant since it signifies to what extent samples represent the universe, (Hoepfl, 1997; Karatay, 2008). Further, while explanation of the implications and limitations was a feature of all the qualitative theses, this methodology was used in only 61% of the quantitative theses and 75% of the mixed design theses. Explanation of the limitations in a research study is important in order to state particular conditions in which the findings will be valid (LeCompte & Goetz, 1982; Merriam, 1998).

In all of the theses, "surveying expert opinions" was presented as a reliability methodology. This may be due to the fact that the thesis advisor is an expert. While pilot studies were used in all of the quantitative studies, in the mixed and qualitative studies, the frequency decreased. Piloting is important to determine and remove probable constraints before an actual procedure starts (Lancaster & Williamson, 2004). Thus, it may minimize errors in the study (Creswell, 2007). Another way to enhance reliability in a research study is triangulation. In only 23% of the mainly quantitative studies was qualitative triangulation employed; but 93% of the qualitative and mixed design studies featured triangulation. Triangulation is important, because data gathered from studies in different disciplines and from a variety of sources may adversely affect the accuracy of one's own study (Bakıoğlu & Kurnaz, 2010; Booth, Colomb, & William, 2003; Creswell, 2005; LeCompte & Goetz, 1982; Oliver-Hoyo & Allen, 2006). Only a few of these theses employed peer reviews and surveys of the participants' views. However, by means of peer reviews, possible inconsistencies may be reduced, and thus, reliability may be enhanced (Miles & Huberman, 1994; LeCompte & Goetz, 1982).

Finally, as Day highlighted (2000), the absence of validity and reliability methodology negatively affects a research study's accuracy, soundness, consistency, and feasibility. Therefore, if a study is to be qualified as a scientific investigation, then providing validity and reliability methodology at an acceptable standard for the discipline is essential.

ÖĞRETİM TEKNOLOJİSİ ARAŞTIRMALARINDA GEÇERLİK VE GÜVENİRLİK ÖNLEMLERİ

ÖZET

Bu çalışmanın amacı, öğretim teknolojisi alanında yapılan doktora tezlerinde, araştırma yöntemlerine göre kullanılan geçerlik ve güvenirlik önlemlerini belirlemektir. Bu amaçla, 2005-2011 yılları arasında öğretim teknolojisi alanında Türkiye'de yayınlanmış 42 doktora tezi içerik analizi yöntemiyle incelenerek kodlar oluşturulmuştur. Bu kod listesine bağlı olarak tezler, betimsel analiz yöntemiyle tekrar incelenmiştir. Araştırma bulguları; uygulama ve veri analiz sürecinin açıklanmasının, veri toplama aracının, örneklem özelliklerinin ve seçim şeklinin belirtilmesinin, uzman görüşünün alınmasının geçerlik ve güvenirlik önlemlerinde öncelikli olarak kullanıldığını göstermiştir. Ancak değerlendiriciler arası güvenirlik ve akran değerlendirmesinin yapılması, veriler arasında tutarlığın kontrol edilmesi, katılımcı görüşünün alınması ve uzmanlarca dil kontrolünün yapılması geçerlik ve güvenirlik önlemleri olarak alt sıralarda yer almıştır. Bu önlemlerin belirlenmesi araştırmacıların geçerlik ve güvenirlik önlemlerini daha iyi anlamalarını, böylece öğretim teknolojisiyle ilgili çalışmalarda bunların kullanımını artırabilir.

Anahtar Kelimeler: öğretim teknolojisi, geçerlik, güvenirlik.

GİRİŞ

Eğitim araştırmalarının yeni gelişme ve düzenlemelere yön verebilmesi için çalışmaların inandırıcı, doğru ve uygun olması önemli unsurlardandır (Yıldırım & Şimşek, 2006). Buna bağlı olarak bilimsel araştırmanın değeri geçerlik ve güvenirlik olmak üzere iki temel ölçüte dayanmaktadır (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2010). Bir biriyle iç içe olan geçerlik ve güvenirlik kavramlarının (Şencan, 2005) kapsamı incelendiğinde, araştırma geçerliği; çalışmanın amacı, kapsamı ve ölçülmek istenen değere yönelik olması ve ölçümlerin doğru sonuç vermesiyle ilgiliyken, güvenirliği; yapılan ölçümlerin tekrarlanabilmesi ve farklı zamanlardaki ölçümlerde benzer sonuçların alınabilmesiyle ilgilidir (Büyüköztürk vd., 2010; Ekiz, 2009; Fraenkel & Wallen, 2000; Golafshani, 2003; McMillan & Schumaher, 2010). Alan yazında önerilen geçerlik ve güvenirlik önlemleri ile ilgili araştırmacıların farklı sınıflamalar üzerinde durdukları, buna karşın bu sınıflamalarda benzer geçerlik ve güvenirlik önlemlerinin yer aldığı görülmektedir. Örneğin, Büyüköztürk vd. (2010) ile Toy ve Tosunoğlu (2007) geçerliliği; kapsam, ölçüt, yapı ve görünüş geçerliliği olarak sınıflamaktadır. Buna karşın McMillan ve Schumaher (2010), istatistiksel sonuç, iç, yapı ve dış geçerlilik sınıflamasını kullanmaktadır. Ayrıca Maxwell (1992) özellikle nitel araştırmalarda betimleyici, yorumlayıcı, kuramsal, genelleyici ve değerlendirici geçerlik sınıflamasını kullanmaktadır. Ancak bu sınıflamalar altında önerilen geçerlik önlemleri benzerlik göstermektedir. Bu doğrultuda yaygın olarak kullanıldığı düşünülen araştırma yöntemleri kitaplarında önerilen geçerlik ve güvenirlik önlemleri Tablo 1'de sunulmuştur. Her ne kadar Tablo 1'de geçerlik ve güvenirlik önlemleri kategorize edilerek verilse de, alan yazın incelendiğinde bazı önlemlerin hem geçerliliğe hem de güvenirliğe katkısı olduğu görülmektedir.

Tablo 1. Araştırma yöntemleri kitaplarında önerilen geçerlik ve güvenirlik önlemleri

	Önerilen Önlemler	Best ve Kahn (2003)	Bogdan ve Biklen (1998)	Brinberg ve McGraft (1985)	Büyüköztürk vd. (2010)	Cresweell (2005)	Fraenkel ve Wallen (2012)	Johnson ve Christensen (2004)	Merriam (1998)	Miles ve Huberman (1994)	McMillan ve Schumaher (2010)	Patton (2002)	Yıldırım ve Şimşek (2006)
Geçerlik Önlemleri	Veri toplama aracı ve sürecinin açıklanması		√	√	√				√	√			√
	Veri analiz sürecinin açıklanması		√	√					√				√
	Varsayımlar ve sınırlıkların betimlenmesi		√	√	√								√
	Örneklem özelliklerinin açıklanması		√		√				√	√	√		√
	Örneklem seçim şeklinin belirtilmesi		√						√				√
	Katılımcı gönüllülüğünün alınması								√		√		
	Çalışmanın uygulama sürecinin betimlenmesi		√				√					√	
	Araştırmacının rolünün betimlenmesi	√	√	√	√	√	√	√	√		√	√	√
	Kullanılan yöntemin seçim gerekçesinin açıklanması						√						
	Geçerlik ve güvenirlik önlemlerinin açıklanması	√		√			√						
	Evrenin tanımlanması		√						√		√		
Güvenirlik Önlemleri	Uzman görüşünün alınması	√		√	√		√		√	√	√		√
	Güvenirlik hesaplamalarının belirtilmesi		√	√				√					
	Çeşitleme yapılması		√	√	√	√		√	√	√			√
	Kayıt cihazı kullanılarak veri kaybının önlenmesi	√	√		√				√				√
	Akran değerlendirmesi yapılması	√					√	√	√				
	Değerlendiriciler arası güvenirlik çalışmasının yapılması	√			√	√	√		√	√	√	√	√
	Katılımcı görüşünün (kontrolünün) alınması		√		√	√			√			√	
	Veriler arasında tutarlılığın kontrol edilmesi		√					√	√	√	√	√	√

Tabloda veri toplama aracının, uygulama ve veri analiz sürecinin açıklanması, örneklem özelliklerinin ve seçim şeklinin belirtilmesi önerilen geçerlik önlemleri arasında görülmektedir (Brinberg & McGraft, 1985; Büyüköztürk vd., 2010; McMillan & Schumaher, 2010; Yıldırım & Şimşek, 2006). Ayrıca çalışmanın varsayım ve sınırlılıkların belirtilmesi, araştırmacının rolünün betimlenmesi de alan yazında önerilen geçerlik önlemleri arasında yer almaktadır (Cresweell, 2005; Çepni, 2007; Fraenkel & Wallen, 2012). Bunun yanı sıra uzman, katılımcı ve akran görüşünün alınması, güvenirlik hesaplamalarının belirtilmesi, çeşitleme yapılması, veriler arasında tutarlığın kontrol edilmesi, değerlendiriciler arası güvenirlik yapılması ise önerilen güvenirlik önlemleri olarak alan yazında belirtilmiştir.

Bilimsel araştırmalarda nitel, nicel ve karma yöntemler açısından (Johnson & Christensen, 2004) kesin sınırları çizilmiş geçerlik ve güvenirlik önlemleri olmamakla birlikte, kullanılan yöntemin ortaya koyduğu ilkeler ve sınırlılıklar doğrultusunda önerilen geçerlik ve güvenirlik önlemleri değişiklik gösterebilmektedir (Geray, 2004). Araştırma eğilimleriyle ilgili çalışmalarda (Gülbahar & Alper, 2009; Göktaş vd., 2012; Sözbilir & Kutu, 2008; Şimşek vd., 2008) belirtildiğine göre araştırmalarda, geçerlik ve güvenirlik önlemlerine genellikle dolaylı ve sınırlı bir şekilde değinilmiştir. Bu nedenle mevcut durumun ortaya konması ve yaygın olarak kullanılan araştırma yöntemleri kitaplarında önerilen; geçerlik ve güvenirlik önlemlerinin araştırmalarda ne düzeyde kullanıldığının belirlenmesi, çalışmaların bilimsel değerinin artırılması açısından önemlidir. Aynı zamanda araştırmalarda kullanılan farklı yöntemlere göre ne tür geçerlik ve güvenirlik stratejilerinin kullanıldığının ortaya çıkarılması, farklı araştırma süreçlerinde kritik noktaların belirlenmesi açısından önem taşımaktadır. Ayrıca bu çalışma, araştırmacılara, çalışmalarının geçerlik ve güvenirliklerinin artırılması noktasında alabilecekleri önlemler açısından önemli bir rehber niteliği taşımaktadır. Bu doğrultuda çalışmada araştırma süreciyle ilgili kapsamlı açıklamalar içermesi nedeniyle öğretim teknolojisi alanındaki doktora tezlerinde alınan geçerlik

ve güvenirlik önlemlerinin belirlenmesi amaçlanmıştır. Bu amaçla aşağıdaki araştırma sorularına cevap aranmıştır:

1. Nitel araştırma yöntemleri kullanılan doktora tezlerinde alınan geçerlik ve güvenirlik önlemleri nelerdir?
2. Nicel araştırma yöntemleri kullanılan doktora tezlerinde alınan geçerlik ve güvenirlik önlemleri nelerdir?
3. Karma araştırma yöntemleri kullanılan doktora tezlerinde alınan geçerlik ve güvenirlik önlemleri nelerdir?

YÖNTEM

Araştırma Deseni

Çalışma kapsamında yer alan tezlerin yöntem bölümleri, kullanılan geçerlik ve güvenirlik önlemlerini derinlemesine ortaya çıkarabilmek amacıyla içerik analizi yöntemi kullanılarak incelenmiştir. İçerik analizi sonrasında tezlerde kullanılan geçerlik ve güvenirlik önlemlerine yönelik araştırmacılar tarafından belirlenen kodlar birleştirilerek çalışmanın geçerlik ve güvenirliğini artırmak için betimsel analiz yoluyla tezler tekrar incelenmiştir.

Çalışmanın Kapsamı

Türkiye'de Bilgisayar ve Öğretim Teknolojileri alanındaki doktora programları ilk mezunlarını 2005 yılında vermiştir. Bu nedenle çalışmanın örneklemini 2005 ve 2011 yılları arasında, YÖK Ulusal Tez Merkezi'nde yayınlanan 55 doktora tezinden, erişim izni verilen 42 tez oluşturmaktadır. Bu tezlerin Anadolu Üniversitesi, Ankara Üniversitesi, Gazi Üniversitesi, Hacettepe Üniversitesi ve Orta Doğu Teknik Üniversitesi'nde yapıldığı belirlenmiştir. Çalışma kapsamında incelenen tezlerin yapıldığı üniversitelere göre dağılımı Şekil 1'de verilmiştir.
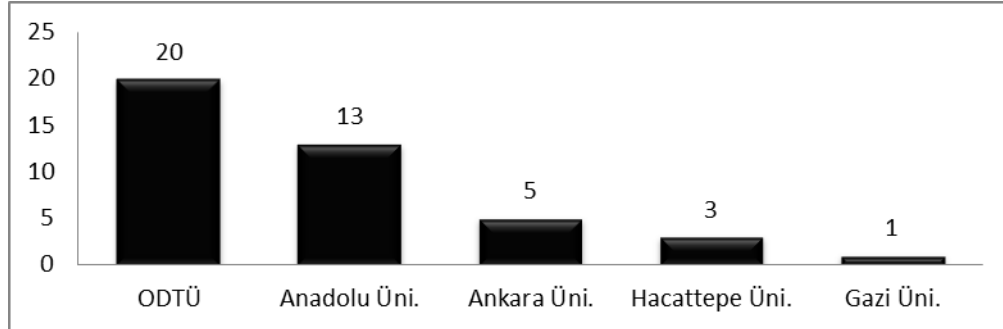
**Şekil 1.** Tezlerin yapıldığı üniversitelerin dağılımı

Şekil 1'de tezlerin büyük çoğunluğunun Orta Doğu Teknik Üniversitesi'nde (ODTÜ) yapıldığı görülmektedir. Diğer taraftan yapılan tezlerde farklı araştırma yöntemlerinin kullanıldığı da saptanmıştır. Nitel, nicel ve karma araştırma yöntemlerine göre tezlerin dağılımı Şekil 2'de gösterilmiştir.
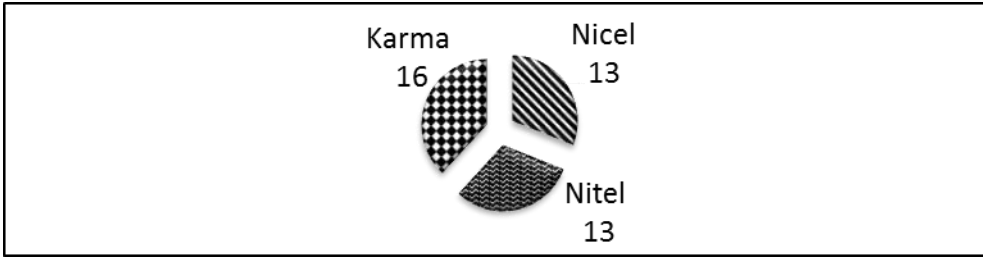
Şekil 2. Araştırma yöntemlerine göre tezlerin dağılımı

Verilerin Toplanması ve Analiz Süreci

Çalışmada veri toplama aracının geliştirilmesi için öncelikle alan yazın taranmıştır. Tarama sonucunda kriter listesi hazırlanmış ve üç tez üzerinden pilot çalışma yapılmış, ancak pilot çalışma sonucunda mevcut kriter listesinin çalışmayı sınırlandıracağı belirlenmiştir. Daha sonra içerik analizi yöntemiyle üç araştırmacı tarafından 42 tez incelenerek kod listesi oluşturulmuştur. Bu kod listesi alan uzmanı iki öğretim üyesinin görüşleri doğrultusunda düzeltilmiş ve alan yazın ışığında geçerlik ve güvenirlik kategorileri altında toplanmıştır. Form şekline dönüştürülerek kodlara son şekli verilmiştir. Bu form doğrultusunda tezler betimsel analiz yöntemiyle tekrar incelenmiş ve kodlarla örtüşen nitel verilerden alıntılar yapılmıştır. Analiz sürecinde her bir araştırmacının incelediği tezler çalışmanın güvenirliğini artırmak için diğer araştırmacıların tekrar incelemesiyle kontrol edilmiştir. Araştırmacıların izledikleri yol Şekil 3'te özetlenmiştir:
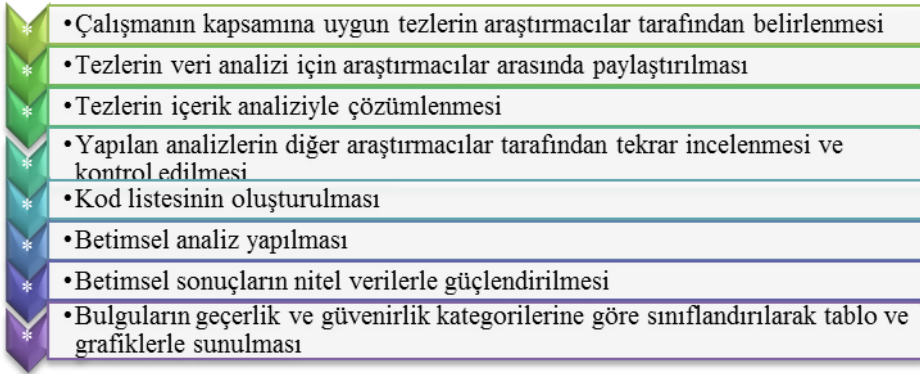
Şekil 3. Araştırma sürecinde izlenen yol

BULGULAR

Veriler, araştırma yöntemlerine göre geçerlik ve güvenirlik kategorilerine ayrılmış ve bu kategorilere ilişkin frekans tabloları oluşturulmuştur. Elde edilen betimsel sonuçlar nitel verilerle desteklenmiştir. Nitel veriler tezlerin numaralandırılmasıyla "Tez_x" kodu kullanılarak sunulmuştur.

Nitel Araştırma Yöntemli Doktora Tezlerinde Geçerlik ve Güvenirlik Önlemleri

Nitel yöntemli doktora tezlerinde alınan geçerlik ve güvenirlik önlemleriyle ilgili bulgular Tablo 2'de sunulmuştur. Tabloda da görüldüğü gibi "geçerlik ve güvenirlik önlemlerinin açıklanması" ve "evrenin tanımlanması" noktaları dışındaki diğer geçerlik önlemleri tüm tezlerde yer almaktadır. Ayrıca "uzman

görüşünün alınması", "çeşitleme yapılması" ve "kayıt cihazı kullanılarak veri kaybının önlenmesi" tezlerin tümünde güvenirlik önlemi olarak belirtilmiştir.

Tablo 2. Nitel araştırma yöntemli tezlerde alınan geçerlik-güvenirlik önlemleri

Geçerlik	f	Güvenirlik	f
Kullanılan yöntemin seçim gerekçesinin açıklanması	13	Uzman görüşünün alınması	13
Kullanılan yöntemin alan yazınla ilişkilendirilmesi	13	Çeşitleme yapılması	13
Örneklem özelliklerinin açıklanması	13	Kayıt cihazı kullanılarak veri kaybının önlenmesi	13
Örneklem seçim şeklinin belirtilmesi	13	Pilot uygulama yapılması	10
Veri toplama aracı ve sürecinin açıklanması	13	Güvenirlik hesaplamalarının belirtilmesi	9
Çalışmanın uygulama sürecinin betimlenmesi	13	Değerlendiriciler arası güvenirlik çalışmasının yapılması	7
Veri analiz sürecinin açıklanması	13	Akran değerlendirmesi yapılması	6
Varsayımlar ve sınırlıkların betimlenmesi	13	Veriler arasında tutarlığın kontrol edilmesi	6
Katılımcı gönüllüğünün alınması	13	Katılımcı görüşünün (kontrolünün) alınması	3
Araştırmacının rolünün betimlenmesi	13	Uzmanlarca dil kontrolünün yapılması	1
Geçerlik ve güvenirlik önlemlerinin açıklanması	12		
Evrenin tanımlanması	11		

Çalışmada incelenen nitel yöntemli tüm tezlerde geçerlik önlemi olarak; "kullanılan yöntemin seçim gerekçesinin açıklanması" ve "kullanılan yöntemin alan yazınla ilişkilendirilmesi" açıklanmıştır. Bu durum tezlerin bazılarında şu şekilde yer almıştır:

> *"Bu çalışma, çevirim içi öğrenme ortamlarında öğretmen adaylarının deneyimlerinin ve sosyalleşme çabalarının derinlemesine analizini gerektirmektedir. Bu yüzden çalışmada nitel araştırma yönteminin kullanımı tercih edilmiştir"***(Tez_1).**

> *"Bu çalışma eylem araştırması olarak tasarlanmıştır. Alan yazında eylem araştırmasının birçok tanımı bulunmaktadır. Master (1995) farklı felsefi görüşlere dayanarak eylem araştırmasının farklı tanımlarını belirtmektedir…"* **(Tez_27).**

Nitel yöntemli tezlerde geçerlik önlemi olarak; "örneklem seçim şeklinin belirtilmesi", "örneklem özelliklerinin açıklanması" ve "evrenin tanımlanması" öne çıkmıştır. Bu duruma yönelik tezlerde yer alan ifadeler şu şekildedir:

> *"Bu çalışmada kullanılan amaçlı örnekleme için maksimum çeşitlilik sağlanmış, uygun örnekleme yöntemi kullanılarak örneklem seçilmiştir"* **(Tez_2).**

> *"Çalışmanın örneklemini Ankara'da Anadolu Lisesinden seçilen 82 dokuzuncu sınıf (52 kız ve 30 erkek) öğrencisi oluşturmaktadır. Bu okulun seçilme gerekçesi okulun biyoloji öğretmeninin öğretimde oluşturmacı yaklaşımı kullanmadaki deneyimi ve okulun bilgisayar laboratuvarının bu çalışma için uygun olmasıdır"* **(Tez_34).**

> *"Araştırma evrenini 2007-2008 öğretim yılında Eğitim Fakültelerinde öğrenim gören son sınıf öğretmen adayları oluşturmaktadır"* **(Tez_30).**

Çalışmada incelenen nitel yöntemli tüm tezlerde "veri toplama aracı ve sürecinin açıklanması", "çalışmanın uygulama sürecinin betimlenmesi" ve "veri analiz sürecinin açıklanması" geçerlik önlemi olarak kullanılmıştır. Bu durum tezlerin bazılarında şu şekilde yer almıştır:

> *"Bu araştırmada, cevaplayıcıya serbestlik tanıması ve daha derinliğine bilgi elde edebilmeye fırsat vermesi gibi sebeplerden E.E.Y.O öğretim elemanlarından ve öğrencilerinden açık uçlu anket yolu ile görüş alınmıştır"* **(Tez_26).**

> *"Araştırma sırasında yapılan gözlemler, görüşmeler ve toplantılar kayıt cihazlarıyla kayıt altına alınmıştır. Bu sayede veri zenginliği ve verilerin geçerliği sağlanmaya çalışılmıştır"* **(Tez_39).**

"Kodlama sistemi geliştirilirken, veriler belli düzenlilikler, kalıplar ve başlıklar için gözden geçirilir. Bu başlıklar ve kalıpları temsil eden sözcükler, ya da sözcük grupları saptanarak "kodlama sınıfları" oluşturulur. Kodlama sınıfları oluşturulduktan sonra, araştırmacı tarafından sayılır" **(Tez_15).**

Benzer şekilde nitel yöntemli tüm tezlerde "araştırmacının rolünün betimlenmesi", "katılımcı gönüllülüğü alınması" ve "varsayım ve sınırlılıkların belirtilmesi" geçerlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Araştırmacının araştırma ortamı aynı zamanda çalışma ortamı olduğundan araştırmacı verilerini katılımcı gözlemci olarak toplamıştır." **(Tez_26).**

"İngilizce öğretmenleri ve okul yöneticileri çalışmada gönüllü olarak bulunmuşlardır." **(Tez_3).**

"Bu çalışma ODTÜ'de yürütülen hizmet içi eğitim programı ve çalışmaya katılan İngilizce öğretmenleriyle sınırlıdır." **(Tez_27).**

Nitel yöntemli tüm tezlerde "uzman görüşünün alınması", "çeşitleme yapılması" ve "kayıt cihazı kullanılarak veri kaybının önlenmesi" güvenirlik önlemi olarak alınmıştır. Bu durum tezlerin bazılarında şu şekilde yer almıştır:

"Farklı veri toplama araçları yardımı ile farklı türde veriler toplanarak veri çeşitlemesi yoluna gidilmiştir" **(Tez_17).**

"Planlama ve araştırma süreci boyunca başka araştırmacılar ve uzmanlarla görüşülmüş ve izleme çalışmaları yapılmıştır (Geçerlik Komitesi, Tez İzleme Komitesi, Üniversitesi Bilimsel Araştırma Projeleri Komisyonu)" **(Tez_26).**

"Görüşmeler, her katılımcı ile ayrı ayrı gerçekleştirilmiş ve dijital ses kayıt cihazı ile kaydedilmiştir" **(Tez_15).**

Diğer yandan "pilot uygulama yapılması" ve "güvenirlik hesaplamalarının belirtilmesi" tezlerin çoğunda yer almaktadır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Katılımcılarla görüşme yapmadan önce görüşme sorularıyla örneklemi kapsamayan bir grupla pilot çalışma yürütülmüştür" **(Tez_2).**

"Uzmanlar, kodlama anahtarlarını bağımsız olarak kodladıktan sonra, araştırmacı ile birlikte güvenirlik çalışması yapmışlardır. Araştırmacı ve uzmanın her bir temaya yaptıkları işaretlemeler birbirleriyle aynı ise bu durum bir "uzmanlar arası görüş birliği" olarak, işaretlemeler birbirinden farklıysa bir "görüş ayrılığı" olarak kabul edilmiştir" **(Tez_15).**

Yaklaşık olarak tezlerin yarısıda "akran değerlendirmesi yapılması", "değerlendiriciler arası güvenirlik çalışmasının yapılması" ve "veriler arasında tutarlılığın kontrol edilmesi" geçerlik önlemlerine yer verilmiştir. Bu durum tezlerin bazılarında şu şekilde yer almaktadır:

"Veri analizinin güvenirliğini artırmak için araştırmacı süreçte dereceler ve kodlar arası (inter-rating and inter-coding) değişimi incelemiştir" **(Tez_27).**

"Araştırmalardan elde edilen bulgular üzerinden akran değerlendirmesi alınarak veri analiz adımları oluşturulmuştur" **(Tez_3).**

"Veriler birden fazla kişi tarafından değerlendirilmiş ve güvenirliği sağlanmıştır" **(Tez_15).**

Nicel Araştırma Yöntemli Doktora Tezlerinde Geçerlik ve Güvenirlik Önlemleri

Nicel yöntemli doktora tezlerinde alınan geçerlik ve güvenirlik önlemleriyle ilgili bulgular Tablo 3'te sunulmuştur. Tabloda da görüldüğü gibi "veri toplama aracı ve sürecinin açıklanması", "veri analiz sürecinin açıklanması", "örneklem özelliklerinin açıklanması" ve "çalışmanın uygulama sürecinin betimlenmesi" tezlerin tümünde geçerlik önlemi olarak belirtilmiştir. Ayrıca "uzman görüşünün alınması", "pilot uygulama yapılması" ve "güvenirlik hesaplamalarının yapılması" tezlerin tümünde güvenirlik önlemi olarak yer almıştır. Diğer yandan "katılımcı görüşünün alınması" ve "çeşitleme yapılması" gibi güvenirlik önlemlerine az sayıda tezde yer verilmiştir.

Tablo 3. Nicel araştırma yöntemli tezlerde alınan geçerlik-güvenirlik önlemleri

Geçerlik	f	Güvenirlik	f
Örneklem özelliklerinin açıklanması	13	Uzman görüşünün alınması	13
Veri toplama aracı ve sürecinin açıklanması	13	Pilot uygulama yapılması	13
Çalışmanın uygulama sürecinin betimlenmesi	13	Güvenirlik hesaplamalarının belirtilmesi	13
Veri analiz sürecinin açıklanması	13	Katılımcı görüşünün (kontrolünün) alınması	3
Örneklem seçim şeklinin belirtilmesi	11	Çeşitleme yapılması	3
Kullanılan yöntemin alan yazınla ilişkilendirilmesi	11	Uzmanlarca dil kontrolünün yapılması	2
Kullanılan yöntemin seçim gerekçesinin açıklanması	10	Değerlendiriciler arası güvenirlik çalışmalarının yapılması	2
Evrenin tanımlanması	10	Akran değerlendirmesi yapılması	1
Katılımcı gönüllülüğünün alınması	9	Veriler arasında tutarlığın kontrol edilmesi	1
Varsayımlar ve sınırlıkların betimlenmesi	8		
Araştırmacının rolünün betimlenmesi	6		
Geçerlik ve güvenirlik önlemlerinin açıklanması	3		

Nicel yöntemli tüm tezlerde "örneklem özelliklerinin açıklanması", "veri toplama aracı ve sürecinin açıklanması", "çalışmanın uygulama sürecinin betimlenmesi" ve "veri analiz sürecinin açıklanması" geçerlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

> *"Alanyazın taraması sonucunda veri toplama aracının geliştirilmesi için sayısal okuryazarlık ve sayısal okuryazarlığın boyutları ile ilgili madde havuzu oluşturulmuş ve araştırmada kullanılacak veri toplama aracının deneme formu hazırlanmıştır"* **(Tez_22).**

> *"Eğitim Fakültesi araştırma görevlilerinin gereksinim duydukları ve önemli gördükleri mesleki gelişim alanlarının, çeşitli değişkenlerle arasında ilişki olup olmadığını belirlemek amacıyla "kay-kare (2χ)" testinden yararlanılmıştır"* **(Tez_20).**

> *"Yedi hafta süren uygulama süresince her öğrenci haftada 1 örnek olay ile çalışmıştır. Uygulamanın ilk iki haftasında öğrencilere örnek olay, örnek olay yöntemi ve örnek olayın nasıl analiz edileceği ile ilgili eğitim verilmiştir. Bu amaçla ilk iki hafta içerisinde öğrenme materyalinin kullanımı ile ilgili bilgiler verilmiş, öğrenciler öğrenme ortamını kullanmışlardır"* **(Tez_40).**

> *"Çalışmaya Gazi Üniversitesi Gazi Eğitim Fakültesi Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü'nde 2010-2011 Güz döneminde 2. Sınıfta okuyan ve Öğretim İlke ve Yöntemleri dersi alan 69 öğrenci katılmıştır"* **(Tez_40).**

Nicel yöntemli tezlerin çoğunluğunda; "kullanılan yöntemin alan yazınla ilişkilendirilmesi" ve "kullanılan yöntemin seçim gerekçesinin açıklanması" gibi geçerlik önlemleri belirtilmiştir. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

> *"Tekil tarama modeli, araştırmanın konusu olan değişkenlerin tek tek, tür ya da miktar olarak mevcut durumlarının betimlendiği araştırma modelidir. İlişkisel tarama modeli ise, iki ya da daha çok sayıda değişken arasında bir ilişki olup olmadığını belirlemek amacıyla kullanılan araştırma modelidir (Karasar, 2005)"* **(Tez_4).**

*"Bu araştırma, yansıtıcı düşünmenin problem çözme üzerine etkisini incelemeyi amaçladığından deneysel olarak tasarlanmıştır. Araştırmada son test kontrol gruplu desen kullanılmıştır"***(Tez_41).**

Nicel yöntemli tezlerin çoğunluğunda; "örneklem seçim şeklinin belirtilmesi" ve "evrenin tanımlanması" gibi geçerlik önlemleri belirtilmiştir. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Örnekleme yöntemi olarak olasılığa dayalı örnekleme yöntemlerinden küme (cluster) örnekleme yöntemi seçilmiştir" **(Tez_22).**

"Bu araştırmanın çalışma evrenini oluşturan 44 üniversitenin 54 Eğitim Fakültesi'ndeki araştırma görevlisi sayısı ise, 2003-2004 YÖK verilerine göre 1095'tir" **(Tez_20).**

Tezlerde yarısına yakınında "katılımcı gönüllüğünün alınması" ve "varsayımlar ve sınırlılıkların betimlenmesi" gibi geçerlik önlemleri yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Ölçme aracının gönüllü katılım esasına göre cevaplandırılmış olmasının her ne kadar katılım oranını düşürse de veri kalitesini artıracağı ön görülmüştür" **(Tez_10).**

"Araştırma belirlenen amaçlar ve alt amaçlar doğrultusunda;... Örnekleme seçilen üniversitelerin BÖTE, İlköğretim Matematik Öğretmenliği, Sınıf Öğretmenliği, Okul Öncesi Öğretmenliği, Sosyal Bilgiler Öğretmenliği, Zihin Engelliler Öğretmenliği, İngilizce Öğretmenliği ve Almanca Öğretmenliği Bölümlerinde okuyan 4. sınıf öğrencileri ile sınırlıdır" **(Tez_22).**

Nicel yöntemli tüm tezlerde "uzman görüşünün alınması", "pilot uygulama yapılması" ve "güvenirlik hesaplamalarının belirtilmesi" güvenirlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Anketin yönergelerinin, anket maddelerinin içeriğinin ve yanıtlama biçiminin anlaşılır olup olmadığını belirlemek için 9 alan uzmanının (4 Profesör, 2 Doçent, 1 Yardımcı Doçent ve 2 Öğretim Görevlisi) görüşüne sunulmuştur" **(Tez_20).**

*"Pilot uygulama amaçlı olarak önceki yıl aynı nitelikteki bir eğitime katılmış olan 60 kişiye gönderilen ankete 46 kişi cevap vermiştir"***(Tez_28).**

"Voleybol antrenörleri öz yetrlik algısı ölçeğinin sonuç beklentisi boyutunda 9 madde yer almaktadır. Bu alt boyuıtun madde analizine dayalı olarak hesaplanan Cronbach alfa iç tutarlık sayısı 0.91'dir" **(Tez_6).**

Karma Araştırma Yöntemli Doktora Tezlerinde Geçerlik ve Güvenirlik Önlemleri

Karma yöntemli doktora tezlerinde alınan geçerlik ve güvenirlik önlemleriyle ilgili bulgular Tablo 4'te sunulmuştur. Tabloda da görüldüğü gibi karma yöntemli tezlerinin tümünde "veri toplama aracı ve sürecinin açıklanması", "veri analiz sürecin açıklanması", "geçerlik ve güvenirlik önlemlerinin açıklanması" ve "çalışmanın uygulama sürecinin betimlenmesi" geçerlik önlemi olarak belirtilmiştir. Ayrıca "uzman görüşünün alınması", tezlerin tümünde yer alırken "çeşitleme yapılması" ve "güvenirlik hesaplamalarının belirtilmesi" ise tezlerin büyük çoğunluğunda yer almıştır.

Tablo 4. Karma araştırma yöntemli tezlerde alınan geçerlik-güvenirlik önlemleri

Geçerlik	f	Güvenirlik	f
Veri toplama aracı ve sürecinin açıklanması	16	Uzman görüşünün alınması	16
Veri analiz sürecinin açıklanması	16	Güvenirlik hesaplamalarının belirtilmesi	14
Geçerlik ve güvenirlik önlemlerinin açıklanması	16	Çeşitleme yapılması	14
Çalışmanın uygulama sürecinin betimlenmesi	16	Pilot uygulama yapılması	13
Örneklem seçim şeklinin belirtilmesi	15	Kayıt cihazı kullanılarak veri kaybının önlenmesi	13
Örneklem özelliklerinin açıklanması	15	Akran değerlendirmesi yapılması	12
Kullanılan yöntemin alan yazınla ilişkilendirilmesi	14	Değerlendiriciler arası güvenirlik çalışmasının yapılması	8
Evrenin tanımlanması	13	Katılımcı görüşünün (kontrolünün) alınması	7
Kullanılan yöntemin seçim gerekçesinin açıklanması	12	Uzmanlarca dil kontrolünün yapılması	7
Varsayımlar ve sınırlıkların betimlenmesi	12	Veriler arasında tutarlığın kontrol edilmesi	6
Araştırmacının rolünün betimlenmesi	8		
Katılımcı gönüllülüğünün alınması	8		
Genellenebilirlik için ayrıntılı bilgi sunulması	6		

Karma yöntemli tüm tezlerde "veri toplama aracının ve sürecinin açıklanması", "veri analiz sürecinin açıklanması", "geçerlik ve güvenirlik önlemlerinin açıklanması" ve "çalışmanın uygulama sürecinin betimlenmesi" geçerlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

> "Çalışma 3 adımdan oluşmaktadır. (1) katılımcılarla iletişime geçme, (2)anketin geliştirilmesi... (12) görüşmelerin analiz edilmesi (13) yorum ve sonuçların yazılması"(**Tez_7**).

> "Görüşme tekniği, nitel araştırmalarda sıklıkla faydalanılan bir tekniktir. Bu çalışmada da eğitsel oyunlarda bulunması gereken eğlendirici ve motive edici özellikler belirlenirken yarı yapılandırılmış görüşme tekniğinden yararlanılmıştır" (**Tez_23**).

> "Bu çalışmada istatistiksel veri analizi için önem seviyesi .05 olarak belirlenmiştir. Bağımsız örneklem t-testi çalışmanın birinci aşamasında geleneksel ve mobil grupların başarılarının karşılaştırılmasında kullanılmıştır" (**Tez_23**).

> "Çalışmanın iç ve dış geçerliğini sağlamak için konu alan uzmanı ve tez izleme komitesi araştırmacıya yardımcı olmuştur" (**Tez_7**).

Tezlerde, "örnekleme seçim şeklinin belirtilmesi", "örneklem özelliklerinin açıklanması" ve "evrenin tanımlanması" gibi geçerlik önlemlerinin çok sayıda tezde yer aldığı belirlenmiştir. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

> "Örneklemin belirlenmesinde, amaçlı örnekleme yöntemlerinden kartopu örnekleme yöntemine başvurulmuştur" (**Tez_23**).

> "Ulaşılabilen katılımcıların sayısı 896 kişidir. Bunların 497'si orta seviyede iken, 399'u ileri seviyede yabancı dil bilgisine sahiptir" (**Tez_18**).

> "Çalışmanın evrenini Türkiye'deki ilk ve ortaöğretim okullarında görev yapan öğretmenler ve eğitim fakülteleri dekanları oluşturmaktadır" (**Tez_9**).

Tezlerde "kullanılan yöntemin alan yazınla ilişkilendirilmesi", "kullanılan yöntemin seçim gerekçesinin açıklanması" ve "varsayımlar ve sınırlılıkların betimlenmesi" de çok sayıda tezde belirtilmiştir. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

> "Araştırma sorularını cevaplayabilmek için çalışmada karma araştırma deseni kullanılmıştır. Johnson ve Christensen (2004) nitel ve nicel araştırma yöntemleri, yaklaşımları ya da paradigmalarının özelliklerinin birleştirilmesini kapsayan çalışmalar için öncül bir tasarım olarak kullanmışlardır. Karma araştırma yöntemleri hem nitel hem de nicel araştırma

tekniklerini bir çalışmada birleştirebilmesi açısından önemlidir (Creswell, 2005; Greene & Caracelli, 1997; Johnson & Christensen, 2004; Tashakkori & Teddlie, 2002)" **(Tez_36).**

"Yarı deneysel modeller, deneysel modellerin gereklerinin sağlanamadığı birçok durumda kullanılabilir. Bu aşamada da öntest-sontest kontrol gruplu desen kullanılmıştır" **(Tez_24).**

"Bu araştırma;… deney ve kontrol grubu olarak seçilen sınıfların bilgisayar laboratuarı olanakları ile…sınırlıdır" **(Tez_23).**

Karma yöntemli tezlerin yarısında "araştrımacının rolünün betimlenmesi" ve "katılımcı gönüllülüğünün alınması" geçerlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Kaydın ilk kısmında katılımcının adı alınmıştır. Bu çalışmaya gönüllü olarak katıldığı kameraya kaydedilmiştir" **(Tez_24).**

"Araştırmacı çalışmada içerik ve materyal geliştirmede ve tasarımda çoklu roller üstlenmiştir. Araştırmacı çalışmada öğretim tasarımcısı ve içerik hazırlama uzmanı olarak çalışmıştır" **(Tez_21).**

Karma yöntemli tezlerin tümünde "uzman görüşünün alınması" belirtilirken, "akran değerlendirmesinin yapılması" tezlerin büyük çoğunluğunda güvenirlik önlemi olarak yer almıştır. Bu durum tezlerin bazılarında şu şekilde ifade edilmiştir:

"Ön deneme sonunda gerekli düzenlemeler gerçekleştirilerek aday form, kapsam geçerliği çalışmaları amacıyla altı uzmana sunulmuştur" **(Tez_19).**

"Araştırmacıların ön yargılarını azaltmak için veriler iki kez kodlanmış, uzman görüşleri ve akran değerlendirmesine başvurulmuştur" **(Tez_18).**

Çok sayıda karma yöntemli tezde "güvenirlik hesaplamalarının belirtilmesi", "çeşitleme yapılması", "pilot uygulama yapılması" ve "kayıt cihazı kullanılarak veri kaybının önlenmesi" güvenirlik önlemi olarak belirtilmiştir. Bu durum tezlerin bazılarında şu şekilde yer almıştır:

"Çalışmada hem nitel hem nicel sonuçlar kullanılarak çeşitleme yapılmış ve çalışmanın geçerlik ve güvenirliğini desteklenmiştir" **(Tez_7.)**

"Çalışmanın uygulamasından önce bir pilot çalışma yürütülmüştür" **(Tez_ 21).**

"Verilerin analizinden önce Cronbach's Coefficient alpha testi kullanılarak modelde her bir faktör için ölçümlerin güvenirliğine ulaşılmıştır" **(Tez_16).**

"Görüşmeler 6 ilköğretim öğretmeni ve 6 öğretim üyesiyle kayıt cihazı kullanılarak yapılmıştır" **(Tez_9).**

Tezlerin yaklaşık yarısında "değerlendiriciler arası güvenirlik çalışmasının yapılması", "katılımcı görüşünün alınması" ve "uzmanlarca dil kontrolünün yapılması" gibi güvenirlik önlemlerine değinilmiştir. Bu durum tezlerin bazılarında şu şekilde yer almıştır:

"Görüşme trancriptlerinin doğruluklarının kontrol edilmesi için transkriptler katılımcılar tarafından kontrol edilmiştir" **(Tez_9).**

"Güvenirlik çalışması konusunda ise, "puanlayıcılar arası güvenirlik (inter-rater reliablity)" yöntemine başvurulmuştur. Bunun için; iki alan uzmanı 10 grubun etkinliklerini geliştirilen ölçek ile değerlendirmiş ve iki uzmanın değerlendirme sonuçları arasındaki korelasyon hesaplanmış ve pearson korelasyon katsayısı 0,995 olarak bulunmuştur" **(Tez_8).**

"Çalışmanın nitel tarafını oluşturan görüşme rehberi iki uzman ve bir Türkçe dil uzmanı tarafından kontrolleri yapılarak hazırlanmıştır" **(Tez_5).**

TARTIŞMA

Doktora Tezlerinde Alınan Geçerlik Önlemleri

Çalışmanın amacı kapsamında incelenen tezlerin büyük çoğunluğunda geçerlik önlemi olarak; veri toplama aracının, veri analiz sürecinin, örneklem seçim şeklinin ve örneklem özelliklerinin açıklandığı, uygulama sürecinin betimlendiği saptanmıştır. Day (2000), Ekmekçi ve Konaç (2009) bu aşamaların akademik yazım sürecinin en temel öğeleri arasında yer aldığını belirtmektedir. Bu öğeler arasında yer alan geçerlik ve güvenirlik önlemlerinin açıklanması, nitel ve karma yöntemli tezlerin tamamında belirtildiği ancak nicel yöntemli tezlerde sınırlı sayıda yer aldığı görülmüştür. Oysa geçerlik ve güvenirlik önlemleri yalnızca nitel ve karma yöntemli çalışmaların değil, tüm bilimsel araştırmaların ön koşuludur (Abowitz & Toole, 2010; Bakioğlu & Kurnaz, 2011; LeCompte & Goetz, 1982).

Tezlerin büyük çoğunluğunda, kullanılan yöntemin seçim nedeni açıklanmış ve alan yazınla ilişkilendirilmiştir. Alan yazında araştırma yöntemlerinin farklı sınıflandırılmalarının olduğu düşünülürse kullanılan yöntemin alan yazına dayandırılması önem taşımaktadır. Ayrıca alan yazın taraması, çalışmaların sağlam bir kuramsal temele dayandırılması için de önemlidir (Yıldırım & Şimşek, 2006). Buna göre iyi bir kuramsal temele oturtulmuş çalışmaların geçerliklerinin de yüksek olacağı sonucuna varılabilir. Aynı zamanda Greenhalgh (1997), araştırma içerisinde sunulan bilgilerin doğruluğunu değerlendirmek için çalışmanın yöntem geçerliğini belirtmenin önemli olduğunu vurgulamıştır. Bu nedenle araştırma yönteminin seçim gerekçesi, çalışmanın geçerliği için dikkat edilmesi gereken hususlardandır.

Çalışmada tezlerin büyük çoğunluğunda evren açıklanmıştır. Evren, örnekleme yönteminin seçimini etkilerken örneklemin evreni ne kadar temsil ettiğinin göstergesi konumundadır (Hoepfl, 1997; Karatay, 2008). Özelikle de nicel yöntemli (n=13) çalışmaların genellenebilirliği göz önüne alınırsa örneklemin evreni temsil edebilirliği önemli bir konudur. Ayrıca araştırma sonuçlarının genellenebilirliği arttıkça çalışmanın bilimsel değeri de artmaktadır (Karasar, 2009). Dolayısıyla evrenin tanımlanmasının geçerliği doğrudan etkilediği söylenebilir.

Varsayım ve sınırlılıkların belirlenmesi nitel yöntemli tezlerin tümünde yer alırken, nicel yöntemli tezlerin %61'inde ve karma yöntemli tezlerin %75'inde yer almaktadır. Bir araştırma raporunda çalışmanın sınırlılıklarının belirlenmesi hangi şartlarda geçerli olduğunun gösterilmesi açısından önemlidir (LeCompte & Goetz, 1982; Merriam, 1998). Bu doğrultuda özellikle nitel yöntemli çalışmaların doğası gereği araştırılan durumun bulunduğu şartlar altında betimlenmesi ve buna bağlı olarak sınırlılıkların belirlenmesi önem taşımaktadır.

Nitel yöntemli tezlerin tümünde nicel ve karma yöntemli tezlerin ise çoğunluğunda, katılımcı gönüllülüğü alınmıştır. Benzer şekilde araştırmacının rolü de nitel yöntemli tüm tezlerde betimlenmekte, diğer tezlerde ise bu oran yarıya düşmektedir. Bu durum nitel araştırmaların doğasından kaynaklanmaktadır. Nitel yöntemli çalışmalarda araştırmanın merkezinde araştırmacı bulunduğu için asıl ölçme aracı araştırmacının kendisidir (McMillan & Schumaher, 2010; Yıldırım, 2010). Doğal olarak çalışma sonuçlarının araştırmacı yorumlarından etkilenme olasılığı diğerlerine göre daha yüksektir. Bu nokta nitel çalışmalarda araştırma sonuçlarının inandırıcılığını artıracak kavramların gerekliliğini ortaya çıkarmıştır (Yıldırım, 2010). Bu nedenle nitel yöntemli çalışmalarda araştırmacının ön yargılarından arınması ve rolünün betimlenmesi diğer araştırma yöntemlerine oranla daha büyük önem taşımaktadır (Bakioğlu & Kurnaz, 2010). Buna bağlı olarak nesnellik ön plana çıkmaktadır.

Doktora Tezlerinde Alınan Güvenirlik Önlemleri

Çalışmanın amacı kapsamında incelenen tezlerin tamamında güvenirlik önlemi olarak, uzman görüşünün alınması öne çıkmıştır. Bu durum doktora tezlerinde tez danışmanın uzman rolünde bulunmasından kaynaklanmaktadır. Bu nedenle uzman görüşü kolay ulaşılabilir konumda olduğu için her tezde belirtilmiş olabilir.

Diğer yandan pilot uygulama yapılması nicel araştırmaların tamamında gözlenirken karma ve nitel çalışmalarda yer alma sıklığı düşmektedir. Pilot çalışma daha büyük bir çalışma öncesinde bilgi toplanması ve çalışmanın tasarım sürecinde yaşanabilecek eksikliklerin belirlenip giderilmesi açısından önemlidir (Lancaster & Williamson, 2004). Bu nedenle pilot çalışma araştırmaların hatalardan arınık olmasını önemli ölçüde etkilemektedir (Creswell, 2007). Aynı zamanda güvenirlik hesaplamalarının yapılması hataların önüne geçmede bir diğer unsurdur. Bu çalışmada da tezlerin büyük çoğunluğunda güvenirlik hesaplamalarının yapıldığı belirlenmiştir.

Bunun yanı sıra nitel yöntemli tezlerin tamamında, karma yöntemli tezlerin ise büyük çoğunluğunda veri toplama sürecinde kayıt cihazı kullanılmıştır. Kayıt cihazı veri kaybının önüne geçerek çalışmaların güvenirliğini artıracak bir unsur olarak görülebilir (Bogdan & Biklen, 2007).

Araştırmaların güvenirliği için öne çıkan bir diğer nokta çeşitleme yapılmasıdır. Nicel yöntemli tezlerin sadece %23'ünde nitel ve karma yöntemli tezlerin ise %93'ünde çeşitleme yapıldığı belirlenmiştir. Bu durum araştırmaların güvenirliğini önemli ölçüde etkileyen bir faktördür. Alan yazında da verinin birden fazla kaynaktan toplanması varılan sonucun doğruluk derecesini yani güvenirliğini olumlu etkileyeceği ifade edilmektedir (Bakioğlu & Kurnaz, 2010; Booth, Colomb, & William, 2003; Creswell, 2005; LeCompte & Goetz, 1982; Oliver-Hoyo & Allen, 2006). Öte yandan çalışmalarda karma yöntemin kullanılması araştırmalarda uygulanan bir diğer çeşitleme yöntemidir. Bu bağlamda incelenen tezlerin %67'sinin karma araştırma yöntemiyle hazırlandığı da unutulmamalıdır.

Bunun yanında sınırlı sayıda tezde akran değerlendirmesinin yapıldığı ve katılımcı görüşünün alındığı saptanmıştır. Özellikle nicel yöntemli yalnızca bir tezde akran değerlendirmesinin yapılması üç tezde de katılımcı görüşünün alınması dikkat çekmektedir. Oysa akran değerlendirmesi yapılarak veri toplama araçlarında olabilecek tutarsızlığın azaltılması ve çalışmanın güvenirliğinin yükseltilmesi sağlanabilir (Miles & Huberman, 1994; LeCompte & Goetz, 1982). Bu durum, tezlerde güvenirliği tehdit eden kritik bir unsur olduğu söylenebilir. Diğer yandan Roberts ve Priest (2006) çalışmalarda katılımcı görüşünü almanın araştırmacının ulaştığı sonuçların daha tutarlı olmasını sağladığını vurgulamışlardır.

Tezlerde değerlendiriciler arası güvenirlik hesaplamalarına yer verilmesi ve veriler arasında tutarlığın kontrol edilmesi sınırlı sayıda nicel yöntemli tezde belirtilirken nitel ve karma yöntemli tezlerin yaklaşık yarısında ifade edilmiştir. Araştırmalarda uzman puanlamaları alınarak aralarındaki korelasyon hesabının yapılması çalışmanın güvenirliğinin pekiştirilmesi ve hatalardan arınıklığının artırılması için önemlidir (LeCompte & Goetz, 1982). Aynı zamanda araştırmanın bilimsel olarak kabul edilebilmesi için araştırma sürecinin ve sonuçlarının açık, tutarlı ve başka araştırmacılar tarafından teyit edilebilir olması gerekmektedir (Yıldırım & Şimşek, 2006).

Çalışmada ayrıca tezlerin büyük bir kısmında dil denetiminin yapılmadığı da ortaya çıkarılmıştır. Bu durum çalışmaların açıklık ve anlaşılabilirliğinin kontrol edilmediğini gösteren bir sonuçtur. Bu nedenle incelenen tezlerin büyük bir kısmında dil problemleriyle karşılaşılabileceği söylenebilir.

SONUÇ

Araştırma kapsamında incelenen tezlerde çoğunlukla veri toplama araçlarıyla ilgili geçerlik ve güvenirlik önlemleri üzerinde durulmuştur. Oysa bir çalışmanın geçerliği ve güvenirliği sadece veri toplama aracının geçerliği ve güvenirliğinden ibaret değildir. Çalışma sürecinin geçerliğini ve güvenirliğini artırmanın önemli yollarından biri ise karma çalışmaların yapılmasıdır. Ayrıca araştırma süreçlerinin ayrıntılı olarak raporlaştırılması geçerlik ve güvenirliği etkileyen unsurlardandır. Sonuç olarak Day (2000)'in de vurguladığı gibi araştırmaların raporlaştırılma aşamasında dikkat edilmesi gereken noktaların göz ardı edilmesi durumunda çalışmaların geçerliği ve güvenirliğinin olumsuz etkileneceği söylenebilir. Bu nedenle çalışmaların doğru, kararlı, tutarlı, uygulanabilir olması ve çalışma amacına uyması için en azından asgari düzeyde geçerlik ve güvenirlik önlemlerinin alınması önemlidir.

KAYNAKLAR

Abowitz, D., & Toole, M. (2010). Mixed method research: Fundamental issues of design, validity, and reliability in construction research. *Journal of Constructıon Engıneerıng and Management, 136*(1), 108-116.

Bakioğlu, A., & Kurnaz, Ö. (2010*). Araştırmada kalite.* Ankara: Nobel Yayınları.

Best, J. W., & Kahn, J. V. (1993). *Research in Education* (9. baskı.). Boston: Allyn and Bacon.

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education* (5. baskı.). London: Pearson.

Booth, W. C., Colomb, G. G., & Williams, J. M. (2003). *The craft of research* (2. baskı). Chicago: University of Chicago Press.

Brinberg, D., & McGrath, J. (1985). *Validity and the research process.* Newbury Park, CA: Sage.

Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2010). *Bilimsel araştırma yöntemleri* (6.baskı). Ankara: Pegem.

Creswell, J. W. (2005). *Educational research. Planning, conducting, and evaluating quantitative and qualitative research* (2. baskı). Thousand Oaks, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five traditions* (2. baskı). London: Sage.

Çepni, S. (2007). *Araştırma ve proje çalışmalarına giriş* (3. baskı). Trabzon: Celepler Matbaacılık.

Day, R. A. (2000). *How to write and publish scientific paper* (G. Aşkar-Altay, Çev.). Ankara: Tübitak Yayınları. (Orjinal basım 1994).

Ekiz, D. (2009). *Bilimsel araştırma yöntemleri.* Ankara: Anı Yayıncılık.

Ekmekçi, A., & Konaç, E. (2009). Bilimsel yazımın bazı temel kuralları. *Türk Bilim Araştırma Vakfı, 2*(1), 17-121.

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design & evaluate research in education* (4. baskı). London: McGraw Hill.

Geray, H. (2004). *Toplumsal araştırmalarda nicel ve nitel yöntemlere giriş.* Ankara: Siyasal Kitabevi.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report, 8*(4), 597-607. Mart 24, 2010 tarihinde Online: http://peoplelearn.homestead.com/MEdHOME/QUALITATIVE/Reliab.VALIDITY.pdf adresinden alınmıştır.

Göktaş, Y., Küçük, S., Aydemir, M., Telli, E., Arpacık, Ö., Yıldırım, G., & Reisoğlu, İ. (2012). Türkiye'de eğitim teknolojileri araştırmalarındaki eğilimler: 2000-2009 dönemi makalelerin içerik analizi. *Kuram ve Uygulamada Eğitim Bilimleri, 12*(1), 177-199.

Greenhalgh, T. (1997). How to read a paper: Assessing the methodological quality of published papers. *British Medical Journal, 315*(7103), 305–308.

Gülbahar, Y., & Alper, A. (2009). Öğretim teknolojileri alanında yapılan araştırmalar konusunda bir içerik analizi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 42*(2), 93-111.

Hoepfl, M. C. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education 9*(1).

Johnson, B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative, and mixed approaches* (2. baskı). NY: Pearson/Allyn & Bacon.

Karasar, N. (2009). *Bilimsel araştırma yöntemi.* Ankara: Nobel Yayınları.

Karatay, M. (2008). Araştırmada örnekleme. *Ankara Üniversitesi Eğitim Fakültesi Dergisi, 2*(5).

Lancaster, D., & Williamson, P. (2004). Design and analysis of pilot studies: Recommendation for good practice. *Journal of Evaluation in Clinical Practice, 10*(2), 307-312.

LeCompte, M. D., & Goetz, J. P. (1982). Problems of reliability and validity in educational research. *Review of Educational Research, 52*(2), 31-60.

Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review, 62*, 279 - 300.

McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence based inquiry* (7. baskı). London: Pearson.

Merriam, S. B. (1998). *Qualitative research and case study applications in education* (2. baskı). San Francisco: Jossey-Bass Publishers.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2. baskı). London: Sage.

Oliver-Hoyo, M., & Allen, D. (2006). The use of triangulation methods in qualitative educational research. *Journal of College Science Teaching, 35*(4), 42.

Patton, M.Q. (2002). *Qualitative eesearch and evaluation methods.* Thousand Oaks, CA: Sage.

Roberts, P., & Priest, H. (2006). Reliability and validity in research. *Nursing Standard, 20,* 41-45.

Sözbilir, M., & Kutu, H. (2008). Development and current status of science education research in Turkey. *Essays in Education, Special Issue,* 1-22.

Şencan, H. (2005). *Sosyal ve davranışsal ölçmelerde güvenirlik ve geçerlik.* Ankara: Seçkin Yayınevi.

Şimşek, A., Özdamar, N., Becit, G., Kılıçer, K., Akbulut, Y., & Yıldırım, Y. (2008). Türkiye'deki eğitim teknolojisi araştırmalarında güncel eğilimler. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 19,* 439-458.

Toy, B., & Tosunoğlu, N. (2007). Sosyal bilimler alanındaki sosyal bilimler alanındaki araştırmalarda bilimsel araştırma süreci, istatistiksel teknikler ve yapılan hatalar. *Ticaret ve Turizm Eğitim Fakültesi Dergisi, 1*, 1-20.

Yıldırım, A., & Şimşek, H. (2006). *Soysal bilimlerde nitel araştırma yöntemleri* (6. baskı). Ankara: Seçkin Kitabevi.

Yıldırım, K. (2010). Nitel araştırmalarda niteliği artırma. *İlköğretim Online, 9*(2), 78-92.

THE PROBLEMS THAT PRIMARY SCHOOL TEACHERS' ENCOUNTER IN THE FIRST FIVE YEARS IN THEIR PROFESSIONS

Tuncay DİLCİ[*a] Gökçe DERVİŞOĞLU KALKAN[a]

[a] Cumhuriyet University, Faculty of Education, Education Sciences Department, Sivas/TURKEY

ABSTRACT

Nowadays, being a primary school teacher that is different from other teaching areas is remarkable in terms of difficulties in the first five years of their professions. Conditions of professionalism and working areas and various problems constitute an extra burden on them. The study based on the survey model aims to find and describe the problems that primary school teachers have in the first five years of their professions. Fort the study 189 elementary school teachers working and in their first five years in their profession in Sivas were selected rarndomly. Survey was implemented and results were analyzed with SPSS statistical software. According to the results, most of primary school teachers experience various problems during their first assignment and early years of their profession. These problems were listed as follows: lack of interests of the students, perspective of parents to school, administrative competencies, material defiencies in schools, heating and substructure issues, problems related to work practices in multi-grade classes etc.

Keywords: Primary school teacher, professional problems.

INTRODUCTION

The first stage of primary school teachers working at first grade of the primary schools who constitute the most basic step in the formal education and training, are the architect of multi-sided development of the students. According to the National Education Basic Law, teaching is a specialized profession which undertakes the task of education and training related with administrative tasks. Primary school teaching forms the largest and the most vital part of this system. In this context, primary school teachers are the most important stake-holders who are the architect of personality formation and shapers of the future. Every profession has its own terms of professionalism. It is clear that teachers who have chosen primary school teaching provide the mentioned professionalism; but the problems both they face in pre-training period and in-service training have a negative impact on their motivation. Problems can be ranged as follows; related to employee right snotably, issues related to assignments, security problems, training problems.

Problem Statement

What are the problems faced by the primary school teachers during the first five years in their profession?

Sub-Problems:
1. What are the problems about the students?
2. What are the problems about the parents?
3. What are the problems about the physical conditions and equipments of school?

---

[*] **Co-Author:** tuncaydilci@gmail.com

Purpose

This study aims to determine the problems that the primary school teachers faced during the first five years in their professions and make suggestions.

Limitations

The study is limited in consisting a hundred and twenty-nine primary school teachers working at eleven primary schools in Sivas center during 2010-2011 educational periods. Teachers working in the villages and districts are not included in the study.

METHOD

Research Model

This is based on survey model as it aims to decsribe the existing case. In this study, it aims to determine the problems that primary school teachers faced during the first five years in thier professions by means of taking their opinions on this subject.

Population and Sample

The population consists of the primary school teachers working in Sivas center during 2010-2011 educational periods. The sample is determined by randomized selection technique. Thus a hundred and twenty-nine primary school teachers that are volunteers and working at eleven primary schools in Sivas center are determined by randomly.

Data Collection Instrument

In this study, a survey is used as a data collection instrument. In order to develop the instrument, first of all the content is specified and conceptual explanations and studies based on research in literature are investigated. After this investigation, thirty-six items consisting of the problems faced with the primary school teachers during the first five years in their professions are composed. The opinions of the three teachers and academicians about the representation and characteristics of language and expression in items are taken in to consideration. Thus, content and face validity of the survey are provided. The survey consists of two parts. The first part includes five questions related to demographical features and the second part consists of thirty-six questions determining the problems of the teachers.

Data Collection

The surveys are applied to the schools taken in to the study by the researches in a suitable time.

Data Analysis and Interpretation

The collected data by the help of responses to the items provides an assesment that is at the classification phase. The survey data are evaluated in the item level as they do not provide a constant score. According to Aiken (1997), scoring the responses to the survey is a basic coding and classifying issue. These kind of codings do not make the responses suitable for the mathematical processes (addition, subtraction, multiplication, division) (Kilmen ve Demirtaşlı, 2009). In this study, collected data from the survey are analysed by the help of SPSS 17 Statistical Package for Social Sciencies. Due to the reasons mentioned above, frequency and the percent of he responses to the items are calculated. Cramer's V was applied in order to reveal correlation between the responses of the items and demographical and Professional

characreristics in the frames of the study. According to Özdamar (2004), when two categorical variables consist of more than two categories, then Cramer V coefficient is used to show the diversity together (Kilmen ve Demirtaşlı, 2009). Significance level of the statistics depends on .05 level.

FINDINGS

✓ Among teachers, excess were seen of male in gender distribution .
✓ In the context of sample, range between 31 and 40 years group is mainly reflected in the study.
✓ While seniority years of the teachers is seen at least 5-10 years, other seniority years are reflected close to each other in the table.
✓ 72.1 % of the primary school teachers shown in a graduate degree is reflected in the data.
✓ The findings that primary school teachers live mainly in cities before the start of their profession are reflected.
✓ Teachers have a disappointment with the places they are assigned in.
✓ Teachers, especially in literacy teaching increase their professional experiences with the professional practice.
✓ Teachers have reported that the information they get from universities doesn't help much in practice.
✓ It is reached that teachers are insufficient to motivate students in class.
✓ According to the teachers, they have problems with village life and communication problems of parents.
✓ For the teachers, sub-structure problems and stove-heated schools are perceived as a serious problem.
✓ In the absence of public housing in villages, the lack of housing for rent and setle leave teachers in a difficult position.
✓ Teachers, especially during internships are of one mind about not having enough informing and guidiance process.
✓ Primary school teachers with female gender compared to male gender have reported that they have more difficulties in the first assignment.
✓ It is reported that city-based teachers have more difficulties in any district and village life.
✓ Teacher group having problems with parents is determined as they lived in the district before.

SUGGESTIONS

✓ Faculties of Education's teacher training programs and course content should be reviewed.
✓ Pre-service teachers should have an internship as a long-term application based on rural schools.
✓ Orientation training given after assignment should be more heavy and realistic.
✓ Substructure problems related to village schools must be solved in advance.
✓ Suggestions such as school administrators and primary school supervisors need to get postgraduate education are ranged.

SINIF ÖĞRETMENLERİNİN MESLEĞİN İLK BEŞ YILINDA KARŞILAŞTIĞI PROBLEMLER

ÖZET

Günümüzde uygulama şekli olarak diğer öğretmenlik alanlarından farklı olan sınıf öğretmenliği, mesleğin ilk yıllarında yaşanılan zorluklar yönüyle de dikkat çekicidir. Gerek meslekleşme koşulları, gerekse çalışma alanları sınıf öğretmenleri üzerinde çok yük oluştururken, değişik problemler bu öğretmenlerin işini daha da zorlaştırmaktadır. Tarama modelinde yapılan bu çalışmayla sınıf öğretmenlerinin mesleğin ilk beş yılında yaşadığı sorunlar tespit edilmeye çalışılmıştır. Araştırmanın Sivas ili merkezinde çalışan kıdemi 5 yılın altında 189 öğretmen katılmıştır. Öğretmenlere verilen anketlerin sonuçları SPSS istatistik programında değerlendirilip raporlaştırılmıştır. Araştırma sonucuna göre sınıf öğretmenlerinin büyük bir kısmı ilk atamaları ve görevlerine başladıktan sonra birçok problemle karşılaşmaktadırlar. Bu problemlerin başlıcaları; öğrencilerin derslere karşı ilgisizliği, velilerin okula bakış açısı, okullarda materyal eksiklikleri, ısınma- alt yapı sorunları, birleştirilmiş sınıflarda çalışma pratiklerine ilişkin sorunlar olarak belirlenmiştir.

Anahtar Kelimeler: Sınıf öğretmeni, mesleki sorunlar, Eğitim, Öğretim

GİRİŞ

Öğretmen, formal eğitim veren kurumlarda öğretimi istendik yönde planlı ve programlı bir şekilde koordine eden kişidir. Bir ülkenin sosyal, kültürel ve ekonomik kalkınmasında; çağdaşlaşmasında; halkın refah ve huzur içinde yaşamasında temel unsur insan ve o insana verilen eğitimin baş aktörüdür. Öğretmen bir meslek insanı olarak kendisine yasalarla tanımlanmış alan ve sınırlar içerisinde görev yapan kişidir. Buna göre toplumsal mimar olarak öğretmen davranışa dönük değişimleri Kılavuzlayan meslek insanıdır.

Tarihin her döneminde var olduğu bilinen bilge insanların davranışa dönük erdem kazandırma çabası olmuştur. İnsan kişiliğinin en kritik dönemi gelişimin ilk yıllarıdır (Özdemir ve d. 2012). Bu noktada ilköğretimin birinci kademesinde görev yapmakta olan sınıf öğretmenleri karşımıza çıkmaktadır. Sınıf öğretmeni; görevlendirildiği sınıfa özgü öğretim programının öngördüğü çalışmaları planlayan, bu çalışmaları yönetip değerlendiren ve her öğrencinin sorunuyla yakından ilgilenen öğretmen olarak tanımlanmaktadır(Eğitim Terimleri Sözlüğü 1974). Eğitim örgütlerinin temel basamağında görev yapan sınıf öğretmenlerinin. Öğrencilerin geleceğinde çok önemli bir yere sahip oldukları bilinen bir gerçektir. Bu anlamda çocuk gelişiminde bilişsel, duyuşsal ve beceriye dönük şekillenmeler sınıf öğretmeninin o döneme hitap eden performansı ile yakinen ilintilidir. Böylesine kritik bir döneme damgasını vuran sınıf öğretmenlerinin hizmet öncesi ve hizmet içi yetiştirilmeleri büyük önem arz etmektedir.

Kuşkusuz tüm öğretmenlerin özellikle de, eğitim ve öğretimin ilk temellerini atan ve önceleri beş yıl önümüzdeki yıllarda ise dört yıl gibi uzun bir süreyi birlikte geçirdiğimiz/geçireceğimiz, sınıf öğretmenlerimizin üzerimizdeki etkisi büyüktür ve en önemlisi de bu etkilerin uzun sürebileceğidir. Öyle ki; meslek seçimimizde bir takım tutumlarımızda ve davranışlarımızda sınıf öğretmenlerimizden izler taşırız. Bu bağlamda günümüzde büyük çoğunluğu il ve ilçelerde yoğunlaşmış olan sınıf öğretmenliği görev alanı, nadiren de olsa köy yada mezralarda birleştirilmiş sınıf şeklinde de uygulama örnekleri görülmektedir.

Öğretmenlik Mesleğinin Temel Özellikleri

İnsanlarla ilişkiler yönünden öğretmenlik, diğer bazı mesleklerden farklı olarak geniş bir insan kesimiyle ilişki ve etkileşim içinde yerine getirilen bir meslek alanıdır. Cumhuriyetin ilanıyla başlayan süreçte, nüfusunun büyük çoğunluğu kırsal kesimde yaşayan ülkenin kalkınmasında önemli bir görev üstlenmiştir. Bu görevi yerine getirirken mevcut rejimin bekçiliğinin ve artan cehalet ile mücadelede liderlik misyonunu üstlenen öğretmen olmuştur. Öğretmenlik, sadece okul ve sınıf ortamında öğrencilerle değil, okul dışında veliler ve toplumla da iç içe olan bir meslektir. Özellikle hizmet verdiği bölge ve toplum yapısı, kültürü de dikkate alındığında öğretmenden beklentiler de değişebilmektedir. Şöyle ki, küçük bir köy ya da mezradaki bir öğretmen o belde için "köyün en önde gelen, en prestijli" kişisidir. O bölge için öğretmen "her şeyi bilendir". Bu bağlamda gerek bilimsel gerekse sosyal alanda öğretmenin önemine sıkça vurgu yapılmaktadır. Caldicott(1998) çabaları tüm yeryüzünün geleceğini etkilediğinden öğretmenler toplumdaki en önemli üyeler ve en çok sorumluluğu olanlardır. Ayrıca öğretmenler geleceğin şekillenmesine yardım ederler ve etkileri sonsuza dek sürer (Education World, 2008). Bununla birlikte öğretmen mezra, köy, kasaba ve şehir ayrımı yapılmaksızın nerede çalışırsa çalışsın en çok muhatap oldukları insan grubu kuşkusuz öğrencilerdir (Çelikten, Şanal, Yeni 2005: 213). Öğretmenlerin işlerini yaparken öğrencilere hem bilgi aktarıcı, hem yönlendirici ve yol gösterici hem de örnek olduğu kabul edilmektedir.

Öğretmenlerin Sorunları

Göreve yeni başlayan öğretmenlerin çevreye uyum sağlamada sıkıntılar yaşaması beklenir. Ancak bu zorlukların üstesinden nasıl geleceğini bilmek önemlidir. Korkmaz, Şaban, Akbaşlı' nın (2004), yaptıkları araştırmanın sonuçlarına göre, göreve yeni başlayan sınıf öğretmenlerinin büyük bir çoğunluğu, öğretmenlik mesleğine uyum sağlamada ve bu mesleği başarılı bir şekilde icra etmede çeşitli zorluklarla karşılaşmaktadır. Bu bağlamda göreve yeni başlayan öğretmenlere Milli Eğitim bünyesinde ilgili eğitim bölgelerinde çevreye uyum seminerleri verilmektedir.

Diğer taraftan Sadioğlu ve Oksal (2008) işaret ettikleri gibi, sınıf öğretmenleri başta okuma, yazma olmak üzere uygulama pratiklerinde sıkıntı yaşamaktadırlar. Bu problemlerin yanı sıra öğretmenler özellikle ilk yıllarında disiplin problemleri yaşamaktadırlar. Eleser (2008)'e göre öğretmenlerin disiplin sorunun nedenlerine ilişkin görüşlerinde "öğretmenlerin davranışlarının tutarsız olmasını" temel sorun olarak saptamıştır.

Varış'a (1973 akt. Baykara) göre, bir eğitim sisteminin kendisinden beklenen başarıyı gösterebilmesi, sistemin önemli öğesi olan öğretmenlerin bilişsel, duyuşsal ve devinimsel yönden nitelikli olmasına bağlıdır. Öğretmenlerin çok yönlü yetişmesi eğitim sisteminin istendik öğretmen profili için gereklidir. Bu bağlamda öğretmenin düşünsel tutumu, olaylara karşı duygusal tepkileri, çeşitli alışkanlıkları ve öğrencilere yaklaşımı büyük ölçüde önemlidir. Öğrenciler, çoğunlukla öğretmenin anlattığı konudan çok, onun yaklaşım biçiminden ve olayları yorumlama biçiminden etkilenmektedir (akt, Şenel, 1999). Bu noktada öğretmenlerin iyi bir psikolog ve insan okur yazarı olmaları beklenir.

Yukarıda söylenenlerin ışığında öğretmenlik mesleğinin genelde tüm branşlarda özelde ise sınıf öğretmenliği alanında birçok sorunu olduğu bilinmektedir Bu sorunlar idari, mali, yönetsel, eğitimsel ve çevresel içerikli sorunlardır(Talim Terbiye Dairesi, 1982; Özpınar ve Sarpkaya,2010) İşte bu çalışmayla sınıf öğretmenlerinin göreve başladıkları günden itibaren ilk beş yıl içerisinde karşılaştıkları öne çıkan problemlerinin neler olabileceğine ilişkin durum tespit edilmesi amaçlanmıştır.

1.1. Problem

Sınıf öğretmenlerinin mesleklerinin ilk beş yılında yaşadıkları problemler nelerdir?

1.2 Amaç

Araştırmanın amacı; sınıf öğretmenlerinin mesleklerinin ilk beş yılında yaşadıkları, öne çıkan problemleri saptamaktır. Bu genel amaç doğrultusunda aşağıdaki sorulara yanıt aranmıştır;

1. Öğrenciden kaynaklanan problemler nelerdir?
2. Veliden kaynaklanan problemler nelerdir?
3. Okulun fiziksel şartlarından ve donanımından kaynaklanan problemler nelerdir?

1.3. Sınırlılıklar

Araştırma;

2010- 2011 eğitim-öğretim yılında Sivas İli merkezindeki 11 ilköğretim okulunda çalışan 189 sınıf öğretmeni ile sınırlıdır. Köy ve ilçelerde çalışan sınıf öğretmenleri kapsam dışı bırakılmıştır.

YÖNTEM

2.1. Araştırma Modeli

Bu araştırma var olan durumun betimlenmesini amaçladığı için betimsel tarama modelindedir. Araştırma kapsamında, sınıf öğretmenlerinin mesleklerinin ilk beş yılında yaşadıkları problemler belirlenmeye çalışılmıştır. Tarama modelleri, var olan durumu olduğu şekli ile betimlemeyi amaçlayan araştırma türüdür. Araştırmaya konu olan olay, birey ya da nesne olduğu gibi tanımlanmaya çalışılır (Karasar 2003).

2.2 Evren ve Örneklem

Araştırmanın evrenini; 2010-2011 eğitim öğretim yılında Sivas İli merkezindeki ilköğretim okullarında çalışan sınıf öğretmenleri oluşturmaktadır. Örneklemin belirlenmesinde random atama tekniği kullanılmıştır. Bu amaçla rastgele seçilmiş Sivas İli merkezindeki 11 ilköğretim okulunda görev yapmakta olan ve araştırmaya gönüllü olarak katılan çalışma kıdem yılı 5 yılın altında olan 189 sınıf öğretmeni araştırmanın çalışma grubunu oluşturmuştur.

2.2.1. Çalışma Grubuna İlişkin Demografik Özellikler:

Araştırmaya katılan toplam 189 öğretmenin 84'ünün (%41,9)'erkek, 105'inin (%58,1) kadın olduğu görülmektedir. Öğretmenlerin (% 4,7)'si 22-30 yaş arasında, (% 55'i) 30-40 yaş arasında, %40,3'ü 41 ve üzeri yaştadır. Ön lisans mezunu öğretmenlerin sayısı 54 (%28,3), lisans mezunu öğretmenlerin sayısı 123(% 64,4), yüksek lisans mezunu öğretmenlerin sayısı 12, (% 6,3) tür. Öğretmenlerin mesleğe başlamadan önce 36'sının (%18,8) köyde, 53'ünün (%27,7) ilçede, 100'inin (%52.3) şehirde yaşadığı tespit edilmiştir.

2.3. Veri Toplama Aracı

Araştırmada veri toplama aracı olarak anket kullanılmıştır. Araştırma kapsamında kullanılacak anketin geliştirilmesinde öncelikle kapsam belirlenmiş ardından ilgili alan yazındaki kavramsal açıklamalar ve araştırma temelli çalışmalar incelenmiştir. Bu inceleme sonucunda sınıf öğretmenlerinin mesleklerinin ilk beş yılında yaşadıkları problemleri kapsayan 36 ifade yazılmıştır. Hazırlanan 36 ifadeye ilişkin üç

akademisyen ve 3 öğretmenden ifadelerin ilgili boyutları temsil etme durumunu, dil ve anlatım özellikleri açısından uygunluğunu değerlendirmeleri istenmiştir. Böylece anketin uzman görüşüne dayalı olarak kapsam ve görünüş geçerliği sağlanmıştır. Anket iki bölümden oluşmaktadır. I. Bölüm demografik özellikleri kapsayan 5 sorudan, II. Bölüm ise öğretmenlerin problemlerini saptayıcı içerikten oluşmuştur. 36 maddeden oluşan anket, toplam 189 kişiden oluşan sınıf öğretmenlerine uygulanmıştır. Anketten elde edilen veriler, SPSS programına aktarılarak ölçme aracının güvenirlik testi yapılmıştır. Anketin güvenirlik katsayısı (Cronbach Alpha) ,8977 olarak hesaplanmıştır. Bu sonuçta anketin güvenirlik derecesinin yüksek olduğunu göstermektedir.

2.4. Verilerin Toplanması

Anketler araştırmacılar tarafından araştırmaya katılan öğretmenlerin bağlı bulundukları okullara gidilerek uygun bir zaman dilimi içerisinde uygulanmıştır.

2.5. Verilerin Çözümü ve Yorumlanması

Anket maddelerine verilen tepkilerle toplanan bilgilerin verdiği ölçme bilgisi sınıflama düzeyindedir. Sürekli puan vermedikleri için anket verileri madde düzeyinde değerlendirilir. Aiken (1997 akt. Büyüköztürk)'e göre, anketlere verilen tepkilerin puanlanması basit bir kodlama ve sınıflandırma konusudur. Bu tür kodlamalar, anketlere verilen yanıtları matematiksel işlemlere (toplama, çıkarma, çarpma, bölme) uygun kılmaz (Akt. Kilmen ve Demirtaşlı). Bu çalışma kapsamında toplam 189 sınıf öğretmenine uygulanan anket yoluyla toplanan veriler, öğretmenlerin, cinsiyet,kıdem yılı, daha önceki yaşadığı yer ve öğrenim düzeyi gibi demografik özellikler esas alınarak SPSS 17,0 (Statistical Package for Social Sciencies) paket programı yardımıyla çözümlenmiştir. Yukarıda sayılan gerekçelerle anket maddelerine verilen tepkilere ait frekans ve yüzdeler hesaplanmıştır. Araştırma soruları çerçevesinde öğretmenlerin demografik ve mesleki özellikleri ile anket maddelerine verdikleri tepkiler arasındaki ilişkinin/bağlantısının ortaya konması için Cramer's V uygulanmıştır. Özdamar (2004)'a göre, iki kategorik değişkenin ikiden fazla kategorisi olması durumunda, birlikte değişimi göstermek amacıyla Cramer V katsayısı kullanılır (Akt. Kilmen ve Demirtaşlı). Elde edilen istatistiklerin manidarlık testi için .05 düzeyi esas alınmıştır. Beşli likert tipinde ölçeklendirilen anket maddeleri, sınıf öğretmenlerine anket maddelerinde yer alan ifadelerin kendileri açısından uygunluğunu 1 ile 5 arasında puan vererek belirtmeleri istenmiştir. Kullanılan ölçeğe ilişkin verilerin değerlendirilmesinde göz önünde bulundurulan aralık sıralaması aşağıdaki gibidir:

1.Tamamen Katılıyorum
2. Katılıyorum
3 Kısmen Katılıyorum
4 katılmıyorum
5 Hiç Katılmıyorum

BULGULAR ve YORUM

Bu bölümde, araştırmanın amacı çerçevesinde, araştırma sorularına ilişkin bulgular özetlenmiş ve yorumlanmıştır. Araştırmanın problem cümlesi ve alt problemleri verilmiştir. Alt Problemler, sırasıyla cinsiyet, yaş, kıdem, eğitim durumu, öğretmenlerin mesleğe başlamadan önce nerede yaşadıkları değişkenlerine göre incelenmiştir.

3.1.1. Öğrenciden Kaynaklanan Problemler Nelerdir? Alt Boyutuna İlişkin Bulgular

Tablo 1' e bakıldığında öğrencilerin derse karşı ilgisizliklerine öğretmenlerin %67'si meslekten soğudukları şeklinde tepki verdikleri görülmektedir. Buna benzer olarak öğrencilerin derslerdeki başarısızlığına öğretmenlerin %90'ından fazlasının üzüldüğü görülmektedir. Yine Sınıf öğretmenlerinin

tamamına yakını %96 öğrencilerin kişisel bakımlarını yapmamalarından oldukça yüksek düzeyde rahatsız olduklarını belirtmişlerdir.

Tablo 1. Öğretmenlerin öğrenciden kaynaklanan problemlere ilişkin maddelere verdikleri cevapların frekans ve yüzde değerleri

İfadeler	Tamamen Katılıyorum		Katılıyorum		Kısmen Katılıyorum		Katılmıyorum		Hiç Katılmıyorum	
	f	%	f	%	f	%	f	%	f	%
8.Öğrencilerin derse karşı ilgisizlikleri beni mesleğimden soğutuyor.	38	19,8	102	53,4	33	17,2	16	8,3	0	0
10. Öğrencilerin derslerdeki başarısızlıkları beni üzüyor.	57	29,9	85	44,5	23	12,1	23	12,1	1	0,7
11. Öğrencilerin kişisel bakımlarını yapmamalarından rahatsız oluyorum.	49	25,6	86	44,9	34	17,7	20	10,4	0	0

3.1.2. Veliden Kaynaklanan Problemler Nelerdir? Alt Boyutuna İlişkin Bulgular

Tablo 2. Öğretmenlerin veliden kaynaklanan problemlere ilişkin maddelere verdikleri cevapların frekans ve yüzde değerleri

İfadeler	Tamamen Katılıyorum		Katılıyorum		Kısmen Katılıyorum		Katılmıyorum		Hiç Katılmıyorum	
	f	%	f	%	f	%	f	%	f	%
12. Veliler toplantıların dışında okula gelmiyor.	40	21,1	50	26,4	59	31,2	25	13,2	15	7,9
13. Veliler evde çocuklarının ödevleriyle ilgilenmiyorlar	34	17,9	59	31,2	66	34,9	16	8,4	14	7,4
14. Veliler öğretmenlere baskı uyguluyor	23	12.1	33	17.4	80	42.3	35	18.5	18	9.5
15. Veliler çocuklarının başarısızlıklarını kabul etmiyorlar.	29	15.3	59	31.2	68	35.9	20	10.5	13	6.8
16. Veliler sınıf içi problemlerle yeterince ilgilenmiyor	29	15.3	71	37.5	58	30.6	18	9.5	13	6.8

Tablo 2' de öğretmenlerin velilerin, toplantıların dışında okula gelmediğine ilişkin görüşleri tamamen katılıyorum ve katılıyorum seçeneğini işaretleyenler diğerlerine göre daha fazladır (%51). Öğretmenler, velilerin öğretmenlere baskı uyguladığına kısmen katılmaktadırlar. Velilerin çocukların başarısızlıklarını kabul etmediklerine tamamen katılan ve katılanların sayısı katılmayanlara göre daha fazladır. Velilerin sınıf içi problemlerle yeterince ilgilenmediklerine ilişkin görüşe katıldıkları görülmektedir.

3.1.3. Okulun Fiziksel Şartlarından Ve Donanımından Kaynaklanan Problemler Nelerdir? Alt Boyutuna İlişkin Bulgular

Tablo 3. Öğretmenlerin okulun fiziksel şartlarından ve donanımından kaynaklanan problemlere ilişkin maddelere verdikleri cevapların frekans ve yüzde değerleri

İfadeler	Tamamen Katılıyorum		Katılıyorum		Kısmen Katılıyorum		Katılmıyorum		Hiç Katılmıyorum	
	f	%	f	%	f	%	f	%	f	%
17. Mesleğimin ilk beş yılında sobalı bir okulda görev yaptım.	99	52,3	38	20,1	18	9,5	17	8,9	17	8,9
18. Köyde müdür yetkili olan sınıf öğretmenlerinin okulun tüm fiziki donanımından sorumlu olmaları zor bir durum.	76	40,2	68	35,9	17	8,9	15	7,9	13	6,8
19. Okulda öğretim materyallerinin eksikliğini hissetmiyorum.	21	11,1	32	16,9	31	16,3	69	36,5	36	19,0
20. Temizlik ve hijyen konusunda köy okullarında öğretmenler sıkıntı yaşıyor.	59	31,2	82	43,3	24	12,6	12	6,3	12	6,3

Tablo 3' de mesleklerinin ilk beş yılında sobalı bir okulda görev yapan öğretmenlerin sayısının oldukça yüksek olduğu görülmektedir. Öğretmenler köyde müdür yetkili olan sınıf öğretmenlerinin okulun tüm fiziki donanımından sorumlu olmalarının zor bir durum olduğuna oldukça yüksek düzeyde katılıyorlar. Okulda öğretim materyallerinin eksik olduğunu düşünen öğretmenlerin sayısı yüksektir. Temizlik ve hijyen konusunda köy okullarında öğretmenlerin sıkıntı yaşadıklarına katılanların sayısı da oldukça yüksek değerde görülmüştür. Bununla beraber öğretmenlerin önemli bir çoğunluğu okulda öğretim materyallerinin sıkıntısının yaşandığını ifade etmişlerdir.

3.2. Öğretmenlerin Cinsiyetlerine Göre Tüm Maddelere Verdikleri Cevapların Bulguları

Öğretmenlerin tüm maddelere verdikleri cevaplardan cinsiyete göre anlamlı olanların bulunabilmesi için Cramer V değerleri Tablo 4' de verilmiştir.

Tablo 4. Öğretmenlerin cinsiyetlerine göre tüm maddelere verdikleri cevapların Cramer V değerleri

Madde No	Cramer V	p	Madde No	Cramer V	p	Madde No	Cramer V	p	Madde No	Cramer V	p
1	,29	,02*	10	,16	,49	19	,09	,89	28	,14	,82
2	,12	,75	11	,15	,40	20	,09	,59	29	,15	,52
3	,14	,60	12	,07	,94	21	,20	,26	30	,21	,21
4	,14	,62	13	,07	,95	22	,14	,60	31	,16	,48
5	,19	,31	14	,09	,89	23	,10	,82	32	,18	,37
6	,17	,27	15	,12	,72	24	,03	,99	33	,14	,42
7	,30	,01*	16	,16	,50	25	,10	,68	34	,18	,36
8	,09	,75	17	,38	,00*	26	,08	,60	35	,16	,31
9	,22	,17	18	,10	,82	27	,21	,18	36	,25	,04*

*p<.05

Tablo 4' de Öğretmenlerin cinsiyetlerine göre tüm maddelere verdikleri cevapların Cramer V değerlerine bakılmış ve sadece 1, 7, 17 ve 36. maddelerle öğretmenlerin cinsiyetleri arasında anlamlılık bulunmuştur.

3.2.1. Öğretmenlerin Cinsiyete Göre Anlamlı Bulunan Maddelere Verdikleri Cevaplara Ait Bulgular

Cinsiyete göre anlamlı bulunan maddelerin frekansları Tablo 5' te verilmiştir.

Tablo 5. Öğretmenlerin cinsiyete göre anlamlı bulunan maddelere verdikleri cevaplara ait frekansları

İfadeler ve Durumlar		Tamamen Katılıyorum f	Katılıyorum f	Kısmen Katılıyorum f	Katılmıyorum f	Hiç Katılmıyorum f
1. İlk atandığım okulu ve yerleşim yerini görünce hayal kırıklığına uğradım.	E	18	31	13	13	8
	K	30	24	31	12	8
7. Mesleğimin ilk yıllarında sınıfta disiplin problemi yaşadım.	E	9	28	18	17	12
	K	6	25	30	34	10
17. Mesleğimin ilk beş yılında sobalı bir okulda görev yaptım	E	34	22	7	10	11
	K	65	16	11	7	6
36. Müfettişler teftiş sürecinde mesleğin ilk yıllarında olan öğretmenlerin sıkıntılarını dikkate almıyor.	E	14	34	20	10	6
	K	29	10	17	7	6

Tablo 5' te ilk atandığı okulu ve yerleşim yerini görünce bayan öğretmenlerin erkeklere göre daha çok hayal kırıklığına uğradığını görülmektedir. Mesleğimin ilk yıllarında sınıfta disiplin problemleri yaşadım sorusuna erkek öğretmenlerin daha çok katıldıkları görülürken, araştırma kapsamındaki öğretmenlerden mesleklerinin ilk beş yılında sobalı bir okulda görev yapanların çoğunun bayan öğretmen olduğu görülmüştür. Müfettişlerin teftiş sürecinde mesleğin ilk yıllarında olan öğretmenlerin sıkıntılarını dikkate almadığına erkek öğretmenler daha çok katılmaktadırlar.

3.3.2. Öğretmenlerin Kıdeme Göre Tüm Maddelere Verdikleri Cevapların Bulguları

Öğretmenlerin tüm maddelere verdikleri cevaplardan kıdeme göre anlamlı olanların bulunabilmesi için Cramer V değerleri Tablo 6' da verilmiştir.

Tablo 6. Öğretmenlerin kıdeme göre tüm maddelere verdikleri cevapların Cramer V değerleri

Madde No	Cramer V	p	Madde No	Cramer V	p	Madde No	Cramer V	p	Madde No	Cramer V	p
1	,23	,05	10	,23	,03*	19	,14	,81	28	,15	,71
2	,11	,96	11	,13	,68	20	,15	,38	29	,19	,24
3	,13	,82	12	,21	,10	21	,18	,40	30	,21	,10
4	,15	,34	13	,20	,21	22	,10	,97	31	,17	,51
5	,23	,04*	14	,22	,08	23	,18	,35	32	,17	,48
6	,11	,84	15	,18	,31	24	,13	,23	33	,15	,46
7	,12	,14	16	,14	,77	25	,12	,14	34	,23	,05
8	,20	,65	17	,27	,00*	26	,15	,14	35	,12	,75
9	,16	,54	18	,16	,62	27	,13	,86	36	,12	,72

*p<.05

Tablo 6' da öğretmenlerin kıdeme göre tüm maddelere verdikleri cevapların Cramer V değerlerine bakılmış ve 5, 10 ve 17. maddelerle öğretmenlerin kıdemi arasında manidar ilişkiler bulunmuştur.

3.2.5. Öğretmenlerin Kıdeme Göre Anlamlı Bulunan Maddelere Verdikleri Cevaplara Ait Bulgular

Kıdeme göre anlamlı bulunan maddelerin frekansları Tablo 7' de verilmiştir. "İlk yıllarımda üniversitede öğrendiğim bilgileri öğrencilere aktarırken sorunlar yaşadım" sorusuna 10-15 ve 15-20 yıl arasında çalışma süresi olan öğretmenler daha çok katılırken, "Öğrencilerin derslerdeki başarısızlığı beni üzüyor" sorusuna 5-10 ve 20 yıl üzeri çalışan yılı olan öğretmenlerin daha çok katıldıkları görülmüştür.

5.1. SONUÇLAR

Öğrenciden Kaynaklanan Problemler İlişkin Maddelere Dönük Sonuçlar Sonuçlar:

Öğrencilerin derse karşı ilgisizlikleri öğretmenleri meslekten soğuttu görüşü hakim olmuştur. Öğrencilerin derse karşı ilgisizlikleri beni mesleğimden soğutuyor sorusuna 30-40, 40 ve üzeri yaştaki öğretmenlerin daha çok katıldığı görülmektedir. Bu durumun nedeni klasik eğitim döneminden geçmiş olan bu yaş kategorisindeki öğretmenlerin yorumu ya da bakış açılarına yansıyan geçmişleri olabilir.

Öğrencilerin derslerdeki başarısızlığının öğretmenleri üzdüğü görülürken, "Öğrencilerin derslerdeki başarısızlığı beni üzüyor" sorusuna 5-10, 20 ve üzeri çalışma yılı olan öğretmenler daha çok katılmaktadırlar. Yukarıda ortaya çıkan bu durum öğretmenlerin mesleğinin ilk yıllarında diğer tecrübeli öğretmenlere göre daha idealist ve yöntem bilmezliğinden kaynaklı olabilir.

Tablo 7. Öğretmenlerin kıdeme göre anlamlı bulunan maddelere verdikleri cevaplara ait frekanslar

İfadeler ve Durumlar		Tamamen katılıyorum f	Katılıyorum f	Kısmen Katılıyorum f	Katılmıyorum f	Hiç Katılmıyorum f
5. İlk yıllarımda üniversitede öğrendiğim bilgileri öğrencilere aktarırken sorun yaşadım.	5-10	3	5	7	3	3
	10-15	11	16	18	6	3
	15-20	6	26	16	6	4
	20ve üzeri	3	19	20	11	3
10. Öğrencilerin derslerdeki başarısızlıkları beni üzüyor.	5-10	5	7	3	3	3
	10-15	22	16	5	7	4
	15-20	9	34	5	7	3
	20ve üzeri	18	25	7	3	3
17. Mesleğimin ilk beş yılında sobalı bir okulda görev yaptım.	5-10	4	5	3	5	4
	10-15	26	15	6	3	4
	15-20	33	9	5	6	5
	20ve üzeri	36	9	4	3	4

Veliden Kaynaklanan Problemlere İlişkin Maddelere Ait Sonuçlar:

 Öğretmenler velilerin toplantıların dışında okula gelmediğini ifade etmişlerdir.
 Velilerin evde çocukların ödevleriyle ilgilenmediklerini ifade etmişlerdir.
Öğretmenler, velilerin öğretmenlere baskı uyguladığına kısmen katıldıklarını dile getirirken, velilerin öğretmene baskı uyguladığına en fazla katılan öğretmenlerin mesleğe başlamadan önce ilçede yaşayanlar olduğu görülmüştür. Yine öğretmenler velilerin çocukların başarısızlıklarını kabul etmediklerini ve sınıf içi problemlerle yeterince ilgilenmediklerini dile getirmişlerdir.

Kılıç ve Abay'ın (2009), yaptıkları araştırmada; birleştirilmiş sınıflarda görev yapan öğretmenlerin, birleştirilmiş sınıf uygulamasında; "öğretmen yeterliliği", "okul olanakları", "programın yapısı", "okul-aile işbirliği" ve "öğrencilerden kaynaklanan sorunlarla karşı karşıya bulundukları sonucuna ulaşılmıştır. Bu sonuç bu çalışmada ulaşılan sonuçlar ile örtüşmektedir.

Okulun Fiziksel Şartlarından Ve Donanımından Kaynaklanan Problemlere İlişkin Maddelere Ait Sonuçlar:

Mesleklerinin ilk beş yılında sobalı bir okulda görev yapan öğretmenlerin sayısının oldukça yüksek olduğu, araştırma kapsamındaki öğretmenlerden mesleklerinin ilk beş yılında sobalı bir okulda görev yapanların çoğunun kadın öğretmen olduğu görülmüştür.

Okulda öğretim materyallerinin eksik olduğunu dile getirirken, temizlik ve hijyen konusunda köy okullarında öğretmenlerin sıkıntı yaşadıklarına katılanların sayısının oldukça fazla olduğu görülmüştür.

Öğretmenlik, sadece okul ve sınıf ortamında öğrencilerle değil, okul dışında veliler ve toplumla da iç içe olan bir meslektir. Özellikle hizmet verdiği bölge ve toplum yapısı, kültürü de dikkate alındığında

öğretmenden beklentiler de değişebilmektedir. Şöyle ki, küçük bir köy ya da mezradaki bir öğretmen o belde için "köyün en önde gelen, en prestijli" kişisidir. O bölge için öğretmen "her şeyi bilendir". Bununla birlikte öğretmen mezra, köy, kasaba ve şehir ayrımı yapılmaksızın nerede çalışırsa çalışsın en çok muhatap oldukları insan grubu kuşkusuz öğrencilerdir (Çelikten, Şanal, Yeni 2005: 213). Bu yüzden öğretmenlerin hem öğrenciler ve okulun hem de toplumun beklentilerine cevap verecek şekilde gerekli eğitimi almış olmalıdır.

5.2.ÖNERİLER

Uygulayıcılar İçin Öneriler

1. Öğretmen yetiştiren tüm fakültelerin okuma yazma öğretimi ve birleştirilmiş sınıf öğretimi üzerinde daha yoğun bir şekilde durmaları gerekir. Çünkü mesleğe yeni başlayan öğretmenler hala bu konuda sıkıntı yaşamaktadırlar. Halbuki sınıf öğretmenliği mezunu bir öğretmenin artık bu konularda sıkıntı yaşamaması gerekmektedir. Bundan dolayı fakültelerde sınıf öğretmenliği programları bu istek ışığında tekrar ele alınmalıdır.

2. Öğrencilerden ve veliden kaynaklanan problemlerin çözümlenebilmesi için veli ve öğrencilerin daha bilinçli hale getirilmesi gerekmektedir. Veli ve öğretmenlerin işbirliği içinde olması, velilerle kurulan sağlıklı iletişimle veli ve öğrenci kaynaklı problemler çözüme ulaşabilir. Ayrıca sınıf öğretmenleri bu tür problemleri çözerken mutlaka bunaldığında, okulda yardım alabileceği bir rehber öğretmen bulunmalıdır. Köylerdeki okullar da dahil tüm okullardaki rehber öğretmen ihtiyacı bakanlık tarafından giderilmelidir.

3. Artık günümüzde sobalı, lojmanı olmayan köy okullarının kalmaması için gerekli çalışmaların yapılması gerekmektedir. En ücra köşedeki okulların bile fiziki donanım açısından daha iyi duruma getirilmesi gerekmektedir. Tüm okullar öğretim araç gereçleri açısından donanımlı hale getirilmelidir. Bu konuda yerel yöneticiler ne Milli Eğitim Bakanlığı gerekli önlemleri almalıdır.

Araştırmacılar İçin Öneriler

1. Sınıf öğretmenlerinin problemleri incelenirken kırsal kesimde ve şehirde çalışan öğretmenler üzerinde bir araştırma yapılabilir.
2. Sınıf öğretmenleriyle, branş öğretmenlerinin problemleri karşılaştırılabilir.

KAYNAKÇA

Büyüköztürk,Ş. (1998) *Anket Geliştirme* http://www.tebd.gazi.edu.tr/arsiv/2005_cilt3/sayi_2/133-151.

Çelikten, M., Şanal, M., Yeni, Y.(2005). *Öğretmenlik Mesleği ve Özellikleri*.Sosyal Bilimler Enstitüsü Dergisi, 19, 207-237.

Doğan, C. (2005). *Türkiye'de Sınıf Öğretmeni Yetiştirme Politikaları ve Sorunları*, bilig, 35,133-149.

Eğitim Terimleri Sözlüğü.(1974).

Education World (2008) *Education World internet sitesi*. http://www.educationworld.com/ preservice/making_plans (10.10.2011)

Eleser, G. (2008). *İlköğretim Birinci Kademede Görev Yapan Sınıf Öğretmenlerinin Karşılaştıkları Disiplin Problemleri ve Bunlarla Baş Etme Yolları*. Yüksek Lisans Tezi, Yeditepe Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Karasar, N. (2010). *Bilimsel Araştırma Yöntemi*. (21. Baskı).Ankara: Nobel Yayınevi.

Kılıç, D., Abay, S. (2009). *Birleştirilmiş sınıf uygulamasında öğretmenlerin öğrenme-öğretme sürecinde karşılaştığı problemlere ilişkin görüşleri*, Türk Eğitim Bilimleri Dergisi, (3), 623-654.

Kilmen, S., Çıkrıkçı Demirtaşlı, N. (2009). *Sınıf Öğretmenlerinin Ölçme ve Değerlendirme İlkelerini Uygulama Düzeylerine İlişkin Görüşleri*, Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 42(2), 27-55.

Korkmaz, İ., Şaban, A., Akbaşlı., S. (2004). *Göreve Yeni Başlayan Sınıf Öğretmenlerinin Karşılaştıkları Güçlükler.* Kuram ve Uygulamada Eğitim Yönetimi, 10(38), 266-277.

11. MEB. Öğretmen Yetiştirme ve Eğitimi Genel Müdürlüğü. *Öğretmen Yeterlilikleri.*Ankara: MEB Yayınları. 2002.

Özdemir,O., Özdemir, P., Kadak, M. T. Ve Nasıroğlu, S. (2012) *Psikiyatride Güncel Yaklaşımlar*-Current Approaches in Psychiatry 2012; 4(4):566-589

Özpınar,R. ve Sarpkaya, M. (2010) *Köyde Görev Yapan Sınıf Öğretmenlerinin Sorunları* Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 27, 2010, ss. 17-29

Pehlivan K.P (2008) "*Sınıf Öğretmeni Adaylarının Sosyo-kültürel Özellikleri ve Öğretmenlik Mesleğine Yönelik Tutumları Üzerine Bir Çalışma*" Mersin Üniversitesi Eğitim Fakültesi Dergisi, Cilt 4, Sayı 2, , ss. 151-168.

Sadioğlu, Ö., Oksal, A. (2008). *Sınıf Öğretmenliğinden Mezun Olan Öğretmenlerle Başka Alanlardan Mezun Olan Sınıf Öğretmenlerinin İlkokuma Yazma Öğretiminde Yaşadıkları Güçlüklerin Karşılaştırılması,* İlköğretim-Online, 7(1), 71-90.

Şenel, E.A. (1999). *Öğretmenlik sertifikası programına katılan öğretmen adaylarının öğretmenlik mesleğine yönelik tutumlarına öğretim uygulamalarının etkisi.* Yayımlanmamış Yüksek Lisans Tezi, Anadolu Üniversitesi, Eskişehir.

Talim ve Terbiye Dairesi Başkanlığı (1982). *Öğretmen Sorunları ve Eğitimleri Araştırması*. MEB basımevi. Ankara