Prospective Teachers' Attitudes towards Computers in the Pre-service Teacher Education Programs at Eastern Mediterranean University

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ABSTRACT

The aim of this study is to investigate the attitudes pre-service teachers towards computers. The participants of the study were 394 prospective first and fourth year teachers from the teacher education programs in English Language Teaching, Turkish Language Teaching, Psychological Counseling and Guidance, Pre-School Teacher Education, Elementary School Teacher Education, and Secondary School Teacher Education under the Faculty of Education at Eastern Mediterranean University, Famagusta, Turkish Republic of Northern Cyprus (TRNC). To achieve this aim, quantitative data were collected from these participants.

A quantitative research method was used to collect the data. The questionnaire given to the teacher candidates was in the students' mother tongue, Turkish, and consisted of two sections with a total of 45 items; the first section asked the participants their gender, program of study, year of study, computer ownership, and year(s) of ownership. The second section included 40 items concerning attitudes towards computers.

The participants completed the questionnaire, which asked them to fill in an optic answer sheet toward the written statements. They were asked to do so, by stating whether they strongly agreed, agreed, disagreed, or strongly disagreed.

The data were analyzed through the PASW program. Analysis of the data included differences between how pre-service teachers felt towards computers, and how they felt towards computers according to gender, program of study, year in program, computer ownership, and year(s) of ownership. The findings of the study revealed that pre-service teachers from the mentioned programs hold an above average positive attitude towards computers. The findings also reveal that gender, years of study, and years of computer ownership do not prove to be significant in the process of defining an individual's attitude towards computers. However, the findings do reveal that a significant different exists between the attitudes of pre-service teachers towards computers and their ownership of a computer. Furthermore, the findings indicate that a significant difference existed among the programs of Turkish Language Teaching, and English Language Teaching and Pre-School Teacher Education with respect to attitudes of students towards computers. A significant difference in the attitudes of students also exists between the programs of Pre-School Teacher Education and Psychological Counseling and Guidance. Finally, the implications of these findings and suggestions for further research are given.

Keywords: Pre-service teachers, attitudes towards computers.

ÖZ

Bu çalışmanın amacı Kuzey Kıbrıs Türk Cumhuriyeti (KKTC) Gazimağusa'da Doğu Akdeniz Üniversitesi'nde Eğitim Fakültesi'ne bağlı İngilizce Öğretmenliği, Türkçe Öğretmenliği, Psikolojik Danışmanlık ve Rehberlik, Okul Öncesi Öğretmenliği, Sınıf Öğretmenliği ve Ortaöğretim Alan Öğretmenliği bölümlerinde öğretmen adaylarının bilgisayarlara yönelik tutumlarının incelenmesidir. Bu amaca ulaşmak için, Kuzey Kıbrıs Türk Cumhuriyeti (KKTC) Gazimağusa'da Doğu Akdeniz Üniversitesinde, yukarıda belirtilen bölümlerden, birinci ve dördüncü sınıf öğretmen adaylarından nicel veriler toplanmıştır. Bu araştırmaya toplam 394 hizmet öncesi öğretmen katılmıştır.

Veri toplamak için nicel araştırma yöntemleri kullanılmıştır. Öğretmen adaylarının ana dili Türkçe olduğundan toplam 45 maddelik iki bölümden oluşan anket Türkçe verilmiştir. Birinci bölümde katılımcıların cinsiyetleri, okumakta oldukları bölümleri, yılları, bilgisayara sahip olup olmadıkları, ve sahip oldukları süre sorulmuştur. İkinci bölüm bilgisayar tutumuyla ilgili 40 madde içermektedir. İkinci bölümdeki 40 madde katılımcıların bilgisayara olan tutumlarını içermektedir. Katılımcılar anketi tamamlamak için, yazılı ifadelere cevap vererek optik cevap kâğıdını doldurmaları istenmiştir

Katılımcılardan kesinlikle kabul ediyorum, kabul ediyorum, kabul etmiyorum veya kesinlikle kabul etmiyorum olarak verilen ifadelerden kendilerine uygun olanını optik cevap anahtarına işaretlemeleri istenmiştir.

Veriler PASW programı aracılığıyla analiz edilmiştir. Hizmet öncesi öğretmenlerinin bilgisayara karşı ne hissettiklerini ve cinsiyet, okumakta oldukları bölüm, bölümde oldukları yıl, bilgisayar sahipliği ve bilgisayar sahiplik yıl(lar)ına göre bilgisayarlara karşı nasıl hissettikleri veri analizini içermektedir. Veri analizi hizmet öncesi öğretmen adaylarının bilgisayara karşı cinsiyet, okumakta oldukları bölüm, bölümde oldukları yıl, bilgisayar sahipliği ve bilgisayara sahiplik yıl(lar)ına göre hissettikleri farklılıkları içermektedir. Araştırmada elde edilen bulgular, söz konusu bölümlerin hizmet öncesi öğretmenlerinin bilgisayarlara yönelik tutumlarının ortalamanın üstünde olumlu olduklarını ortaya koyuyor. Bulgular bilgisayarlara karşı kişisel tutum belirlenmesi sürecinde cinsiyetin, okumakta oldukları bölümün, bölümde oldukları yılın, bilgisayar sahibi olmanın ve bilgisayar sahibi oldukları yıl(lar)ın herhangi bir önemi olmadığını ortaya koymuştur. Ancak, bulgular hizmet öncesi öğretmenlerinin bilgisayar sahibi olup olmadığına göre bilgisayara yönelik tutumları arasında belirgin bir farklılığın var olduğunu ortaya koymaktadır. Ayrıca, bulgular öğrencilerinin bilgisayara karşı olan tutumlarında Türkçe Öğretmenliği, İngilizce Öğretmenliği ve Okul Öncesi Öğretmenliği bölümleri arasında belirgin bir farkın var olduğunu göstermektedir. Bir diğer belirgin farklılık da Okul Öncesi Öğretmenliği ve Psikolojik Danışma ve Rehberlik bölümleri arasında bulunmaktadır. Son olarak, bu bulguların etkileri ve ileri araştırmalar için öneriler verilmiştir.

Anahtar kelimeler: Hizmet öncesi öğretmen, bilgisayara yönelik tutumlar.

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Last but not least, I would like to thank my mother who has always stood by me. A very special thanks goes to my wife, Ayşe, for her enduring love, support and encouragement. Her faith aided me in completing this study. I would also like to dedicate this thesis to my father, whose guidance and love over the years has made me the person I am today, and who will always be in my heart.

To my beloved mother Sezin and father Ertan, wife Ayşe, and

My baby girl to be

Thank you for your current and future love, support and encouragement.

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LIST OF ABBREVIATIONS

CAS: Computer Attitude Scale

CAS-M: Computer Attitude Scale Marmara

ELT: English Language Teaching

TLT: Turkish Language Teaching

PCG: Psychological Counseling and Guidance

PSTE: Pre-School Teacher Education

ESTE: Elementary School Teacher Education

SSTE: Secondary School Teacher Education

T.R.N.C: Turkish Republic of Northern Cyprus

Chapter 1

INTRODUCTION

This chapter is divided into five sections. The first section presents the background to the study. The second section describes the purpose of the study. The following section presents the significance of the study and its contribution to education and literature. The fourth section presents the assumptions followed by the final section that provides the definition of terms used in the study.

1.1 Background to the Study

In the 21st century, the importance of technology and computers is immense and therefore cannot be denied. It has been influencing every aspect of our lives, from our day-to-day chores to our social and professional careers, in addition to a majority of our leisure activities. As more and more tasks rely upon the use of computers, possessing a reliable degree of computer understanding and expertise is closely, and in fact, positively associated with both individual and professional success. If we desire to be productive or increase the degree of productivity especially in our professional careers, the significance of technology cannot be denied. Perhaps one of the most important fields in which technology must be integrated is undeniably the educational domain. All stakeholders (ministers, teachers, students, parents...) concerned in the field of education demand further use of technology i.e. computers in schools. As we progress into the society now bound to technology, it is crucial to allow learners

to experience technology within the classroom. One of the most imperative, if not the sole individual to introduce and instigate technology to the learners is the teacher.

Since the participants are pre-service teachers that have not experienced many, if not any, bad experiences concerning computer use in a classroom and unless any predefined phobias exist, it would be quite accurate that, in general, pre-service teachers' attitudes towards computers in class will probably be positive with a minute number of candidates carrying a negative attitude toward computers.

However, possessing a positive attitude toward computers does not automatically guarantee both the use and/or the effective use of computers in the actual teaching profession. Booth and Foster (1994) state that one of the most crucial steps for computer use in schools is in fact the introduction phase. Once computers have been introduced, acceptance and usage will soon follow. Once the introductory phase has been accomplished, the teachers or pre-service teachers should be educated in order to use computers in class to their full potential. As cited in the Journal of Interactive Media in Education - JIME (2002), computers cannot be considered as just another piece of equipment. If implemented efficiently, computer based learning environments grant us a new perspective on the nature of learning and teaching.

However, only introducing and recognizing the importance of computers in education would not suffice. Numerous studies have been carried out and they

all agree on one key aspect; computer use for teaching is influenced by teachers' attitudes towards them (Kellenberger and Hendricks, 2003). Troutman (1991) also documented that teachers' success of computer use for instruction may very well be influenced and hold great significance to their attitudes towards computers. Myers & Halpin (2002) report that a critical basis for understanding teachers' attitude towards computers is due to its role as a predictor for future computer use in the classroom.

Technology has always been perceived as a masculine subject. Even in this technological era, the twenty first century, when computer classes and internet cafes are observed, a high majority of the individuals present in these locations are of the male majority. With regard to the concept of perceptions towards computers, gender has also been widely considered by many researchers. Research suggests that females are just as capable of performing well and receiving high grades in computer courses as their male counterparts are (Lockheed, 1985). However, evidence shows the level of confidence and anxiety when approaching computers differs between the two sexes. Females compared to males tend to possess more anxiety and less confidence while approaching computers (Wilder, Mackie, and Cooper, 1985). This gender distinction can also be linked to the amount of prior experience, in which females tend to have less years of experience and are fewer liable than male teachers, to implement computers in the classroom.

When comparing computer attitudes of computer owners, researchers found no gender differences (Gattiker & Hlavka, 1992). Over the last three decades, the

number of personal computer owners and computers in schools has changed drastically. Now, especially in the TRNC, we are able to see computers in many households and in almost all, if not all, state and private schools. Therefore, we may conclude that Turkish Cypriot children are being exposed to computers from an early age.

According to Paprzycki & Vidakovic (1994), when compared to other professionals, teachers are more hesitant and less likely to embrace computer technology. This issue is also supported by Wetzel (1993) who states that when employed in schools, teachers hesitate to use technology and feel uneasy and unprepared to incorporate technology into their classroom instruction. Therefore, teacher candidates must be properly educated to incorporate computers into classroom instruction and these courses must not be underestimated since they prove to be important. Promoting positive attitudes in turn promote achievement, liking and learning (Simonson, 1995). Thus, it is also imperative to recognize how having negative attitudes towards computers can influence the process of learning, respectively.

Almost no studies have been carried out that differentiate pre-service teachers' attitudes undertaking different programs of study. However, Groves and Zemel (2000) discovered that if a supporting environment exists then this would prove to be a vital factor which would influence the use of instructional technology i.e. computers in teaching. To be precise, positive effects on attitude would arise when facilitating conditions were present. Therefore, we may presume that a teacher candidate studying a technology related field would in fact hold a higher

degree of positivity towards computer use in general that would reflect on in-class teacher instruction.

1.2 Purpose of the Study

The aims of this study are to identify the perceived attitudes of pre-service teachers towards computer use in the classroom, to explore the effects on computers attitudes with respect to gender, subject field of study, and computer ownership of the first and the fourth year prospective teachers of Psychological Counseling and Guidance, English Language Teaching, Pre-School Teacher Education, Elementary School Teacher Education, Secondary School Teacher Education, and Turkish Language Teaching, and to recommend strategies and methods to make positive changes in learners' attitudes towards computer use (see Appendix B1 – B6 for detailed information regarding each departments curriculum).

The research questions that arise are as follows:

1. How are the attitudes of pre-service teachers with regard to computer use?
2. How is the difference between male and female pre-service teachers in their attitudes towards the use of computers?
3. How do the attitudes of students towards computer use differ with respect to computer ownership?
4. How do the attitudes of pre-service teachers towards the use of computers differ with respect to their field of study?

5. How is the difference among the first and the fourth-year students in their attitudes towards the use of computers?

1.3 Significance of the Study

Numerous studies on pre-service teachers' attitudes towards computers in class with reference to gender, major field of study, grade in which the participant is currently in, and computer ownership have been conducted in many different countries around the world. However, further studies are required to be carried out on this immense field with an expanded scope concerning the major field of study of participants, particularly in North Cyprus, including Turkish Cypriots, and mainland Turkish citizens. Therefore, I believe that this study will make an important contribution to the literature from the Turkish Cypriot perspective. Furthermore, it is imperative to understand how pre-service teachers enrolled in various teacher education programs in the Eastern Mediterranean University feel towards computers as computers hold the key for a greater tomorrow and these prospective teachers that will help mold and prepare our children to the technologically governed future.

The outcomes of this study are expected to show the Higher Education Council and the Ministry of Education the significance of technology, specifically using computers in the classroom, thus leading to a more technologically integrated teaching program. It is also expected to demonstrate and introduce the importance that teacher-training programs possess in order to equip pre-service teachers with the essential attitude, knowledge and skills that enable these candidates to use computers in an effective manner. Ropp (1999) claimed that attitudes towards computer can lead to determining technological integration

and learning into teacher practice. Therefore, it is important to identify and understand factors affecting pre-service teachers' attitudes towards computers.

1.4 Assumptions

The following assumptions were made for the administration of the instrument:

1) The survey was administered in an orthodox manner. Thus, the instrument was distributed to the participants, a time limitation was not given, and collected upon completion.

2) The conditions by which the participants answered the survey were standard, since no distractions (disturbing noise, extreme heat, etc.) were present.

3) The participants were sincere while responding to the items within the instrument.

1.5 Definition of Terms

Pre-service teacher / Teacher candidate / Prospective teacher: An individual currently enrolled in a program to become a teacher.

Attitude: "mental or neural states of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to objects and situations with which it is related" (Allport, 1935)

Chapter 2

REVIEW OF LITERATURE

The purpose of this chapter is to present a review of literature regarding attitudes towards computers. The literature review commences by defining the notion of attitude towards computers and continues with the empirical studies involving this notion.

According to Fishbein and Ajzen (1975), a learned susceptibility in order to retort in a consistently approving or disapproving fashion towards a notion or an object is defined as ‘attitude’. Researchers (Fishbein & Ajzen, 1975; Lee, 1970; Loyd & Gressard, 1984; Ropp, 1990; Roussos, 2007; Whitely, 1997) claim that there is an undeniable bond between attitude and behavior. Therefore, from this theory we can deduce that an attitude that one holds, whether it is positive or negative, possesses great importance while forming and shaping behaviors. Thus, we can also infer that this principle can be applied to many fields including computer use (Levin & Donitsa-Schidt, 1998; Ropp, 1990; Zoller and Ben-Chaim, 1996)

2.1 Research Studies on the Relationship among Attitude, Gender, and Computer Experience

Several factors have been found to affect one's attitude towards computer use. The main factors that are believed to affect attitude towards computer are whether one owns a computer, which is closely correlated to computer experience, and gender. The factor receiving the most attention from researchers and scholars is gender. Researchers have been investigating the dilemma of whether or not gender has an effect upon attitudes towards computers for over two decades now, and they still have not been able to reach a consensus regarding the issue. According to some studies, a substantial correspondence among attitudes towards gender and computer (Broos, 2005; Brosnan & Lee, 1998; Busch, 1995; Dambrot et al., 1985; Comber et al., 1997; Koohang, 1989; Shashaani, 1994a; Williams et al., 1993, Zoller and Ben-Chaim, 1996; Whitely, 1997;). In contrast, other studies have proved the opposite, that is, gender does not prove to be of significance on attitudes towards computers (Greber, 1990; Lieberman, 1985; Loyd & Gressard, 1984b; Muira, 1987; Ropp, 1990; Sacks, Bellisimo, & Mergendoller, 1993; Roussos, 2007). Some studies that have revealed gender not to have a significant effect on the attitudes in question have also provided counterarguments that nullify former claims of a gender difference. Particular counterarguments are that females have insufficient access to computers (Lieberman, 1985 and Muira, 1987), the presence of gender-inappropriate software, masculine games, and lack of female heroes (Greber, 1990). There have also been claims such as although gender did not prove to be an affective aspect for identifying computer attitudes aspects such as age, and

computer experience did in fact prove to be affective (Azan et al., 2000; Koohang, 1989; Loyd & Gressard, 1984b; Ropp, 1990; and Roussos, 2007). Another aspect deemed necessary to indicate is the alternative element of computer attitude, which is computer anxiety. The relationship among gender, computer attitude, and computer anxiety were also investigated (Ayersman & Reed, 1996; Beckers & Schmidt, 2001; Bozionelos, 2001; Chua et al., 1999; Dyck and Smither, 1994 and Kotrlik & Smith, 1998).

Literature dated back from the 1980s suggested that males possessed more positive attitudes towards computers than females. Although computers are viewed to be extremely technical and belong to the male domain (Campbell & McCabe, 1984; Lowe & Krahn, 1980), computer exposure for both males and their counterpart females have greatly increased over the years. Furthermore, in the past females did not have the socio-economic power and independence they possess now, and the case may have changed. Additionally, nowadays both males and females are far more exposed to computers when compared to subjects studied in the 1980s.

Lee (1970) is considered the pioneer regarding research on computer attitudes and identifies two dimensions of attitude; (i) believing the computer to be a beneficial tool and (ii) believing computers are autonomous entities. In addition, Gardner, Young, and Ruth support Lee's findings (1989). His primary hypothesis is that an increase in computer use occurs due to decreased autonomous entity attitude scores. This then leads to higher beneficial tool attitudes. He concludes that individuals possess a hesitant attitude when they are

first introduced to any form of technology, and as they gain knowledge of how to use it and familiarize themselves with it, they in fact adopt it over time. This process of adoption occurs once the individual appreciates its value.

Dambrot et al. (1985) conducted studies on elementary and high school students. These studies revealed that males were more dominant and possessed positive attitudes regarding computer use. They concluded that this dissimilarity occurred since computers were identified with subject matters such as mathematics and science and females believed or were believed to be unsuccessful in such subject matters. Lieberman (1985) and Muira (1987) disagreed with Dambrot's findings and claimed females not having much access to computers caused this gender difference.

Loyd and Gressard (1984b) initiated a study to discover whether attitudes towards computers could be affected by factors such as computer experience and gender. The instrument that was administered was a computer attitude scale. The instrument was administered to a total of 354 students. 142 of these participants were students currently enrolled in high school, 107 were college students, and the remaining 105 participants were university pupils residing in school residences. Loyd and Gressard discovered that gender did not have a significant effect on any of these aspects. However, they did discover that computer experience, and age did play an important role in defining ones attitude towards computers.

Birişci, Metin, and Karakaş's (2010) results were also in line with Loyd and Gressard's (1984b). They aimed to identify whether there was a difference in pre-service elementary teachers' computer attitudes according to gender, grade, high school graduated, and the socio-economic status of the participants' families. The instrument that was used was divided into two sections. The first section consisted of demographic questions and the second section was the Computer Attitude Scale - Marmara (CAS-M) designed and prepared by Deniz (1994). They administered their Computer Attitude Scale to 248 pre-service elementary school teachers studying at a small university in northeastern Turkey. The sample included the pre-service teachers from all four years of study. The sample consisted of 121 (48.8%) male participants and 127 (51.2%) female participants. The findings of the study indicated that pre-service elementary teachers possessed an average attitude towards computers. Females were proven to be more positive towards computers although the difference was not significant.

Other researchers such as Greber (1990) proposed that there were other various reasons as to why females had a decreased attitude value towards computers. He suggested that there was gender-inappropriate software, male stereotyped games, and lack of heroines. Greber concluded that technology is not constant and can in fact be changed by society.

Ropp (1990) also came to a similar conclusion regarding gender. She investigated the whether computer attitude would differ with regard to gender and age, and other factors such as computer anxiety and self-efficacy. Her study

was administered to 53 pre-service teachers. The instrument used included the computer outlook, technology aptitude, computer nervousness, computer self-efficacy, and computer managing dimensions. According to Ropp's study, age and gender had no effect upon computer attitude, computer anxiety, and computer self-efficacy however; there was a significant and positive relationship between computer self-efficacy and computer attitude.

Although many studies revealed that there were no significant differences among gender and computer attitudes, there are also many studies that depict the opposite. Smith (1999) discovered that gender did not make a significant difference in computer attitudes for those learning about and how to use technology in situations that were structured carefully, conversely differences in attitudes with respect to gender rapidly increased when structure was not present. Therefore, the context in which computer skills are acquired is another factor that must be considered.

Zoller and Ben-Chaim (1996) examined the attitudes of both students and teachers concerning computers. They discovered a significant difference of attitudes toward computers among students and teachers with respect to gender. According to the study, males were more positive towards computers when compared to females. The study also unearthed the fact that the attitude one holds towards computers differ according to the field of study one is currently in or holds a liking to. Instructors involved in fields related to social arts have a lower level of attitude toward computers. Attitudes towards computers also

change due to the amount of experience with computers. Attitudes towards computers become more and more positive as computer experience increases.

Koohang (1989) also studied the effect of gender on attitudes towards computers, and he analyzed the correlation amid past computer awareness and computer attitudes. Eighty one undergraduate students at Midwestern University participated in his study. The study revealed prior computer awareness as an important factor when defining attitudes towards computers. Koohang also discovered that gender proved to hold significance with respect to attitudes towards computers. According to the results, males possessed a higher level of positive attitude towards computer use than females.

Russell and Bradley (1997) researched the computer skills and anxiety levels of in-service teachers. The female participants stood less competent regarding computers when compared to females. In addition, their study also proved that participants owning a computer were more competent when compared to the participants who did not own a computer. In addition, while a third of the teachers identified the computer as a source of anxiety, a third of the teachers who participated stated they were calm and relaxed while using computers.

Raub (1982) conducted a study regarding the level of computer anxiety of college students. He proved that a significant difference existed as a total of eight independent variables were evaluated and five were discovered to hold significance. As a result of a series of analyses, which were administered to the

genders separately, Raub discovered that an attitude that one possesses towards computers depend upon a gender and learned culturally.

In 1993, Sacks, Bellisimo, and Mergendoller studied gender differences with respect to attitudes towards computer use for over a year. They concluded that males held a constant attitude with respect to computers and that this constant would be subject to change since society socializes males to be proficient and knowledgeable regarding technology. However, the attitudes and behaviors of females are similar to males once they are presented with computer instruction and are able to experience computers even though they were not encouraged by society initially.

Busch (1995) supported these findings and also indicated that gender differences were at their peak when the two genders are introduced with a more complex task. Hence, as the tasks become more difficult and complex, the difference in gender rapidly increases. When simple tasks are undertaken, such as word processing tasks, there is no significant difference among males and females and they have equal self-efficacy expectations. As the two genders continue studying such subject matters for an additional year, significant differences once again arise. Busch concluded that previous computer experience and encouragement were the two most important factors that shape an individual's perception towards computers. With regard to encouragement, Chen (1986) suggested males had a tendency to share their knowledge and provide support to one another regarding computer technology more than women do with one another.

Another study claiming a significant difference between females and males is a study carried out by Comber et al (1997). As the aforementioned researchers, he also studied the effects of attitudes towards computers with regard to age, gender, and prior computer experience. He performed his study on 278 secondary school students aged 11-12 and 15-16. With the data acquired from these age groups, a difference was discovered regarding both age and gender. Among the two genders the attitudes of males were more positive towards computers when compared to females. Furthermore, age was parallel to the degree of positive attitude. As a result, the younger age group had a more positive attitude toward computer use than the slightly older group.

Meta-analysis study was conducted in order to investigate whether being of a specific gender caused variances in attitudes and behavior related to computers (Whitely, 1997). The findings unearthed that gender played an important role in the process of defining one's belief regarding computers. Whitely also discovered that male participants' attitudes were more positive than the female participants'. When compared to other schools and adults, the gender differences were discovered to be the highest among high school students. The results also showed that an individual's attitude was significantly associated with computer experience.

Shashaani (1994a) discovered similar results when investigating how a variable such as gender would affect a person's attitude concerning computer experience and if the existent or non-existent dissimilarity would create a bond between these two concepts. A sample of 828 female and 902 male secondary school

students participated in the study. According to Shashaani, computer experience proved to be of significance in the process of determining attitudes towards computers. Furthermore, he stated that among the variables of computer experience and attitudes, gender does create a variance. The males had more experience with computers together with a more positive attitude towards computers than the female participants did.

Brosnan and Lee (1998) carried out a study between people residing in the UK and Hong Kong. Their aim was to find out whether a gender difference existed and whether there was a correlation among the two nations with respect to computer attitudes and anxieties. The sample consisted of 207 participants, all aged over 22, from the UK, 101 of which were males and the remaining 95 females, and 286 participants from Hong Kong, 125 being males, 126 females, and 35 participants who did not state their gender. Brosnan and Lee administered a questionnaire consisting of demographic items and a number of scales; computer attitude scale, computer anxiety scale, and previous experience scale. It was first discovered that a gender difference concerning computer experience did exist. According to the results, males proved to be more dominant and possessed more computer experience when compared to females in both the UK and Hong Kong. Furthermore, the results showed that the dimension of computer anxiety was present but did not prove significant among male and female participants for both samples in general. Conversely, the study did reveal UK male participants experienced less anxiety when compared to male participants from Hong Kong. In addition, despite the general belief of the Chinese culture being one with technology, the UK sample, in general, felt more

positive towards computers, according to a parallel item analysis, when compared to the Hong Kong sample. Despite no significant difference surfaced among male and female participants from Hong Kong with respect to computer attitude, the UK sample proved different. Males from the UK regarded computers more positively when compared to their counterparts.

Williams et al. (1993) held a study to investigate whether or not gender and computer experience influenced one's computer perspective. According to the outcomes, males felt more positive towards computers than females did. Female participants did not have the computer experience males had and Williams et al. also discovered a great relationship between prior computer experience and computer attitude.

Roussos (2007) improved Gressard and Loyd's original CAS for the Greek population to investigate whether males regarded computers more positively, and whether an affiliation exists between age, and computer experience. A CAS consisting of thirty-three items was designed and administered for his study. Roussos used four different samples for his research. Sample 1 was chosen in order to develop his new computer attitude scale and it consisted of a total of 185 participants, 86 of which were males and 99 were females. Individuals owning a computer were chosen specifically for the second sample. Sample 2 consisted of two hundred and seven females and with respect to 124 males, a total of 354 participants. His third sample did not consist of students, but of teachers. A total of 222 instructors participated in this sample. From these teachers, a majority of them were females. To be precise, 95 of these instructors

were male whereas 125 of them were not. Furthermore, the final sample consisted of only 99 participants. As in the previous samples, female participants almost doubled the number of the males. That is to say, 63 of the total were female. After analyzing the data from all four samples, Roussos concluded that computer attitude was not affected by age or gender. There was also a high correlation among computer experience and computer confidence with computer attitude.

In 1996, Al Jabri, examined the gender differences in computer attitudes among secondary schools in Saudi Arabia. A thirty-item Computer Attitude Scale was administered to 187 students which consisted of 81 males and 106 females. The results revealed that although both females and males felt positively regarding computers, attitudes of males were proven to be significantly more positively than their female counterparts.

Adebowale et al. (2010) conducted research to identify whether there were any significant differences in computer characteristics on the basis of demographic factors such as gender. Six hundred secondary school students were randomly selected for the sample from two schools of three different districts of Nigeria. The instrument that was used was a Likert scale with five options from "Strongly agree" to "Strongly disagree" consisted of three sections. These sections were designed to gather information regarding the students' interest, statement of approval, and confidence in the use of computers. The instrument consisted of 33 items; 12 from Section A, 13 from Section B, and 8 from Section C. According to the results, female participants were discovered to

show more interest in computer usage than males due to the fact that computers were correlated with secretarial work which was seen to be a female occupation. He claimed that females had a more positive attitude towards computers.

In 2009, Khatoon and Sharma also investigated whether students' attitudes towards computers differed according to gender and other variables such as school types. Their sample consisted of 1652 secondary school students from 15 different schools in India. Of the 1652 students 863 (52%) were male whereas the remaining 789 (48%) students were female. The schools were categorized according to their management systems as Christian Missionaries, Aligarh Muslim Universities (A.M.U), Government, and Government Aided schools. To assess the attitudes of the participants they used the Computer Attitude Scale developed by themselves (Khatoon and Sharma, 2009), which had a five-point Likert-type scale consisting of 20 statements representing attitude towards computer anxiety, computer confidence, computer interest, computer as a useful tool and computer career. Contrary to the findings of previous studies that claimed males were more positive towards computers when compared to females, or even a non-existent significant difference, they discovered that female attitudes were significantly higher than that of males. They stated that females were less anxious regarding learning and using computers, and more confident while working with computers. They also perceived computers to be more enjoyable than males.

2.2 Research Studies on the Relationship among Attitude, Anxiety, and Computer Experience

As seen in various sections above another major factor that has proved to affect the attitude towards computers is anxiety. Bozionelos (2001) claimed that a relationship existed among computer anxiety and computer experience. The aim of the study was to research whether or not a relationship existed between computer anxiety, and computer experience, and how this, if present, relationship affected one another. In order to evaluate and identify the participants' anxiety levels and past computer experience Bozionelos used several demographic questions and two questionnaires. Data was obtained from 515 participants who were all British. The results indicated that participants who had a low level of computer experience exhibited a high level of computer anxiety and vice-versa.

In 1998, Kotrlik and Smith investigated the anxiety level of computers with respect to instructors undertaking vocational courses. There was no significant difference between their specific field of study and their level of anxiety. However, there was a significant difference among their gender. The results indicated that the female teachers' anxiety level was higher than the males'.

In another study, it was stated that providing computer training reduced the level of computer anxiety (Ayersman and Reed, 1996). They conducted a study to explore whether computer anxiety was affected after receiving computer training. A total of 58 pre-service teachers, 36 females and 22 males,

participated in a computer anxiety scale. The results showed that computer training affected the level of anxiety one has. The more training one had received the lower the level of anxiety one possessed. In addition, the anxiety level did not differ among male and female participants.

Azan et al. (2000) conducted a study at Kebangsaan University in Malaysia to investigate whether the students' level of computer literacy changed according to gender. The male students' level of computer literacy was higher than that of females. When compared to females, males had more experience with computers, used computers more frequently, and were more successful at solving computer related issues.

Dyck and Smither (1994) conducted a study to observe whether age and gender had an effect on computer anxiety and to see if there is a relationship between computer anxiety and experience. The sample 422 participants in total were divided into two groups. Participants in the first group were over the age of 55 whereas participants in the second group were under 30 years old. All 422 participants were asked to complete two scales. The two scales were a computer attitude scale and a computer anxiety scale. The results showed that participants in the second group showed a higher level of anxiety than the first group. In other words, the younger adults felt a higher level of anxiety than the older adults did, although, the results also showed that the second group, younger adult group, had a higher level of confidence than the older adult group. The final important result that the study unearthed was that there was no significant

difference between male and female adults, regardless of their age, with respect to computer anxiety.

Chua et al. (1999) also conducted a study on gender differences. They conducted a meta-analysis of relationships and its two important correlates; gender and computer experience. From the years 1990 to 1996, thirty-six associated studies were used as a sample for the research. According to the results of the study, participants with a high level of experience showed a lower level of computer anxiety than participants with a low level of experience, which proved a significant relationship present between computer experience and computer anxiety. Another important result was that male undergraduate students generally had a lower level of computer anxiety than female undergraduate students did.

Beckers and Schmidt (2001) examined the factors affecting computer anxiety. According to the study, the primary factors affecting the degree of computer anxiety were computer literacy and the belief in personal advantage. They underlined the principle that the belief in personal advantage would generally direct an individual to develop his/her computer literacy. As the individual's degree of computer literacy increase, the degree of computer anxiety would decrease and the attitude towards computers and computer would become more positive.

In 2002, Egbert investigated whether foreign language teachers applied computer-assisted foreign language-teaching techniques learnt from a computer-

assisted foreign language-teaching course. About 70% of the 20 participants who took part in the study, applied one of the techniques learnt from the computer assisted foreign language-teaching course at least once. E-mailing, lesson material preparation, and preparing educational web sites were the main computer assisted foreign language teaching methods applied. While investigating whether the participants applied their newly learnt teaching techniques, Egbert also examined the factors, affecting the reason upon using the computer assisted foreign language teaching techniques. Putting it another way, for what reason the participants decided to apply the newly found computer assisted techniques. The main factors expressed as to why teachers, who previously did not use any form of computer-assisted language teaching that applied the techniques in question were lack of time, difficulties brought up due to the curriculum and lack of resources. Only one participant depicted lack of knowledge as a reason for doing so. Six of the participants did not apply any of the computer assisted teaching techniques. Upon questioned as to why they did not apply the techniques, all six of the participants stated more time was needed, four stated more and better resources were required, three stated they required better support. One participant stated better instruction, better rewards and a more flexible curriculum was required in order to apply the computer assisted foreign language teaching techniques. Once the course had finished, the participants were asked where they found out or followed information regarding computer-assisted education. A majority of the participants stated that they learnt most of the new information from their colleagues. Some participants expressed that they used the internet for activities, whereas books, conferences and journals were other sources of information.

Coffland and Strickland (2004) analyzed the factors that influenced geometry teachers using computers in their geometry lessons. The primary variables affecting computer use in teaching were stated as technology awareness, teachers' attitudes towards technology, and the technological education the teachers have received. In addition, the participants' level of experience at teaching geometry, the number of classes they taught geometry, the mathematics department they studied at university and ease of access to the computer laboratory were examined as demographic characteristics. The geometry teaching experience level, the mathematics department the teachers studied at, and the ease of access to the computer laboratory did not affect the use of technology in class. Nevertheless, the number of classes the teachers taught geometry affected the use of technology in class. The teachers who used technology the most in class were teachers who taught three classes a day. Teachers' attitudes towards computers were constant with respect to technology awareness, technological education, and computer use.

Broos (2005) carried out a study in order to investigate whether gender and computer experience changed an individual's attitude and anxiety towards information and communication technologies. According to the results of the study, an individual's attitude and anxiety towards information and communication technologies significantly changed corresponding to gender and computer experience. Females possessed more negative attitudes towards computers and the internet when compared to males. Congruently, males possessed lower levels of anxiety when compared to females. The level of experience one holds also affected males and females inversely. Although, the

level of anxiety greatly diminished as males gained experience in computer use, this did not apply for females. The amount of experience did not seem to have the same effect on the females.

To recapitulate, the aforementioned literature has established many factors that have the ability to affect an individual's attitude towards computers. Gender is by far the most researched aspect followed by computer anxiety, computer experience (ownership), and age. Two contradictory allegations existed within the literature concerning whether gender exhibits an effect towards computer attitudes. Some studies claimed gender was an important factor in determining the attitude towards computers while the rest claimed that gender holds no influence over computer attitude. Studies siding with the former stated that generally males possessed a higher degree of positivity as opposed to females. Another affecting factor was the degree of anxiety one possessed. According to literature, computer anxiety was negatively correlated with computer attitude. The higher an individual's computer anxiety was the more negative one's attitude towards computers was. Another factor influencing computer attitude was computer experience. Contrary to computer anxiety, computer experience was positively correlated to computer attitude. The higher the amount of experience an individual had regarding computers, the more positive the individual's attitude was, which was also the case for computer ownership. Those owning a computer depicted more attitudes that are positive. According to the reviewed literature, age was an undecided factor, as some studies claimed age to be of importance for computer attitude, some studies claimed age to have no significant effect.

Chapter 3

METHOD

This chapter presents the design of the study. It begins with describing the overall research design and the rationale for implementing a quantitative research approach. This is followed with a description of the context of the study, participant selection and sampling methods. The chapter then continues with the procedures followed for data collection, and data analysis. The final section concerns validity and reliability of the study.

3.1 Overall Research Design

The research method utilized for this study was a quantitative research method. This specific research method was adopted since analyses of large sets of data were required to complete this study. The instrument used was a survey that was designed to collect quantitative data from students. Since this study consists of research questions quantitative in nature, it was appropriate to adopt the quantitative research method as a means of data collection as this research method highlights quantifying data collection and analysis for testing hypotheses (Bryman, 2004).

The focus of this study was to gather and analyze data about how students feel with respect to computers when presented with a series of positive and negative statements regarding computers. The study also pursued whether there are significant

differences in their attitudes with respect to gender, computer ownership, years of ownership, undergraduate program, and year in undergraduate program.

3.1.1 Context

This study was designed to target first and fourth year pre-service teachers from specific programs in the Faculty of Education of the Eastern Mediterranean University situated in the city of Famagusta of the Turkish Republic of Northern Cyprus (TRNC). The six specific programs utilized for the study are Psychological Counseling and Guidance, English Language Teaching, Pre-School Teacher Education, Elementary School Teacher Education, Secondary School Teacher Education, and Turkish Language Teaching. Education in the ELT and PCG programs is given in Turkish that is the students' mother tongue. On the other hand, for the remaining programs; TLT, PSTE, ESTE, and SSTE, the medium of instruction is English. Lessons can start from 08:30 and can finish at 16:20. The number of lessons for each day varies according to each program and year. The duration of each lesson is 50 minutes with a 10-minute break if there is another lesson afterwards (see appendix B1 – B6 for detailed information regarding each program).

3.1.2 Participants and Sampling

Convenience sampling was used in this study. Cohen et al. (2000) defines convenience sampling as the process of the researcher selecting participants due to the convenience of accessibility. The participants were first and fourth year pre-service teachers of the above-mentioned programs. However, the entire population was not accessible for the study since a vast majority of the participants completed the attitude scale within the final week of the academic year before the commencement of the final examinations. Therefore, instructors

of some courses had already completed their program for the semester and were not undertaking their lessons as they normally were. Some instructors did not follow their pre-set course schedule and arranged remedial classes at different hours and classrooms, which rendered it more problematic to locate and distribute the instrument. However, despite all complications, the instrument was administered to a 63.5% of the students enrolled in the first and fourth years of the programs previously mentioned. Generally, all of the programs, excluding Turkish Language Teaching, offer an introductory computer course within the first year of study. However, as the students progress in their study they are able to take computer related courses, in addition to building upon their computer experience through completing and submitting papers and projects accomplished using computer related software and thorough research done by the use of computers and the internet (see appendix B1 – B6 for detailed information of the programs). Thus, the choice of the first and fourth year students is quite apparent. Over a period of four years, the fourth year students have had the opportunity to gain an abundance of experience and knowledge of utilizing computers, not only for personal use but also for educational purposes within an educational setting. Therefore, the difference in their level of knowledge and experience related to the use of computers is a justification for the choice of the first and fourth year students as a sample for the study.

394 first and fourth year teacher candidates from a population of 620 students in the departments of Psychological Counseling and Guidance, English Language Teaching, Pre-School Teacher Education, Secondary School Teacher Education,

Elementary School Teacher Education, and Turkish Language Teaching participated in the study.

3.2 Data Collection

To examine first and fourth year students of the teacher education programs in the Faculty of Education in the Eastern Mediterranean University, data were collected from all six programs. After receiving all of the distributed surveys of the 394 candidates, 179 (45.4%) were first year students and the remaining 215 (54.6%) were fourth year students. The demographic information of the candidates is illustrated in Table 3.1. At first, the table illustrates the gender. It depicts that 116 (29.4%) of the participants were males, and the remaining 278 (70.6%) participants were females. The table also exemplifies that 67 (17%) of the participants were students from English Language Teaching (ELT), 79 (20.1%) participants were from Pre-School Teacher Education (PSTE), 39 (9.9%) were from Secondary School Teacher Education (SSTE.), from Psychological Counseling and Guidance (PCG) a total of 74 (18.8%) students, 84 (21.3%) participants were from Turkish Language Teaching (TLT), and 51 (12.9%) were the Elementary School Teacher Education (ESTE) Departments.

Table 3.1

Demographic characteristics of the participants (n=394)

		N	%
Gender	Female	278	70.6
	Male	116	29.4

(continued)

Table 3.1. Demographic characteristics of the participants (n=394) (continued)

		N	%
Programs	ELT	67	17
	PSTE	79	20.1
	SSTE	39	9.9
	PCG	74	18.8
	TLT	84	21.3
	ESTE	39	12.9
Year	Year 1	179	45.4
	Year 4	215	54.6

3.2.1 Data Collections Instruments

A Computer Attitude Scale (CAS) was used as a survey instrument for this study. The computer attitude scale that was applied for this study was originally developed by Gressard & Loyd (1984), improved by Loyd & Loyd (1985) and later translated by Giray Berberoğlu and Gaye Çalıkoğlu (1992) for their research (see Appendix A1 for the translated Turkish version, and A2 for the original English version of the Computer Attitude Scale). The reliability of the translated (Turkish) version of the computer attitude scale was calculated using Cronbach Alpha with a result of .90. The measuring instrument consists of two sections. The first section, a questionnaire, consists of five items designed to identify demographics and computer use of the participant's (gender, the program he\she is currently enrolled in, the year in which he\she is in the

program, whether or not the participant owns a computer, and the number of years he\she has owned one). Items 1, 3, 4, 5 are to be marked on an optic answer sheet whereas item 2, in which the participant is required to specify the name of his\her program is to be written on the questionnaire. The second section is the actual computer attitude scale, and it consists of a forty item four point Likert-type response scale. Each item is rated with the following key codes: 4=*strongly agree*, 3=*agree*, 2= *disagree*, and 1=*strongly disagree*. Twenty-one of the forty items are positive statements while the remaining nineteen are negative. The positive statements are scored from four to one whereas the negative statements were reverse coded from one to four. A participant is able to score a minimum of 40 and a maximum of 160. According to the scale, the higher the point received the more positive the participant's attitude is towards the use of computers. The participants are required to indicate all items from the second section on an optic answer key.

3.2.2 Data Collection Procedure

The teacher education programs in the Faculty of Education were chosen to conduct this study. After receiving permission from the dean of the faculty, I got in contact with the head of each program and they provided information regarding the instructors, number of students, class hours, and classrooms. I personally administered and collected the surveys. The survey was administered in each class in the last week of May 2010 before the final exams.

3.3 Data Analysis

The following sections describe the data analyses procedure. It starts by describing the variables of the study and continues with the statistical techniques that were applied to the collected data.

3.3.1 Variables

In order to identify the attitudes of pre-service teachers, certain statistical analyses techniques had to be executed. However, to execute these methods of analyses variables had to be defined. Thus, both independent and dependent variables were defined.

Independent variables are defined as the element that is subject to arbitrary change (controlled or manipulated), in order to test the results in accordance with the objective of the study. Gender, program of study, year of study, and computer ownership are the four independent variables in this study.

Gender: The variable identifies gender as male or female.

Program of Study: The variable classifies the program of study as Psychological Counseling and Guidance, English Language Teaching, Elementary School Teacher Education, Pre-School Teacher Education, Secondary School Teacher Education, and Turkish Language Teaching.

Year of Study: This variable labels the participants' year in the program they are enrolled as first or fourth year students.

Computer Ownership: This variable identifies whether the participant owns a computer.

Years of Computer Ownership: This variable identifies the number of years the participant has owned a computer.

Dependent variables measure the effect of the independent variable. The dependent variable of the study is computer attitude.

3.3.2 Statistical Techniques Applied

The surveys were first separated according to the participants' major of study and then the responses to the entire survey, including both sections (demographic section and the Computer Attitude Scale) was transferred to a computer document using an optic reader. The data files were then analyzed, using various statistical analysis techniques by means of PASW 18.0.

3.3.2.1 *Descriptive Statistics*

The frequencies, the mean, and the standard deviation of the variables were calculated for descriptive statistics.

3.3.2.2 *Inferential Statistics*

One sample t-test was performed to investigate how the attitudes among pre-service teachers with respect to computers differ. In addition to the one sample t-test, independent samples t-test was also conducted to evaluate the differences among the means of attitudes towards computers regarding gender, computer ownership, and first and fourth year prospective teachers. A one-way ANOVA was implemented in order to identify whether the number of years an individual owns a computer, and whether being in a specific department of study make a difference in the attitude held towards computers. Finally, due to the existence

of a significant difference, a post-hoc Dunnett C test was conducted to further analyze the differences among the departments of study.

3.4 Validity and Reliability

Joppe (2000) defines validity as "whether the research truly measures that which it was intended to measure or how truthful the research results are." He also defines reliability as the consistency of results and an accurate representation of the population under study, and reproducing the results using similar methodology (p. 1). That is to say, if the survey were to be administered again to a similar sample under similar circumstances, then similar results should be found.

As previously mentioned, the original CAS was developed by Loyd and Gressard (1984) and consisted of 40 items. In order to use the Turkish version of the CAS as an international scale that would reflect the original and could be used as a means for future research among cultures, Giray Berberoğlu and Gaye Çalıkoğlu (1992) first had the English version of the scale translated by two independent English teachers. The translated Turkish versions were then re-translated into Turkish by two separate individuals.

The forms that best reflected the originals from the re-translated versions were taken. The Turkish version of the scale was in its final form, once researchers had made minor corrections to the 40 items that were selected for the scale. Thus, based on the feedback, the scale has high content validity.

After analyzing the collected data via SPSS, the Turkish Computer Attitude Scale proved to be one-dimensional. That is to say, the results from the factorial analysis by Loyd and Gressard (1984), and Berberoğlu and Çalıkoğlu (2002)

resulted to be similar. A Cronbach alpha analysis was performed with a result of .90. Hence, the results indicate that the scale has a high level of reliability.

Chapter 4

RESULTS

In this chapter, the results of the data analyses to identify the attitudes of pre-service teachers towards computers are presented. The results of the analyses are presented in the same order as the five research questions established in Section 1.2 followed by an overall summary of the findings in the final section (see Appendix C for the statistical output).

As stated in Chapter 3 – Methodology, a scale was administered to pre-service teachers from various departments as a means to collect data. The scale was designed to identify certain demographic characteristics and attitudes of the participants towards computer use.

4.1 Results of Analyses Related to Research Question 1

RQ1: How are the attitudes of pre-service teachers with regard to computers?

To answer this research question, the frequencies of the responses, '*Strongly Disagree', 'Disagree', 'Agree', 'Strongly Agree'*, to the CAS items, had to be identified and analyzed. Thus, a frequency analysis of the data was performed, and the results can be seen below in Table 4.1. It can be seen from Table 4.1 that a majority of the participants chose *Strongly Agree* as an answer to the items, that is to say, above half (194 participants, 50%) of the participants chose A (*Strongly Agree*) for 27 of the 40 items. Participants generally agreed (chose

to *Agree* or *Strongly Agree* for over 50% of the items) to 38 of the items on the scale. The two items they did not generally agree upon were items 12 and 15. This can be attributed to both the statements being written in a negative manner, which may have confused the participants.

Table 4.1

Frequencies of responses to the computer attitude scale items

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%
6. Computers do not scare me at all	36	9.1	19	4.8	59	15	280	71.1
7. I'm no good with computers	49	12.4	68	17.3	48	12.2	229	58.1
8. I would like to work with computers	23	5.8	16	4.1	85	21.6	270	68.5
9. I will use computers in many ways in my life	18	4.6	3	.8	53	13.5	320	81.2
10. Working with a computer would make me very nervous	37	9.4	96	24.4	41	10.4	220	55.8
11. Generally, I would feel OK about trying a new problem on a computer	86	21.8	74	18.8	131	33.2	103	26.1
12. The challenge of solving problems with computers does not appeal to me	100	25.4	102	25.9	82	20.8	110	27.9
13. Learning about computers is a waste of time	39	9.9	25	6.3	73	18.5	257	5.2

(continued)

Table 4.1: Frequencies of responses to the computer attitude scale items (continued)

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%
14. I do not feel threatened when others talk about computers	35	8.9	47	11.9	32	8.1	280	71.1
15. I don't think I would do advanced computer work	171	43.4	96	24.4	52	13.2	75	19.0
16. I think working with computers would be enjoyable and stimulating	23	5.8	25	6.3	131	33.2	215	54.6
17. Learning about computers is worthwhile	13	3.3	26	6.6	69	17.5	286	72.6
18. I feel aggressive and hostile toward computers	27	6.9	25	6.3	40	10.2	302	76.6
19. I am sure I could not do work with computers	16	4.1	40	10.2	78	19.8	260	66.0
20. Figuring out computer problems does not appeal to me	116	29.4	57	14.5	75	19.0	146	37.1
21. I'll need a firm mastery of computers for my future work	14	3.6	23	5.8	64	16.2	293	74.4
22. It wouldn't bother me at all to take computer courses	39	9.9	60	15.2	63	16.0	232	58.9
23. I'm not the type to do well with computers	21	5.3	67	17.0	53	13.5	253	64.2

(continued)

Table 4.1: Frequencies of responses to the computer attitude scale items (continued)

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%
24. When there is a problem with a computer that I can't immediately solve, I would not stop until I find the answer	49	12.4	51	12.9	119	30.2	175	44.4
25. I expect to have little use for computers in my daily life	44	11.2	60	15.2	64	16.2	226	57.4
26. Computers make me feel uncomfortable	29	7.4	44	11.2	19	4.8	302	76.6
27. I am sure I could learn a computer language	58	14.7	62	15.7	117	29.7	157	39.8
28. I don't understand how some people can spend so much time working with computers and seem to enjoy it	78	19.8	84	21.3	68	17.3	164	41.6
29. I can't think of any way that I will use computers in my career	41	10.4	32	8.1	22	5.6	229	75.9
30. I would feel at ease in a computer class	28	7.1	48	12.2	99	25.1	219	55.6
31. I think using a computer would be very hard for me	20	5.1	83	21.1	23	5.8	268	68.0
32. Once I start to work with a computer I would find it hard to stop	81	20.6	61	15.5	88	22.3	164	41.6

(continued)

Table 4.1: Frequencies of responses to the computer attitude scale items (continued)

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%
33. Knowing how to work with computers will increase my job possibilities	36	9.1	23	5.8	61	15.5	274	69.5
34. I get a sinking feeling when I think of trying to use a computer	26	6.6	31	7.9	18	4.6	319	81.0
35. I could get good grades in computer courses	19	4.8	52	13.2	97	24.6	226	57.4
36. I will do as little work with computers as possible	37	9.4	49	12.4	69	17.5	239	60.7
37. Anything that a computer can be used for, I can do just as well some other way	58	14.7	83	21.1	113	28.7	139	35.3
38. I would feel comfortable working with a computer	33	8.4	37	9.4	72	18.3	252	64.0
39. I do not think I could handle a computer course	67	17	26	6.6	33	8.4	268	68.0
40. If a problem is left unsolved in a computer class, I would continue to think about it afterwards	67	17	67	17	131	33.2	129	32.7
41. It is important to do well in computer classes	19	4.8	32	8.1	147	37.3	196	49.7
42. Computers make me feel uneasy and confused	61	15.5	41	10.4	38	9.6	254	64.5

(continued)

Table 4.1: Frequencies of responses to the computer attitude scale items (continued)

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%
43. I have a lot of self-confidence when it comes to working with computers	40	10.2	43	10.9	116	29.4	195	49.5
44. I do not enjoy talking to others about computers	66	16.8	64	16.2	85	21.6	179	45.9
45. Working with computers will not be important to me in my life's work	45	11.4	29	7.4	15	3.8	305	77.4

In addition to the frequency analysis, a one-sample t-test was conducted to investigate how the attitudes of pre-service teachers are with respect to computers. A four-point Likert scale was administered to identify the participants' attitudes towards computers. Positive statements were coded as Strongly Agree = 4, Agree = 3, Disagree = 2, and Strongly Disagree = 1, whereas negative statements were reverse coded as Strongly Agree = 1, Agree = 2, Disagree = 3, and Strongly Disagree = 4 as in aforementioned Chapter 3 – Methodology. The test value for the one-sample t-test was set as 2.5. However, the test value was also set to three, in order to calculate the degree of significance highly above average. From Table 4.2, it can be seen that items 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, and 45 are significantly above average, t-test value was set as 3. Since the overall mean is 3.21, the general attitude of pre-service teachers is above average, $t\ (393) = 9.187$, $p = .000 \leq .005$. From

Table 4.3, it can be seen that once the test value was set to 2.5, which was calculated to be the average of the computer attitude scale, the remaining items 10, 24, 27, 32, and 44 also proved to be significantly above average, t (393) = 30.592, p = .000 < .001. Hence, it can be understood from the results that the pre-service teachers hold a quite positive attitude towards computers.

Table 4.2
One sample t-test table for attitude towards computer

	Test Value = 3			
	t	df	p	Mean Difference
6. Computers do not scare me at all	10.056	393	**.000**	.480
7. I'm no good with computers	2.863	393	**.004**	.160
8. I would like to work with computers	12.685	393	**.000**	.528
9. I will use computers in many ways in my life	20.118	393	**.000**	.713
11. Generally, I would feel OK about trying a new problem on computer	-6.594	393	**.000**	-.363
12. The challenge of solving problems with computers does not appeal to me	-8.422	393	**.000**	-.487

(continued)

Table 4.2: One sample t-test table for attitude towards computer (continued)

	t	df	p	Mean Difference
13. Learning about computers is a waste of time	7.913	393	**.000**	.391
14. I do not feel threatened when others talk about computers	8.144	393	**.000**	.414
15. I don't think I would do advanced computer work	-15.890	393	**.000**	-.921
16. I would like to work with computers	8.604	393	**.000**	.365
17. I will use computers in many ways in my life	15.579	393	**.000**	.594
18. Working with a computer would make me very nervous	12.674	393	**.000**	.566
19. Generally, I would feel OK about trying a new problem on computer	11.337	393	**.000**	.477
20. The challenge of solving problems with computers does not appeal to me	-5.759	393	**.000**	-.363

(continued)

Table 4.2: One sample t-test table for attitude towards computer (continued)

	t	df	p	Mean Difference
21. Learning about computers is a waste of time	16.172	393	**.000**	.614
22. I do not feel threatened when others talk about computers	4.551	393	**.000**	.239
23. I don't think I would do advanced computer work	7.672	393	**.000**	.365
25. Learning about computers is worthwhile	3.686	393	**.000**	.198
26. I feel aggressive and hostile toward computers	10.521	393	**.000**	.508
28. I would feel at ease in a computer class	-3.250	393	**.001**	-.193
29. I think using a computer would be very hard for me	9.146	393	**.000**	.470
30. Once I start to work with a computer I would find it hard to stop	6.180	393	**.000**	.292

(continued)

Table 4.2: One sample t-test table for attitude towards computer (continued)

	t	df	p	Mean Difference
31. Knowing how to work with computers will increase my job possibilities	7.452	393	**.000**	.368
33. I could get good grades in computer courses	9.426	393	**.000**	.454
34. I will do as little work with computers as possible	13.330	393	**.000**	.599
35. Anything that a computer can be used for, I can do just as well some other way	7.751	393	**.000**	.345
36. I would feel comfortable working with a computer	5.779	393	**.000**	.294
37. I do not think I could handle a computer course	-2.841	392	**.005**	-.153
38. If a problem is left unsolved in a computer class, I would continue to think about it afterward	7.793	393	**.000**	.378

(continued)

Table 4.2: One sample t-test table for attitude towards computer (continued)

	t	df	p	Mean Difference
39. It is important to do well in computer classes	4.675	393	**.000**	.274
40. Computers make me feel uneasy and confused	-3.387	393	**.001**	-.183
41. I have a lot of self-confidence when it comes to working with computers	7.749	393	**.000**	.320
42. I do not enjoy talking to others about computers	3.993	393	**.000**	.231
43. Working with computers will not be important to me in my life's work	3.666	393	**.000**	.183
45. I would feel at ease in a computer class	8.998	393	**.000**	.472
Mean Attitude	9.181	393	**.000**	.21440

Significant difference is in bold face

Table 4.3

One sample t-test table for attitude towards computer

	Test Value = 2.5			
	t	df	p	Mean Difference
10. Working with a computer would make me very nervous	11.531	393	**.000**	.627
24. I think working with computers would be enjoyable and stimulating	10.864	393	**.000**	.566
27. I can't think of any way that I will use computers in my career	8.287	393	**.000**	.447
32. I get sinking feeling when I think of trying to use a computer	5.930	393	**.000**	.350
44. I can't think of any way that I will use computers in my career	7.990	393	**.000**	.457
Mean Attitude	30.592	393	**.000**	.71440

Significant difference is in bold face

Table 4.4, illustrates the number and percentage of the participants that took the Computer Attitude Scale. The range 0 to 1.49 is referred to as 1.00, and the range from 1.50 to 2.49 is coded as 2.00. Thus, according to the Table 4.4, 41 participants (10.7%) possessed a below average attitude towards computers. Furthermore, the ranges from 2.50 to 3.49, and 3.50 to 4 were coded as 3.00 and 4.00 respectively. Hence, although 41 (10.7%) of the pre-service teachers that completed the Computer Attitude Scale possessed below average attitudes

towards computers, a total of 352 (89.3%) of the participants possessed moderately high attitudes towards computers. Therefore, it can be said that approximately 90% of the pre-service teachers enrolled in various departments of the Faculty of Education feel relatively positive towards computers.

Table 4.4
Categorized attitude mean

		Frequency	%	Valid %	Cumulative %
Valid	1.00	1	.3	.3	.3
	2.00	41	10.4	10.4	10.7
	3.00	212	53.8	53.8	64.5
	4.00	140	35.5	35.5	100.0
	Total	394	100.0	100.0	

4.2 Results of Analyses Related to Research Question 2

RQ2: How is the difference between male and female pre-service teachers in their attitudes towards the use of computers?

To answer this research question, an independent-samples t-test was conducted to evaluate the differences among the means of attitudes towards computers with respect to their genders. Table 4.5 shows that there is no significant difference among males and females with respect to their attitude towards computers. The effect size (d = .003) assessing the difference between male and female pre-service teachers' attitude towards computers is extremely small. In addition, the Levene's Test for Equality of Variances result did not prove to be significant (sig. .051 > .01), which indicates that the variances can be assumed as equal. This in turn suggests that there is little difference between male and

female pre-service teachers in their attitude towards the use of computers t(392) = 0.03, p = .976 > .05. Thus, the results imply that gender does not prove to be a significant factor in defining one's attitudes towards computers, and that males and females can have similar attitudes regarding computers.

Table 4.5

Independent-samples t-test results for attitude differences towards computers regarding gender

	Levene's Test		t-test			
	F	Sig.	t	df	p	d
Equal variances assumed	3.838	.051	.030	392	.976	.003
Equal variances not assumed			.030	205.274	.976	

4.3 Results of Analyses Related to Research Question 3

RQ3: How do the attitudes of students towards computer use differ with respect to computer ownership?

To assess whether owning a computer affects students' attitudes towards computers an independent-samples t-test was administered. As shown in Table 4.6, the results indicate that there is a significant difference in attitudes towards computers with respect to owning a computer. According to the results of the Levene's Test for Equality, a significant difference exists (p = .001 < .01). Therefore, equal variances cannot be assumed, and that there is a moderate difference in variances of the two variables (owning and not owning a computer). The effect size (d = .72) assessing the difference between owning a

computer and not owning a computer is large. Based on the output results displayed in Table 4.6 below, there is a significant difference t (63.177) = 3.880, p = .000 < .01. Thus, whether one owns a computer is a determining factor in the process of defining the individual's attitude towards computers. That is to say, if an individual owns a computer, he/she will possess a more positive attitude towards it than one not owning a computer.

Table 4.6

Independent-samples t-test results for attitude differences towards computers regarding computer ownership

	Levene's Test		t-test			
	F	Sig.	t	df	p	d
Equal variances assumed	11.512	.001	4.713	392	.000	-
Equal variances not assumed			3.880	63.177	**.000**	.72

Significant differences are in bold face

A one-way ANOVA analysis was also conducted to identify whether the number of years of ownership of computers have an effect upon the attitude an individual holds over computers. Table 4.7 shows the results of the one-way ANOVA analysis. According to the results, a significant difference does not exist when the attitude means are compared with respect to the years of ownership, F (3,390) = 1.337, p = .262 > .05). Consequently, whether one has just acquired, has owned a computer for one, two, three, or more years does not affect the attitude towards computers.

Table 4.7

Analysis of Variance results for attitude differences towards computers with respect to years of computer ownership

	Sum of Squares	df	Mean Square	F	p
Between Groups	.860	3	.287	1.337	.262
Within Groups	83.584	390	.214		
Total	84.444	393			

4.4 Results of Analyses Related to Research Question 4

RQ4: How do the attitudes of pre-service teachers towards the use of computers differ with respect to their field of study?

An Analysis of Variance (ANOVA) was conducted to discover whether the department in which an individual studies in affects the attitude, he/she possesses towards the use of computers. ANOVA compares the means between three or more groups. Thus, the dependent variable (attitude towards computers) was compared according to the six departments the participants were enrolled in (English Language Teaching, Pre-School Teacher Education, Secondary School Teacher Education, Psychological Counseling and Guidance, Elementary School Teacher Education, and Turkish Language Teaching).

Table 4.8 below indicates that there is a significant difference between the departments, $F(5,388) = 5.119$, $p = .000 < .01$.

Table 4.8

Analysis of Variance results for attitude differences towards computers regarding departments of students

	Sum of Squares	df	Mean Square	F	p
Between Groups	5.225	5	1.045	5.119	**.000**
Within Groups	79.218	388	.204		
Total	84.444	393			

Significant differences are in bold face

To further analyze the differences between the departments and to identify, which departments vary from one another, a Post hoc-Dunnett C analysis was also performed since equal variances are not assumed. Table 4.8 shows the results of the Dunnett C analysis.

According to the Post hoc-Dunnett C analysis a significant difference in the attitudes of students from the departments of ELT and TLT existed (Mean Difference = .25072). Conversely a significant difference was not present amongst ELT and PSTE, SSTE, PCG, and ESTE (Mean Differences = -.05618, .01958, .17217, and .14266 respectively). When PSTE was compared to the other departments a significant difference was observed between PSTE and the departments, PCG (Mean Difference = .22834) and TLT (.30690), but no significant difference was recorded when PSTE was compared to the remaining departments ELT, SSTE, and ESTE (-.05618, -.07576, and -.19884 respectively). There prove to be no significant difference once SSTE and ESTE were compared to the remaining five departments regarding the attitudes held towards computers. As a result, there is a significant difference regarding the attitudes of students towards computers between the departments of English

Language Teaching and Turkish Language Teaching; between the departments of Pre-school Teacher Education and Psychological Counseling and Guidance; and between the departments of Pre-school Teacher Education and Turkish Language Teaching regarding the attitudes of students towards computers.

Table 4.9

Dunnett C results for attitude differences towards computers regarding departments

Departments Compared	Mean Difference	Std. Er.
ELT - PSTE	-.05618	.06476
ELT - SSTE	.01958	.09133
ELT - PCG	.17217	.07836
ELT - ESTE	.14266	.08140
ELT - TLT	**.25072**	.07660
PSTE - SSTE	.07576	.08384
PSTE - PCG	**.22834**	.06948
PSTE - ESTE	.19884	.07290
PSTE - TLT	**.30690**	.06749
SSTE - PCG	.15258	.09474
SSTE - ESTE	.12308	.09727
SSTE - TLT	.23114	.09329
PCG - ESTE	.12308	.08520
PCG - TLT	.07855	.08063
ESTE - TLT	.10806	.08359

Significant differences are in bold face

4.5 Results of Analyses Related to Research Question 5

RQ5: How is the difference among first and fourth year students in their attitudes towards the use of computers?

To investigate whether a significant difference exists between the first and fourth year students in regard to their attitudes toward computers, an independent-samples t-test was conducted. According to the results of the t-test presented below in Table 4.10, equal variances could not be assumed according to Levene's Test (Sig. = .001 < .01), and the t-test results indicate that there is no significant difference between the first and fourth years, t (333.450) = -1.015, p = .311 > .01. Furthermore, the effect size d = .09 assessing the difference between first and fourth year pre-service teachers' attitudes towards computers is very small. Hence, from the results it can be deduced that there is no significant difference between an undergraduate freshman and a senior, (p = .311 > .005) in regards to their attitudes towards computers.

Table 4.10

Independent-samples t-test results for attitude differences towards computers regarding year in program

	Levene's Test		t-test			
	F	Sig.	t	df	p	d
Equal variances assumed	12.164	**.001**	-1.038	392	.300	-
Equal variances not assumed			-1.015	333.450	.311	.09

Significant differences are in bold face

To sum up, this chapter presented the findings regarding the attitudes of pre-service teachers towards computers. The results revealed that pre-service teachers generally possess a positive attitude towards computers. A significant difference was present with respect to computer ownership and department of study. However, the number of years an individual owns a computer did not prove to make a significant difference. Moreover, gender does not affect attitudes towards computers. Finally, being a freshman or a senior also does not affect how an individual feels towards computers. These findings will be discussed further in the following chapter.

Chapter 5

CONCLUSION

In this final chapter, findings from the computer attitude scale are summarized and answers to the research questions are presented. Data gathered from the computer attitude scale reflect the attitudes of pre-service teachers in Eastern Mediterranean University towards computers and, thus, answers the research questions of the study. The chapter concludes with the implications upon education and suggestions for further research.

5.1 Summary of the Study and Findings

The primary aim of the study was to analyze how the attitudes of pre-service teachers were towards computers. This study also analyzed pre-service teachers' attitudes towards computers with respect to gender, computer ownership, major field of study and year of study. Thus, the study was conducted in the departments of English Language Teaching and Turkish Language Teaching, Elementary School Teacher Education and Secondary School Teacher Education, Pre-school Teacher Education, and Psychological Counseling and Guidance of Eastern Mediterranean University in the Famagusta district of the Turkish Republic of Northern Cyprus. A total of 394 pre-service teachers (67 pre-service teachers from ELT, 84 from TLT, 79 from PSTE, 51 from ESTE, 39 from SSTE, and 74 from PCG) participated in the study. A quantitative research method was used to collect and analyze the data. An attitude scale was adapted

and administered to the students. The scale primarily asked students general statements concerning computers. There were specifically two sections to the survey. The first section asked the participants to provide demographic information, such as gender, department of study, year in department, whether they owned a computer, and if yes, how long they have owned one. In the second section, the participants were asked to fill in an optic answer sheet according to their answers from the attitude scale. Finally, the results were statistically analyzed using the PASW program to answer each research question.

5.2 Discussion

As stated in various sections of Chapter I and II, how teachers perceive computers and other related technological devices vary based on certain aspects; gender, computer ownership, the number of years an individual owns a computer, and the department of major field of study. Hence, as also stated in the aforementioned Chapters, the pre-determined attitude a pre-service teacher holds towards computers affects whether the teacher decides to use a computer as a means of instruction and input for the students. In addition, is it being utilized to its full potential? That is to say, if the teacher does in fact choose to use a computer as a means of instruction, in reality, how effective is the teacher actually using it. The implications mentioned above are once again dependent upon the overall attitude that is held with respect to computers. There is a huge body of research, which suggests that gender, computer ownership, the number of years an individual owns a computer, and the department of study affects an individual's attitude towards computers. In this respect, how first and fourth year prospective teachers enrolled in English Language Teaching, Turkish

Language Teaching, Psychological Counseling and Guidance, Pre-School Teacher Education, Elementary School Teacher Education, and Secondary School Teacher Education Departments within the Faculty of Education at the Eastern Mediterranean University is crucial as these pre-service teachers will be responsible for shaping future minds of the world.

The remaining part of this Chapter discusses the research questions of the present study in relation to the literature reviewed in Chapter II.

5.2.1 Research Question 1

With respect to how the attitude of first and fourth year pre-service teachers enrolled in English Language Teaching, Turkish Language Teaching, Psychological Counseling and Guidance, Pre-School Teacher Education, Elementary School Teacher Education, and Secondary School Teacher Education Departments within the Faculty of Education at the Eastern Mediterranean University are regarding computers, the study revealed that almost all of the participants held a positive attitude towards computers, which can be seen from the average attitude mean score, 3.21. The reason why pre-service teachers studying in Eastern Mediterranean University feel positively towards computers may be due to the increased use of computers and other technological devices used by instructors as a means of instruction, ease of internet access and increased popularity of social networks (Facebook, twitter) which provide students with the opportunity to familiarize themselves with computers, or to the increased number of computers open to access within the institution.

5.2.2 Research Question 2

When the participants' attitudes towards computers were examined in relation to their gender, the findings revealed no significant difference between males and females. Thus, according to the results both males and females perceived computers quite positively. These findings corroborate with those of Loyd and Gressard, (1984b), Lieberman, (1985), Muira, (1987), Greber, (1990), Ropp, (1990), Sacks, Bellisimo, and Mergendoller, (1993), and Roussos, (2007) as they also found that an important difference does not exist between the attitudes of females and males with regard to computers. Smith, (1986) discovered that although a significant difference existed among the attitudes of males and females regarding computers, he also claimed that once females were provided with instruction in a structured environment, the difference would cease to exist. However, according to various other studies (Raub, 1982; Dambrot et al., 1985; Koohang, 1989; Williams et al., 1993, Shashaani, 1994a, Busch, 1995; Zoller and Ben-Chaim, 1996; Comber et al., 1997, Whitely, 1997; Brosnan and Lee, 1998; and Broos, 2005) males felt more positively towards computers than that of females. This may be due to the fact that computers and technological devices are still viewed as a male domain in some cultures or the lack of access to computers. It may also be due to the years in which the studies were carried out were before the Facebook and Twitter phenomena.

5.2.3 Research Question 3

Researchers such as Loyd and Gressard, (1984b), Williams et al., (1993), Shashaani, (1994a), Zoller and Ben-Chaim, (1996), Comber et al., (1997), Broos, (2005), and Roussos, (2007) claimed that computer ownership and experience play a great role in determining an individual's attitude towards

computer use. According to their results, individuals who own a computer possess a more positive attitude than those who do not. Therefore, owning a computer can act as a determining factor in shaping an individual's attitude towards computers. This study also arrived to the conclusion that owning a computer greatly affects the attitude an individual has towards computers. However, the number of years one owns a computer does not seem to affect the attitude in question. Whether one has just acquired a computer or has been in possession of one for many years, do not push one to feel more positively or negatively. This finding however, does not fall in line with the results discovered by researchers such as Shashaani, (1994a), Busch, (1995), Zoller and Ben-Chaim, (1996), and Whitely, (1997). This may be due to the fact that a majority of societies have been using computers for normal everyday tasks, games, or surfing the internet. A high amount of knowledge isn't required to execute such tasks and can be learnt in a matter of days. This may be also due to the socio-economic status of the participants. They may not have had the opportunity to be exposed to computers. Hence, the number of years has no effect upon their attitudes.

5.2.4 Research Question 4

When the participants' attitudes towards computers were examined in relation to their field of study, the findings revealed a significant difference between the departments the computer attitude was administered to. According to the results, a significant difference exists among the departments. Pre-service teachers currently enrolled in the department of Turkish Language Teaching do not seem to feel as positively towards computers as much as the other departments, especially, the departments of English Language Teaching, and Pre-School

Teacher Education. Similarly, a significant difference was also present between the departments of Pre-School Teacher Education, and Psychological Counseling Guidance. Although, there have not been any studies investigating the attitudes of computers individuals possess between these departments, the difference may be due to the methods of instruction the learners are exposed to. Another reason may be due to the projects they are given. These projects may not require a high level of computer use, and may be limited to simple Internet research and word processing.

5.2.5 Research Question 5

This study also examined how the attitudes differed among first and fourth year pre-service candidates. The study revealed there to be no significant difference among pre-service teachers during the period between the entry and exit level of their departments. Based upon the results, being exposed to computer labs, receiving instruction via technological devices, and/or using a computer or the internet to research topics and gather information for assignments and projects for a period of three years does not affect their attitudes towards computers. The reason given for this may be due to the fact that in this technological era children are exposed to technology and computers from an early age and thus lower level academic work via computer can easily be executed. Whether this includes word-processing or Internet research, such activities require little effort on the learner's behalf. As a result, the student does not learn any new knowledge that does affect his/her attitude.

5.3 Implications for Education

Upon all these findings, it can be understood that computer attitudes of pre-service teachers are greatly affected by the factor of computer ownership. Thus, the more pre-service teachers use and are exposed to computers, the more positive their computer attitudes will be. For that reason, educational institutions should provide pre-service teachers with the opportunity to use and be exposed to computer technology. The number of computer laboratories should be increased, and the use of computers and peripheral devices, such as smart-boards and projectors, should be provided and encouraged within the classroom. Through provision and encouragement of such opportunities, the attitude of pre-service teachers towards computers may increase. By increasing the general attitudes of the prospective teachers, they will in turn feel more confident and will utilize computers in their own classrooms in the future that will create a chain of teachers with positive attitudes towards in the future constantly exposing learners of all ages to computers.

Furthermore, since the teacher education departments in which the pre-service teachers are enrolled in have an effect on the computer attitude of pre-service teachers the curriculum should be reorganized and/or revised to incorporate more technological related courses. Technological and computer related seminars, and practical workshops regarding the use of computers for material and web site design should also be held and encouraged within the departments.

5.4 Suggestions for Further Research

This study shed light on the important relationship between pre-service teachers' attitudes towards computer with respect to computer ownership and field of study in Turkish Republic of Northern Cyprus. Further research can investigate the attitudes of pre-service teachers of additional departments within the Eastern Mediterranean University since the participants were limited to the departments in the Faculty of Education. A similar study can also be conducted with other universities of the Turkish Republic of Northern Cyprus (T.R.N.C) since the study is limited to the Eastern Mediterranean University. A study can be conducted in the other universities in Cyprus (both the North and the South), and a comparative study could be carried out to investigate the attitude between the pre-service teachers of the universities, in addition to a comparison of the pre-service teachers from the North and South. The long-term effects of computer usage on teachers can also be investigated. Finally yet importantly, a similar study can be conducted on in-service teachers followed with a comparative study in order to examine the attitudes between pre-service and in-service teachers.

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APPENDICES

Appendix A1: Anket

BİLGİSAYAR KULLANIMINA KARŞI
BİLGİSAYAR TUTUM ÖLÇEYİ

Sayın öğrenciler,

Bu çalışmanın sebebi Doğu Akdeniz Üniversitesi'nde öğrenim gören öğretmen adaylarının sınıfta bilgisayar kullanımına karşı tutumları hakkında bilgi toplamaktır. Vereceğiniz bütün yanıtlar saklı tutulacaktır.

Bu ölçek iki bölümden oluşmaktadır. İlk bölüm beş tane demografik madde içerirken ikinci bölümde ise bilgisayar kullanımınıza tutumlarınızı ölçmeyi hedefleyen kırk maddeden oluşmaktadır. Ölçeği tamamladıktan sonra lütfen öğretmeninize teslim ediniz. Size şimdiden yardımlarınız ve sabrınız için teşekkür ederim.

Not: <u>İki (2) hariç</u>, lütfen **<u>tüm</u>** maddeleri optik cevap anahtarı üzerine işaretleyiniz.

<u>I. Bölüm</u>: Lütfen sizi en iyi tanımlayan cevabı işaretleyiniz veya yazınız.

1. **Cinsiyetiniz:**

a) Erkek **b)** Bayan

2. **Okumakta olduğunuz bölüm:**

.....

3. **Bölümünüzde okumuş olduğunuz yıl:**

a) 1 **b)** 4

4. **Bir bilgisayara sahip misiniz?**

a) Evet **b)** Hayır

5. **Kaç yıldan beridir bir bilgisayara sahipsiniz?**

a) 0-1 yıl **b)** 1-2 yıl **c)** 2-3 yıl **d)** 3 veya daha fazla

II. Bölüm: Lütfen okuyunuz ve belirtilen fikirlere ne kadar katılıp katılmadığınızı belirtiniz.

		Kesinlikle Katılıyorum	Katılıyorum	Katılmıyorum	Kesinlikle Katılmıyorum
6	**Bilgisayar beni hiç korkutmuyor.**				
7	**Bilgisayarla aram iyi değil.**				
8	**Bilgisayarla çalışmayı isterim.**				
9	**Bilgisayarları hayatım boyunca birçok yerde kullanacağım.**				
10	**Bilgisayarla çalışmak beni çok sinirli yapar.**				
11	**Genellikle, bilgisayarda yeni bir problemle uğraşırken kendimi rahat hissederim.**				
12	**Bilgisayarla problem çözme üstünlüğü bana cazip gelmez.**				
13	**Bilgisayarlar hakkında bir şeyler öğrenmek zaman kaybıdır.**				
14	**Başkalarının bilgisayarlar hakkında konuşması beni rahatsız etmez.**				
15	**İleri düzeyde bir bilgisayar çalışması yapacağımı düşünmüyorum.**				
16	**Bilgisayarlarla çalışmanın zevkli ve teşvik edici olduğunu düşünüyorum.**				
17	**Bilgisayar öğrenmek zahmete değer (faydalı).**				
18	**Bilgisayarlara karşı saldırgan ve düşmanca olduğumu hissediyorum.**				
19	**Bilgisayarlarla çalışabileceğime eminim.**				
20	**Bilgisayar problemlerini çözmeye çalışmak bana çekici gelmiyor.**				
21	**Gelecekteki çalışma hayatım için bilgisayar kullanım hâkimiyetine ihtiyacım olacak.**				

22	**Bilgisayar dersi almak için zahmete girmem.**				
23	**Bilgisayarlarla iyi şeyler yapmak için uygun biri değilim.**				
24	**Bilgisayar programında hemen çözemeyeceğim bir sorunla karşılaştığımda yanıt bulana kadar uğraşırım.**				
25	**Günlük hayatımda bilgisayarları çok az kullanacağımı tahmin ediyorum.**				
26	**Bilgisayar beni rahatsız eder.**				
27	**Bir bilgisayar dili öğrenebileceğime eminim.**				
28	**Bazı insanların bilgisayarla nasıl bu kadar zaman harcadıklarını ve bilgisayardan nasıl bu kadar hoşlandıklarını anlamıyorum.**				
29	**Meslek hayatımda bilgisayarı kullanabileceğim bir durum düşünemiyorum.**				
30	**Bilgisayar dersinde rahat olduğumu hissediyorum.**				
31	**Bilgisayar kullanmanın benim için çok zor olduğunu düşünüyorum.**				
32	**Bilgisayarla çalışmaya başlayınca bırakmak oldukça zor gelir.**				
33	**Bilgisayarın nasıl çalıştığını bilmek iş olanaklarımı arttıracaktır.**				
34	**Bilgisayar kullanmayı düşündüğümde başımdan aşağı kaynar sular boşaldığını hissediyorum.**				
35	**Bilgisayar derslerinde iyi notlar alabilirim.**				
36	**Bilgisayarlarla mümkün olduğunca az çalışma yapacağım.**				
37	**Bilgisayarla çözülebilecek her şeyi başka yollarla da çözebilirim.**				
38	**Bilgisayarlarla çalışırken kendimi rahat hissederim.**				
39	**Bir bilgisayar dersini becerebileceğimi sanmıyorum.**				

40	**Eğer bilgisayar dersinde bir problem çözülmeden kalırsa üzerinde sonradan düşünmeye devam ederim.**				
41	**Bilgisayar derslerinde başarılı olmak benim için önemlidir.**				
42	**Bilgisayarlar beni huzursuz eder ve aklımı karıştırır.**				
43	**Bilgisayarla çalışmak gerektiğinde kendime yeterince güvenirim.**				
44	**Başkalarıyla bilgisayar hakkında konuşmaktan hoşlanmam.**				
45	**Çalışma hayatımda bilgisayarlarla çalışmanın benim için önemi olmayacaktır.**				

Appendix A2: Questionnaire

THE COMPUTER ATTITUDE SCALE

TOWARDS THE USE OF COMPUTERS

Dear students,

The purpose of this study is to gather information concerning pre-service teachers' perceptions currently studying at Eastern Mediterranean University towards computer use in class. All responses will be kept confidential.

The scale consists of two (2) sections. The first section (I) consists of five (5) general demographic items while the second section (II) consists of forty (40) items that aim to define your attitude towards computers. Please return the scale to your instructor when you are finished. I would like to thank you in advance for your help and patience.

Note: Please mark **every** answer on the optic answer sheet provided **except** for item **two (2)**.

SECTION I: Please choose or write the answer that best identifies you.

6. Gender:

b) Male **b)** Female

7. Program of Study:

.....

8. Year(s) of Study:

b) 1 **d)** 4

9. Do you own a computer?

b) Yes **b)** No

10. How long have you owned a computer?

b) 0-1 year(s) **b)** 1-2 year(s) **c)** 2-3 years **d)** 3 or more years

SECTION II: Please read and indicate the extent to which you agree or disagree with the ideas expressed.

		Strongly Agree	Agree	Disagree	Strongly Disagree
6	**'Computers do not scare me at all'**				
7	**'I'm no good with computers'**				
8	**'I would like to work with computers'**				
9	**'I will use computers in many ways in my life'**				
10	**'Working with a computer would make me very nervous'**				
11	**'Generally, I would feel OK about trying a new problem on computer'**				
12	**'The challenge of solving problems with computers does not appeal to me'**				
13	**'Learning about computers is a waste of time'**				
14	**'I do not feel threatened when others talk about computers'**				
15	**'I don't think I would do advanced computer work'**				
16	**'I think working with computers would be enjoyable and stimulating'**				
17	**'Learning about computers is worthwhile'**				
18	**'I feel aggressive and hostile toward computers'**				
19	**'I am sure I could do work with computers'**				
20	**'Figuring out computer problems does not appeal to me'**				
21	**'I'll need a firm mastery of computers for my future work'**				
22	**'It wouldn't bother me at all to take computer courses'**				

23	**'I'm not the type to do well with computers'**				
24	**'When there is a problem with a computer that I can't immediately solve, I would not stop until I find an answer'**				
25	**'I expect to have little use for computers in my daily life'**				
26	**'Computers make me feel uncomfortable'**				
27	**'I am sure I could learn a computer language'**				
28	**'I don't understand how some people can spend so much time working with computers and seem to enjoy it'**				
29	**'I can't think of any way that I will use computers in my career'**				
30	**'I would feel at ease in a computer class'**				
31	**'I think using a computer would be very hard for me'**				
32	**'Once I start to work with a computer, I would find it hard to stop'**				
33	**'Knowing how to work with computers will increase my job possibilities'**				
34	**'I get sinking feeling when I think of trying to use a computer'**				
35	**'I could get good grades in computer courses'**				
36	**'I will do as little work with computers as possible'**				
37	**'Anything that a computer can be used for, I can do just as well some other way'**				
38	**'I would feel comfortable working with a computer'**				
39	**'I do not think I could handle a computer course'**				
40	**'If a problem is left unsolved in a computer class, I would continue to think about it afterward'**				
41	**'It is important to do well in computer classes'**				

42	**‘Computers make me feel uneasy and confused’**				
43	**‘I have a lot of self-confidence when it comes to working with computers’**				
44	**‘I do not enjoy talking to others about computers’**				
45	**‘Working with computers will not be important to me in my life’s work’**				

Appendix B1: Department of English Language Teaching

Undergraduate Program

First Year – First Semester

Course Code	Course Title
ELTE101	Contextual Grammar I
ELTE103	Advanced Reading and Writing I
ELTE105	Listening and Pronunciation I
ELTE107	Oral Communication Skills I
EDUC101	Introduction to Educational Sciences
TREG111	Turkish I: Written Communication
COMP101	Computer I
GPSC109	Effective Communication Skills
GEED101	Spike I

First Year – Second Semester

Course Code	Course Title
ELTE102	Contextual Grammar II
ELTE104	Advanced Reading and Writing II
ELTE106	Listening and Pronunciation II
ELTE108	Oral Communication Skills II
ELTE112	Vocabulary
EDUC114	Educational Psychology
TREG112	Turkish II: Oral Communication
COMP102	Computer II
GEED102	Spike II

Second Year – First Semester

Course Code	Course Title
ENGL211	English Literature I
ELTE203	Linguistics I
ELTE205	Approaches in ELT I
ELTE207	English-Turkish Translation
ELTE209	Presentation Skills
EDUC205	Principles and Methods of Instr.
EDUC207	History of Turkish Education
GEED201	Spike III

Second Year – Second Semester

Course Code	Course Title
ENGL212	English Literature II
ELTE204	Linguistics II
ELTE206	Approaches in ELT II
ELTE208	Language Acquisition
ELTE303	Special Teaching Methods I
EDUC336	Instr. Technology and Materials Design
ELTE214	Research Methods in ELT
GEED202	Spike IV

Third Year – First Semester

Course Code	Course Title
ELTE301	Teaching English to Young Learners I
ELTE304	Special Teaching Methods II
ELTE305	Teaching Language Skills I
ELTE307	Lit. and Lang. Teaching I
EDUC311	Classroom Management
ELTE309	Language and Society
SFLN1	Second Foreign Language I

Third Year – Second Semester

GEED301	Spike V

Course Code	Course Title
ELTE302	Teaching English to Young Learners II
ELTE212	Turkish-English Translation
ELTE306	Teaching Language Skills II
ELTE308	Literature and Language Teaching II
EDUC313	Measurement and Evaluation
ELTE310	Applications of Service to Community
SFLN2	Second Foreign Language II
GEED302	Spike VI

Fourth Year – First Semester

Course Code	Course Title
ELTE401	Materials Dev. and Adapt. in Eng.
ELTE01	Major Area Elective I
ELTE411	School Experience
EDUC312	Counseling
EDUC413	Special Education
TARH101*	Hist. of Turkish Reforms I*
SFLN3	Second Foreign Language III
TUSL180**	Intro. To Turkish**

Fourth Year – Second Semester

Course Code	Course Title
ELTE402	Teaching & Evaluation in ELT
ELTE02	Major Area Elective II
ELTE406	Teaching Practice
ELTE03	Major Area Elective III
EDUC412	Comparative Education
TARH102*	History of Turkish Reforms II*
HIST299**	History of Turkish Reforms**
EDUC307	Turkish Ed. System & School Admin.

Appendix B2: Department of Turkish Language Teaching

Undergraduate Program

First Year – First Semester

Course Code	Course Title
TREG101	Writing Techniques
TREG103	Turkish Gram. I: Phonology
TREG123	Literature Knowledge & Concepts I
TREG105	Written Expression I
TREG107	Oral Expression I

First Year – Second Semester

TREG109	Ottoman Turkish I
TARH101	Atatürk Principles and Revolutions I
ENGL171	English I
EGIT111	Introduction to Educational Science
GEED101	Spike I

Course Code	Course Title
TREG104	Turkish Gram. II: Form
TURK124	Literature Knowledge & Concepts II
TREG106	Written Expression II
TREG108	Oral Expression II
TREG110	Ottoman Turkish II
TARH102	Atatürk Principles and Revolutions II
ENGL172	English II
EGIT112	Educational Psychology
GEED102	Spike II

Second Year – First Semester

Course Code	Course Title
TREG201	Turkish Gram. III: Vocabulary
TURK235	Turkish Folk Lit. I
TURK203	Old Turkish Lit. I

Second Year – Second Semester

TURK233	New Turkish Lit. I
TREG01	Area Elective I
EGIT216	Academic Research Methods
BILG101	Introduction to Computer
EGIT215	Principles and Methods of Education
GEED201	Spike III

Course Code	Course Title
TREG202	Turkish Gram. IV: Syntax
TURK236	Turkish Folk Lit. II
TURK204	Old Turkish Lit. II
TURK234	New Turkish Lit. II
TREG204	General Linguistics
BOTE112	Computers in Education
RPDA212	Effective Communication Skills
EGIT218	Educational Tech. and Material Design
GEED202	Spike IV

Third Year – First Semester

Course Code	Course Title
TREG301	Compre. Techniques I: Reading Educ.
TREG303	Compre. Techniques I: Listening Educ.
EGIT204	Children's Literature
TURK118	World Literature
TREG309	Public Service Applications
EGIT319	Special Education Methods I
EGIT321	Classroom Management
GEED301	Spike V

Third Year – Second Semester

Course Code	Course Title
TREG302	Compre. Techniques I: Speaking Educ.
TREG304	Compre. Techniques I: Writing Educ.
TREG306	Teaching Foreigners Turkish
EGIT316	History of Turkish Education
TARH203	History of Civilization
EGIT320	Special Education Methods II
EGIT305	Measurement and Evaluation
GEED302	Spike VI

Fourth Year – First Semester

Fourth Year – Second Semester

Course Code	Course Title
TREG401	Theatre and Drama Applications
TURK403	Turkish Course book Evaluation
GKSD01	General Knowledge Elective I
EGIT210	School Experience
EGIT419	Counseling
EGIT427	Special Education

Course Code	Course Title
TREG02	Area Elective II
TREG03	Area Elective III
TREG402	Language and Culture
GKSD02	General Knowledge Elective II
EGIT412	Turkish Ed. System and School Management
EGIT420	Teaching Applications

Appendix B3: Department of Educational Sciences Psychological Counseling and Guidance Program

First Year – First Semester

Course Code	Course Title
RPDA111	Physiological Psychology
PSKO111	Introduction to Psychology
FELS111	Introduction to Philosophy
SOSY111	Introduction to Sociology
ENGL171	English I
BILGI101	Introduction to Computers
TARH101	Atatürk Principles and Revolutions I
TREG111	Turkish I: Written Expression
EGIT111	Introduction to Educational Science

First Year – Second Semester

Course Code	Course Title
RPDA112	Developmental Psych. I
SOSY112	Social Anthropology
ENGL172	English II
BOTE112	Computer in Education
TARH102	Atatürk Principles and Revolutions II
TREG112	Turkish II: Oral Expression
EGIT114	Resource Scanning & Report Writing
EGIT106	Educational Philosophy
EGIT316	History of Turkish Education

Second Year – First Semester

Course Code	Course Title
RPDA211	Guidance and Psych. Counseling
RPDA213	Developmental Psychology II
RPDA215	History of Science
EGIT213	Statistics I
EGIT305	Surveying and Evaluation
EGIT417	Special Education
EGIT217	School Observations

Second Year – Second Semester

Course Code	Course Title
RPDA284	Non-testing Techniques
RPDA286	Human Relations and Communications
RPDA288	Social Psychology
RPDA222	Learning Psychology
EGIT224	Statistics II
EGIT215	Teaching Principles and Methods
EGIT321	Classroom Management

Third Year – First Semester

Course Code	Course Title
RPDA311	Principles & Techniques of Psych. Counseling
RPDA313	Life Cycles and Adjustment Problems
RPDA315	Theories of Personality
RPDA317	Occupational Guidance & Coun.
RPDA…	Area Elective I
GKSD…	General Culture Elective

Third Year – Second Semester

Course Code	Course Title
RPDA314	Applying Occupational Guidance and Coun.
RPDA316	Program Development of Guidance
RPDA318	Behaviour Disorders
RPDA322	Theories of Psych. Counseling
RPDA324	Psychological Guidance with Groups
RPDA…	Area Elective II
EGIT…	Professional Knowledge Elective

Fourth Year – First Semester

Course Code	Course Title
RPDA411	Psychological Tests
RPDA413	Applying Psych. Guid. with Individuals
RPDA415	Learning Disorders
RPDA417	Applying Community Service
RPDA…	Area Elective III
EGIT216	Scientific Research Methods
EGIT421	Educational Management

Fourth Year – Second Semester

Course Code	Course Title
RPDA412	Guidance and Psych. Counseling Seminars
RPDA414	Guidance and Psych. – Field Work
RPDA416	Occupational Ethics and Legal Issues
RPDA418	Corporate Experience
RPDA…	Area Elective IV
RPDA…	Area Elective V

Appendix B4: Department of Educational Sciences Pre-School Teacher Education Program

First Year – First Semester

Course Code	Course Title
OOEG101	Introduction to Pre-School Education
EGIT106	Educational Philosophy
PSKO101	Psychology
BILGI101	Introduction to Computers
TREG111	Turkish I: Written Expression
ENGL171	English I
TARH101	Atatürk Principles and Revolutions I
EGIT111	Introduction to Educational Sciences
GEED101	SPIKE I

First Year – Second Semester

Course Code	Course Title
OOEG102	Mother-Child Health and First Aid
BOTE112	Computers in Education
BIYO205	Human Anatomy and Physiology
TREG112	Turkish II: Oral Expression
ENGL172	English II
TARH102	Atatürk Principles and Revolutions II
EGIT112	Educational Psychology
GEED102	SPIKE II

Second Year – First Semester

Course Code	Course Title
OOEG201	Mother and Child Nutrition
OOEG203	Development in Early Childhood I
OOEG205	Creativity and its Development
OOEG207	Developing Games within the Child
OOEG…	Area Elective I
EGIT211	Educational Sociology
EGIT215	Teaching Principles and Methods
GEED201	SPIKE III

Second Year – Second Semester

Course Code	Course Title
OOEG202	Development in Early Childhood II
EGIT204	Child Literature
OOEG206	Pre-School Maths Education
OOEG208	Child Mental Health
OOEG210	Pre-School Drama
EGIT316	History of Turkish Education
EGIT218	Teaching Tech. and Material Design
GEED202	SPIKE IV

Third Year – First Semester

Course Code	Course Title
OOEG301	Teaching Pre-School P.E. and Games
OOEG303	Pre-School Music Education I
EGIT319	Special Teaching Methods I
OOEG307	Teaching Pre-School Science
OOEG309	Teaching Pre-School Visual Arts
EGIT302	Educational Statistics
EGIT321	Classroom Management
EGIT210	School Experience

Third Year – Second Semester

Course Code	Course Title
OOEG302	Pre-School Material Development
OOEG304	Pre-School Music Education II
EGIT320	Special Teaching Methods II
RPDA312	Effective Communication
EGIT216	Scientific Research Methods
OOEG308	Applying Community Service
EGIT427	Special Education
EGIT305	Surveying and Evaluation

Fourth Year – First Semester

Course Code	Course Title
OOEG401	Parental Education
OOEG423	Applying Teaching I
OOEG405	Research Project I
OOEG…	Area Elective II
GKSD…	General Culture Elective I
EGIT419	Counseling

Fourth Year – Second Semester

Course Code	Course Title
OOEG402	Primary School Prep. & Primary School Progs.
OOEG404	Research Project II
OOEG…	Area Elective III
OOEG…	Area Elective IV
EGIT412	Turkish Ed. System and School Management
EGIT424	Applying Teaching II

Appendix B5: Department of Educational Sciences Primary School Teacher Education Program

First Year – First Semester

Course Code	Course Title
MATE123	Basic Maths I
BIYO111	General Biology
TARH203	History of Civilization
TREG111	Turkish I: Written Expression
TARH101	History I
ENGL171	English I
BILG101	Introduction to Computers
EGIT111	Introduction to Educational Sciences
GEED101	SPIKE I

First Year – Second Semester

Course Code	Course Title
MATE124	Basic Maths II
KIMY100	General Chemistry
TARH106	Turkish History and Culture
COGR102	General Geography
BOTE112	Computers in Education
TREG112	Turkish II: Oral Expression
TARH102	History II
ENGL172	English II
EGIT112	Educational Psychology
GEED102	SPIKE II

Second Year – First Semester

Course Code	Course Title
TREG211	Turkish I: Phonology and Morphology
FIZK203	General Physics
MUZK201	Music
SOEG207	P.E. and Sports Culture
SOEG209	Science & Tech. Lab. Application I
SOEG211	Environmental Education
FELS201	Introduction to Philosophy
SOSY201	Sociology
EGIT215	Teaching Principles and Methods
GEED201	SPIKE III

Second Year – Second Semester

Course Code	Course Title
TREG212	Turkish II: Sentence and Text
EGIT204	Child Literature
COGR204	Geography and Geopolitics of Turkey
SOEG208	Arts Education
SOEG210	Science & Tech. Lab. Application II
SOEG212	Teaching Music
SOEG214	Teaching P.E. and Games
EGIT216	Good Writing Techniques
EGIT218	Teaching Techniques and Material Design
GEED202	SPIKE IV

Third Year – First Semester

Course Code	Course Title
SOEG301	Teaching Science and Technology I
SOEG303	Teaching Initial Reading and Writing
SOEG305	Teaching Life Science
SOEG307	Teaching Maths I
SOEG309	Classroom Teaching - Drama
EGIT305	Surveying and Evaluation
EGIT321	Classroom Management

Third Year – Second Semester

Course Code	Course Title
SOEG302	Teaching Science and Technology II
SOEG304	Teaching Turkish
SOEG306	Teaching Social Sciences
SOEG308	Teaching Maths II
SOEG409	Early Childhood Education
SOEG312	Applying Community Service
EGIT210	School Experience

Fourth Year – First Semester

Course Code	Course Title
SOEG401	Teaching Visual Arts
SOEG403	Religious Education
SOEG405	Traffic and First Aid
TURK327	Turkish Literature from the Republic Era
EGIT423	Applying Teaching I
EGIT419	Counseling
EGIT427	Special Education

Fourth Year – Second Semester

Course Code	Course Title
SOEG402	Teaching in Combined Classrooms
SOEG…	Area Elective
EGIT316	History of Turkish Education
OZEG412	Mainstreaming in Primary Education
EGIT…	Occupational Elective
EGIT424	Applying Teaching II
EGIT412	Turkish Ed. System and School Management
RPDA312	Effective Communication

Appendix B5: Department of Educational Sciences

Secondary School Teacher Education Program

First Year – First Semester

Course Code	Course Title
OOEG101	Introduction to Secondary School Teacher Education
EGIT106	Educational Philosophy
PSKO101	Psychology
BILGI101	Introduction to Computers
TREG111	Turkish I: Written Expression
ENGL171	English I
TARH101	Atatürk Principles and Revolutions I
EGIT111	Introduction to Educational Sciences
GEED101	SPIKE I

First Year – Second Semester

Course Code	Course Title
OOEG102	Health and First Aid
BOTE112	Computers in Education
BIYO205	Human Anatomy and Physiology
TREG112	Turkish II: Oral Expression
ENGL172	English II
TARH102	Atatürk Principles and Revolutions II
EGIT112	Educational Psychology
GEED102	SPIKE II

Second Year – First Semester

Course Code	Course Title
OOEG201	Nutrition
OOEG203	Development in Childhood I
OOEG205	Creativity and its Development
OOEG207	Developing Games within the Child
OOEG…	Area Elective I
EGIT211	Educational Sociology
EGIT215	Teaching Principles and Methods
GEED201	SPIKE III

Second Year – Second Semester

Course Code	Course Title
OOEG202	Development in Childhood II
EGIT204	Child Literature
OOEG206	Pre-School Maths Education
OOEG208	Child Mental Health
OOEG210	Pre-School Drama
EGIT316	History of Turkish Education
EGIT218	Teaching Tech. and Material Design
GEED202	SPIKE IV

Third Year – First Semester

Course Code	Course Title
OOEG301	Teaching Secondary School P.E. and Games
OOEG303	Secondary School Music Education I
EGIT319	Special Teaching Methods I
OOEG307	Teaching Secondary School Science
OOEG309	Teaching Secondary School Visual Arts
EGIT302	Educational Statistics
EGIT321	Classroom Management
EGIT210	School Experience

Third Year – Second Semester

Course Code	Course Title
OOEG302	Secondary School Material Development
OOEG304	Secondary School Music Education II
EGIT320	Special Teaching Methods II
RPDA312	Effective Communication
EGIT216	Scientific Research Methods
OOEG308	Applying Community Service
EGIT427	Special Education
EGIT305	Surveying and Evaluation

Fourth Year – First Semester

Course Code	Course Title
OOEG401	Parental Education
OOEG423	Applying Teaching I
OOEG405	Research Project I
OOEG…	Area Elective II
GKSD…	General Culture Elective I
EGIT419	Counseling

Fourth Year – Second Semester

Course Code	Course Title
OOEG402	Secondary School Prep. & Secondary School Progs.
OOEG404	Research Project II
OOEG…	Area Elective III
OOEG…	Area Elective IV
EGIT412	Turkish Ed. System and School Management
EGIT424	Applying Teaching II

Appendix C: SPSS OUTPUT

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Q6	394	3.48	.947	.048
Q7	394	3.16	1.109	.056
Q8	394	3.53	.826	.042
Q9	394	3.71	.704	.035
Q10	394	3.13	1.079	.054
Q11	394	2.64	1.093	.055
Q12	394	2.51	1.149	.058
Q13	394	3.39	.980	.049
Q14	394	3.41	1.008	.051
Q15	394	2.08	1.151	.058
Q16	394	3.37	.843	.042
Q17	394	3.59	.757	.038
Q18	394	3.57	.886	.045
Q19	394	3.48	.835	.042
Q20	394	2.64	1.251	.063
Q21	394	3.61	.754	.038
Q22	394	3.24	1.041	.052
Q23	394	3.37	.946	.048
Q24	394	3.07	1.034	.052
Q25	394	3.20	1.066	.054
Q26	394	3.51	.958	.048
Q27	394	2.95	1.070	.054
Q28	394	2.81	1.178	.059
Q29	394	3.47	1.019	.051
Q30	394	3.29	.938	.047
Q31	394	3.37	.980	.049
Q32	394	2.85	1.172	.059
Q33	394	3.45	.957	.048
Q34	394	3.60	.892	.045
Q35	394	3.35	.884	.045
Q36	394	3.29	1.011	.051
Q37	393	2.85	1.065	.054
Q38	394	3.38	.963	.049
Q39	394	3.27	1.164	.059
Q40	394	2.82	1.071	.054
Q41	394	3.32	.819	.041

Q42	394	3.23	1.148	.058
Q43	394	3.18	.990	.050
Q44	394	2.96	1.135	.057
Q45	394	3.47	1.041	.052
Attitude Mean	394	3.2144	.46354	.02335

One-Sample Test

	Test Value = 2.5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Q6	20.538	393	.000	.980	.89	1.07
Q7	11.816	393	.000	.660	.55	.77
Q8	24.699	393	.000	1.028	.95	1.11
Q9	34.223	393	.000	1.213	1.14	1.28
Q10	11.531	393	.000	.627	.52	.73
Q11	2.490	393	.013	.137	.03	.25
Q12	.219	393	.827	.013	-.10	.13
Q13	18.035	393	.000	.891	.79	.99
Q14	17.987	393	.000	.914	.81	1.01
Q15	-7.266	393	.000	-.421	-.54	-.31
Q16	20.376	393	.000	.865	.78	.95
Q17	28.695	393	.000	1.094	1.02	1.17
Q18	23.871	393	.000	1.066	.98	1.15
Q19	23.217	393	.000	.977	.89	1.06
Q20	2.175	393	.030	.137	.01	.26
Q21	29.337	393	.000	1.114	1.04	1.19
Q22	14.088	393	.000	.739	.64	.84
Q23	18.169	393	.000	.865	.77	.96
Q24	10.864	393	.000	.566	.46	.67
Q25	12.997	393	.000	.698	.59	.80
Q26	20.883	393	.000	1.008	.91	1.10
Q27	8.287	393	.000	.447	.34	.55
Q28	5.175	393	.000	.307	.19	.42
Q29	18.885	393	.000	.970	.87	1.07
Q30	16.766	393	.000	.792	.70	.88
Q31	17.577	393	.000	.868	.77	.97
Q32	5.930	393	.000	.350	.23	.47
Q33	19.801	393	.000	.954	.86	1.05

Q34	24.458	393	.000	1.099	1.01	1.19
Q35	18.979	393	.000	.845	.76	.93
Q36	15.594	393	.000	.794	.69	.89
Q37	6.464	392	.000	.347	.24	.45
Q38	18.096	393	.000	.878	.78	.97
Q39	13.202	393	.000	.774	.66	.89
Q40	5.880	393	.000	.317	.21	.42
Q41	19.865	393	.000	.820	.74	.90
Q42	12.638	393	.000	.731	.62	.84
Q43	13.695	393	.000	.683	.58	.78
Q44	7.990	393	.000	.457	.34	.57
Q45	18.529	393	.000	.972	.87	1.08
AttitudeMean	30.592	393	.000	.71440	.6685	.7603

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Q6	394	3.48	.947	.048
Q7	394	3.16	1.109	.056
Q8	394	3.53	.826	.042
Q9	394	3.71	.704	.035
Q10	394	3.13	1.079	.054
Q11	394	2.64	1.093	.055
Q12	394	2.51	1.149	.058
Q13	394	3.39	.980	.049
Q14	394	3.41	1.008	.051
Q15	394	2.08	1.151	.058
Q16	394	3.37	.843	.042
Q17	394	3.59	.757	.038
Q18	394	3.57	.886	.045
Q19	394	3.48	.835	.042
Q20	394	2.64	1.251	.063
Q21	394	3.61	.754	.038
Q22	394	3.24	1.041	.052
Q23	394	3.37	.946	.048
Q24	394	3.07	1.034	.052
Q25	394	3.20	1.066	.054
Q26	394	3.51	.958	.048
Q27	394	2.95	1.070	.054

Q28	394	2.81	1.178	.059
Q29	394	3.47	1.019	.051
Q30	394	3.29	.938	.047
Q31	394	3.37	.980	.049
Q32	394	2.85	1.172	.059
Q33	394	3.45	.957	.048
Q34	394	3.60	.892	.045
Q35	394	3.35	.884	.045
Q36	394	3.29	1.011	.051
Q37	393	2.85	1.065	.054
Q38	394	3.38	.963	.049
Q39	394	3.27	1.164	.059
Q40	394	2.82	1.071	.054
Q41	394	3.32	.819	.041
Q42	394	3.23	1.148	.058
Q43	394	3.18	.990	.050
Q44	394	2.96	1.135	.057
Q45	394	3.47	1.041	.052
Attitude Mean	394	3.2144	.46354	.02335

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Q6	10.056	393	.000	.480	.39	.57
Q7	2.863	393	.004	.160	.05	.27
Q8	12.685	393	.000	.528	.45	.61
Q9	20.118	393	.000	.713	.64	.78
Q10	2.334	393	.020	.127	.02	.23
Q11	-6.594	393	.000	-.363	-.47	-.25
Q12	-8.422	393	.000	-.487	-.60	-.37
Q13	7.913	393	.000	.391	.29	.49
Q14	8.144	393	.000	.414	.31	.51
Q15	-15.890	393	.000	-.921	-1.04	-.81
Q16	8.604	393	.000	.365	.28	.45
Q17	15.579	393	.000	.594	.52	.67
Q18	12.674	393	.000	.566	.48	.65
Q19	11.337	393	.000	.477	.39	.56

Q20	-5.759	393	.000	-.363	-.49	-.24
Q21	16.172	393	.000	.614	.54	.69
Q22	4.551	393	.000	.239	.14	.34
Q23	7.672	393	.000	.365	.27	.46
Q24	1.267	393	.206	.066	-.04	.17
Q25	3.686	393	.000	.198	.09	.30
Q26	10.521	393	.000	.508	.41	.60
Q27	-.989	393	.323	-.053	-.16	.05
Q28	-3.250	393	.001	-.193	-.31	-.08
Q29	9.146	393	.000	.470	.37	.57
Q30	6.180	393	.000	.292	.20	.38
Q31	7.452	393	.000	.368	.27	.47
Q32	-2.535	393	.012	-.150	-.27	-.03
Q33	9.426	393	.000	.454	.36	.55
Q34	13.330	393	.000	.599	.51	.69
Q35	7.751	393	.000	.345	.26	.43
Q36	5.779	393	.000	.294	.19	.39
Q37	-2.841	392	.005	-.153	-.26	-.05
Q38	7.793	393	.000	.378	.28	.47
Q39	4.675	393	.000	.274	.16	.39
Q40	-3.387	393	.001	-.183	-.29	-.08
Q41	7.749	393	.000	.320	.24	.40
Q42	3.993	393	.000	.231	.12	.34
Q43	3.666	393	.000	.183	.08	.28
Q44	-.755	393	.451	-.043	-.16	.07
Q45	8.998	393	.000	.472	.37	.58
Attitude Mean	9.181	393	.000	.21440	.1685	.2603

Group Statistics Regarding Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Attitude Mean	M	116	3.2155	.48197	.04475
	F	278	3.2139	.45652	.02738

Group Statistics Regarding Computer Ownership

	Computer Ownership	N	Mean	Std. Deviation	Std. Error Mean
Attitude Mean	YES	340	3.2571	.43111	.02338
	NO	54	2.9454	.56483	.07686

Independent Samples Test Regarding Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AttitudeMean	Equal variances assumed	3.838	.051	.030	392	.976	.00156	.05130	-.09930	.10242
	Equal variances not assumed			.030	205.274	.976	.00156	.05246	-.10187	.10500

Independent Samples Test Regarding Computer Ownership

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AttitudeMean	Equal variances assumed	11.512	.001	4.713	392	.000	.31176	.06614	.18172	.44180
	Equal variances not assumed			3.880	63.177	.000	.31176	.08034	.15122	.47230

ANOVA Regarding Departments

AttitudeMean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.225	5	1.045	5.119	.000
Within Groups	79.218	388	.204		
Total	84.444	393			

Multiple Comparisons Regarding Departments

Dependent Variable:AttitudeMean

	(I) Department	(J) Department	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Dunnett C	1	2	-.05618	.06476		-.2460	.1336
		3	.01958	.09133		-.2525	.2916
		4	.17217	.07836		-.0575	.4018
		5	.14266	.08140		-.0976	.3829
		6		.07660		.0266	.4748
	2	1	.05618	.06476		-.1336	.2460
		3	.07576	.08384		-.1744	.3259
		4		.06948		.0251	.4316
		5	.19884	.07290		-.0163	.4140
		6		.06749		.1099	.5039
	3	1	-.01958	.09133		-.2916	.2525
		2	-.07576	.08384		-.3259	.1744
		4	.15258	.09474		-.1290	.4342
		5	.12308	.09727		-.1673	.4134
		6	.23114	.09329		-.0460	.5082
	4	1	-.17217	.07836		-.4018	.0575
		2		.06948		-.4316	-.0251
		3	-.15258	.09474		-.4342	.1290
		5	-.02950	.08520		-.2805	.2215
		6	.07855	.08063		-.1571	.3142

	5	1	-.14266	.08140	-.3829	.0976
		2	-.19884	.07290	-.4140	.0163
		3	-.12308	.09727	-.4134	.1673
		4	.02950	.08520	-.2215	.2805
		6	.10806	.08359	-.1379	.3540
	6	1	-.30690*	.07660	-.4748	-.0266
		2		.06749	-.5039	-.1099
		3	-.23114	.09329	-.5082	.0460
		4	-.07855	.08063	-.3142	.1571
		5	-.10806	.08359	-.3540	.1379

*. The mean difference is significant at the 0.05 level.

ANOVA Regarding Number of Years of Ownership

AttitudeMean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.225	5	1.045	5.119	.000
Within Groups	79.218	388	.204		
Total	84.444	393			