INVESTIGATING PROSPECTIVE ELT TEACHERS' COMPUTER ANXIETY AND THEIR ATTITUDES TOWARDS THE IMPLEMENTATION OF ICT IN ENGLISH CLASSROOMS

M.A. THESIS

Arif Ata ALKAYALAR

0000-0003-1263-1224

BURSA - 2022

T.C

BURSA ULUDAĞ ÜNİVERSİTESİ

EĞİTİM BİLİMLERİ ENSTİTÜSÜ

YABANCI DİLLER EĞİTİMİ ANA BİLİM DALI

İNGİLİZ DİLİ EĞİTİMİ BİLİM DALI

İNGİLİZCE ÖĞRETMENLİĞİ BÖLÜMÜ ÖĞRETMEN ADAYLARININ BİLGİSAYAR KAYGISI VE BİLGİ VE İLETİŞİM TEKNOLOJİLERİ'NİN İNGİLİZCE SINIFLARINDA UYGULANMASINA YÖNELİK TUTUMLARININ ARAŞTIRILMASI

YÜKSEK LİSANS TEZİ

Arif Ata ALKAYALAR
0000-0003-1263-1224

BURSA - 2022

BİLİMSEL ETİĞE UYGUNLUK

Bu çalışmadaki tüm bilgilerin akademik ve etik kurallara uygun bir şekilde eldildiğini beyan ederim.

Arif Ata ALKAYALAR
16.01.2022

TEZ YAZIM KILAVUZU'NA UYGUNLUK ONAYI

"Investigating Prospective ELT Teachers' Computer Anxiety and Their Attitudes Towards the Implementation of ICT in English Classrooms" adlı Yüksek Lisans tezi, Bursa Uludağ Üniversitesi Eğitim Bilimleri Enstitüsü tez yazım kurallarına uygun olarak hazırlanmıştır.

Tezi Hazırlayan   Danışman

Arif Ata Alkayalar   Prof. Dr. Zübeyde Sinem Genç

Yabancı Diller Eğitimi Ana Bilim Dalı Başkanı

Prof. Dr. Zübeyde Sinem Genç

EĞİTİM BİLİMLER ENSTİTÜSÜ
YÜKSEK LİSANS/DOKTORA BENZERLİK YAZILIM RAPORU

BURSAULUDAĞ ÜNİVERSİTESİ
EĞİTİM BİLİMLER ENSTİTÜSÜ
YABANCI DİLLER EĞİTİMİ ANABİLİM DALI BAŞKANLIĞI'NA

Tarih: 20/01/2022

Tez Başlığı/Konusu:

İngilizce Öğretmenliği Bölümü Öğretmen Adaylarının Bilgisayar Kaygısı ve Bilgi ve İletişim Teknolojileri'nin İngilizce Sınıflarında Uygulanmasına Yönelik Tutumlarının Araştırılması

Yukarıda başlığı gösterilen tez çalışmamın a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 42 sayfalık kısmına ilişkin, 20/01/2022 tarihinde şahsım tarafından Turnitin adlı intihal tespit programından aşağıda belirtilen filtrelemeler uygulanarak alınmış olan özgünlük raporuna göre, tezimin benzerlik oranı %15 bulunmuştur.

Uygulanan filtrelemeler:
1- Kaynakça hariç
2- Alıntılar hariç/dahil
3- 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Uludağ Üniversitesi Eğitim Bilimleri Enstitüsü Tez Çalışması Özgünlük Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

20/01/2022

Adı Soyadı:	Arif Ata Alkayalar
Öğrenci No:	8011610026
Anabilim Dalı:	Yabancı Diller Eğitimi
Programı:	İngiliz Dili Eğitimi
Statüsü:	■ Y.Lisans ☐ Doktora

Danışman
Prof. Dr. Zübeyde Sinem Genç, 20/01/2022

Yabancı Diller Eğitimi Ana Bilim Dalı'nda 801610026 numara ile kayıtlı Arif Ata Alkayalar'ın hazırladığı "Investigating Prospective ELT Teachers' Computer Anxiety and Their Attitudes Towards the Implementation of ICT in English Classrooms" konulu Yüksek Lisans çalışması ile ilgili tez savunma sınavı, 16/02/2022 günü 14:30-15:30 saatleri arasında yapılmış, sorulan sorulara alınan cevaplar sonunda adayın tezinin (başarılı/başarısız) olduğuna (oybirliği/oy çokluğu) ile karar verilmiştir.

Sınav Komisyonu Başkanı
Prof. Dr. Zübeyde Sinem Genç
Bursa Uludağ Üniversitesi

Üye
Prof. Dr. Birsen Tütüniş
İstanbul Kültür Üniversitesi

Üye
Dr. Öğr. Üyesi Figun Dinçer
Bursa Uludağ Üniversitesi

ÖZET

Yazar Adı ve Soyadı	Arif Ata Alkayalar
Üniversite	Bursa Uludağ Üniversitesi
Enstitü	Eğitim Bilimleri Enstitüsü
Ana Bilim Dalı	Yabancı Diller Eğitimi Ana Bilim Dalı
Bilim Dalı	İngiliz Dili Eğitimi
Tezin Niteliği	Yüksek Lisans Tezi
Sayfa Sayısı	xiii + 58
Mezuniyet Tarihi	
Tez Danışmanı	Prof. Dr. Zübeyde Sinem GENÇ

İNGİLİZCE ÖĞRETMENLİĞİ BÖLÜMÜ ÖĞRETMEN ADAYLARININ BİLGİSAYAR KAYGISI VE BİLGİ VE İLETİŞİM TEKNOLOJİLERİ'NİN İNGİLİZCE SINIFLARINDA UYGULANMASINA YÖNELİK TUTUMLARININ ARAŞTIRILMASI

Önceki araştırmaların gösterdiği gibi, öğretmenlerin sınıflarda teknoloji entegrasyonuna yönelik tutumları, eğitim ortamlarında bilgi ve iletişim teknolojilerinin (BİT) uygulanmasını engelleyen faktörleri araştıran çalışmaların ana odak noktası olmuştur. Bununla birlikte, mevcut alanyazın gözden geçirildiğinde, bilgisayarlarla ilgili algılanan kaygıyı ele alan çok az araştırma olduğu ve daha da azının konuyu yabancı dil öğretimi alanında Türkiye bağlamında incelemeye çalıştığı görülmektedir. Bu nedenle, bahsi geçen bu çalışma, karma yöntemden yararlanarak, bu konuları Türkiye bağlamında inceleyerek mevcut alanyazına katkıda bulunmayı amaçlamıştır. Çalışmada, nicel araştırma için BİT'e Yönelik Tutumlar Ölçeği (Albirini, 2004) kullanılmış, nitel veriler ise yarı yapılandırılmış görüşmeler yoluyla toplanmıştır. Çalışmaya toplam 75 son sınıf İngilizce Öğretmenliği öğrencisi katılmıştır. Verilerin analizi, Türk İngilizce Öğretmenliği öğretmen adayları arasında BİT'in uygulanmasına yönelik olumlu tutumların yanı sıra bilgisayarlara yönelik daha düşük kaygı düzeylerini ortaya koymuştur.

Anahtar sözcükler: bilgisayar kaygısı, bilgi ve iletişim teknolojileri, öğretmen adayları, tutum

ABSTRACT

Name and Surname	Arif Ata Alkayalar
University	Bursa Uludağ University
Institution	Institute of Educational Sciences
Field	Foreign Language Education
Branch	English Language Education
Degree Awarded	Master's Thesis
Page Number	xiii + 58
Degree Date	
Supervisor	Prof. Dr. Zübeyde Sinem GENÇ

INVESTIGATING PROSPECTIVE ELT TEACHERS' COMPUTER ANXIETY AND THEIR ATTITUDES TOWARDS THE IMPLEMENTATION OF ICT IN ENGLISH CLASSROOMS

As previous research indicates, the attitudes of prospective teachers toward technology integration in the classrooms have been the main focus of the studies that attempted to investigate the factors hindering the implementation of ICT in educational settings. However, the review of the current literature shows that the perceived anxiety regarding computers is usually overlooked as very few research has investigated the issue, and even fewer attempted to examine the issue in the field of foreign language teaching in the Turkish context. Therefore, following a mixed methods research design, the present study aimed to contribute to the existing literature by investigating these issues in the Turkish context. Attitudes Toward ICT Scale (Albirini, 2004) was adopted for the quantitative inquiry, while the qualitative data was collected through semi-structured interviews. A total of 75 senior prospective ELT teachers participated in the study. The analysis of the data revealed positive attitudes towards the implementation of ICT as well as a lower level of anxiety towards computers among Turkish prospective ELT teachers.

*Key words***:** attitude, computer anxiety, ict, prospective elt teachers

ACKNOWLEDGEMENT

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

CHAPTER 2

LITERATURE REVIEW

CHAPTER III

METHODOLOGY

CHAPTER IV

RESULTS

CHAPTER V

DISCUSSION

CHAPTER VI

CONCLUSION

List of Tables

List of Figures

List of Abbreviations

CALL: Computer-assisted Language Learning

CARS: Computer Anxiety Rating Scale

CK: Content Knowledge

EFL: English as a Foreign Language

ELT: English Language Teaching

GPA: Grade Point Average

ICT: Information and Communication Technology

ISTE: International Society for Technology in Education

MALL: Mobile-assisted Language Learning

OECD: Organization for Economic Co-operation and Development

P: Participant

PCK: Pedagogical Content Knowledge

PK: Pedagogical Knowledge

RQ1: Research Question 1

RQ2: Research Question 2

RQ3: Research Question 3

SPSS: Statistical Package for Social Sciences

TCK: Technological Content Knowledge

TK: Technological Knowledge

TPK: Technological Pedagogical Knowledge

TPACK: Technological Pedagogical Content Knowledge

CHAPTER I
INTRODUCTION

1.1. Background of the Study

The digital revolution, being the key element of the information age, has changed the way people "play, access information, communicate and learn" (Caena and Redecker, 2019, p. 357). According to Karakaya (2010), since English is regarded as the Lingua Franca, the common language of the world, it is widely used in all aspects of life, and as technology is quite an important one of these aspects that connects people globally, the role the English language plays in our lives "depends heavily on changing technology" (p. 3), which, as a result, exerts influence on language teaching. Today, technology is so diversely integrated into our lives that almost every day new definitions become relevant and new areas emerge, such as artificial intelligence, blockchain, the internet of things, virtual and augmented reality, Metaverse, and so on. English language, being the Lingua Franca, holds great power in harnessing and keeping up with all these technological advancements. Such rapid developments and changes necessitate the need to equip today's learners with the power of English, which consequently puts more and more emphasis on the importance of the inclusion of ICT in educational settings. Being born into the golden age of technology, the members of the younger generation become advanced users of it even before they begin their educational journey at schools. In order to be able to meet the needs of today's learners and create an efficient learning atmosphere inside the classrooms and enrich the learning experience, the importance of digital literacy for the educators and the utilization of ICTs into the field of education became more prominent than ever. In support of this, Hopkins et al. (2013, as cited in Schleicher, 2019) state that "preschoolers become familiar with digital devices before they are exposed to books" (p. 56). Despite these demanding circumstances calling for ICT integration and digital literacy, research on the issue shows that prospective teachers think that they are not prepared to incorporate ICT into their classrooms (Barbour & Harrison, 2016, as cited in Ranellucci, Rosenberg, & Poitras, 2020). Therefore, in order to be able to overcome the problems that cause such hindrance for teachers in making use of ICT in their teaching practices, an in-depth investigation of two of the key points regarding the issue is necessary, namely, their attitudes towards the implementation of ICT and the anxiety they feel towards computers and the use of ICT.

According to Teo (2008), the attitudes of the teachers are crucial to the success of any attempt to integrate technology into an educational program and for successful incorporation of ICT into curricula, positive attitudes towards ICT hold vital importance. Karakaya (2010) also argues that, although the current state of technology offers a vast array of opportunities when it

comes to language teaching, the need to be able to utilize these technologies to the best is equally critical, which is why language teachers and their attitudes towards ICT are of great significance. Moreover, Guillén-Gámez and Mayorga-Fernández (2020) affirm that due to the rapid progression and transformation of society and technology, a continuous investigation of teacher attitudes is a necessary requirement.

Computer anxiety, similar to the attitudes toward the use of technology, is another concept that directly impacts the integration of ICT in education. However, unlike the concept of attitudes toward ICT integration, the amount of research conducted on computer anxiety appears to be relatively limited despite being just as crucial when the current literature is examined. Especially in the Turkish context, there are a handful of studies looking into the issue in terms of the field of education (Aslan & Zhu, 2015, 2016, 2017; Hismanoğlu, 2011). Research done on the issue shows that computer anxiety is generally recognized as an important barrier that influences the degree to which teachers integrate ICT in their classes (Bolandifar & Noordin, 2015; Cocorada, 2014; Hismanoğlu, 2011; Rahimi & Yadollahi, 2011; Munoz, Sanchez & Santos, 2017).

The main objective of the current study is to shed further light on attitudes of senior EFL teacher candidates towards the implementation of ICT in their teaching practices as well as their perceived computer anxiety in the Turkish context, which constitute two of the most important factors that have a direct impact on the successful application of ICTs in foreign language classes as the current literature lacks enough attention on these issues especially in the Turkish context. The study aims to examine the aforementioned issues by considering the characteristics of the participants as well as their cultural perceptions on the use of ICT. Another key point that was looked into is whether there is any significant difference between prospective teachers studying at state and private universities in terms of their attitudes towards ICT implementation in foreign language classes as private universities usually tend to provide better access to technology as well as infrastructure when compared to state schools.

1.2. Statement of the Problem

ICT made its way into every aspect of life over the last three decades and became an essential tool for humanity. Of these aspects, education is so important that the implementation of ICT in education has become an entire discipline of its own, harboring a vast repertoire of different fields. According to Lafford and Lafford (1997), the foreign language education area was always considered an essential element of technology integration, facilitating the process of language acquisition.

As Albirini (2004) asserts, the focus on the potential of the technology and the failure to construct the ICT implementation attempts on doing research and collecting sufficient data on the issue are the main problems with present ICT implementation plans, which results in one of the key elements being overlooked in these plans: the attitudes of the teachers who are on the front line to make a change in a classroom. Numerous studies carried out on similar and different contexts indicate that teachers tend not to make use of computers in their classrooms if they fail to develop a positive attitude towards the implementation of ICT (Albirini, 2004; Askar & Umay, 2001; Birişçi, Metin & Karakaş, 2009; Gilakjani & Leong, 2012; Hismanoğlu, 2011; Woodrow, 1992). Therefore, it's crucial to investigate the attitudes of teachers towards the implementation of ICT in education.

While the attitudes of teachers hold great importance, another crucial subject, which has been categorized by Woodrow (1991) as one of the three basic dimensions of attitudes toward computers along with computer liking and computer confidence, is computer anxiety. Briefly defined, the concept of computer anxiety refers to uneasiness, fear, or apprehension experienced by an individual towards the use of computers (Igbaria & Parasuraman, 1989; Raub, 1981). Closely related to the concept of attitudes toward ICT (or computers in general), computer anxiety is one of the main factors that affect the adoption and use of computers. For that reason, as Hismanoğlu (2011) states, the investigation of attitudes towards computers along with the factors affecting them plays a crucial role in understanding how teachers react to ICT and if computer anxiety prevents them from utilizing the benefits of technology in their practice of teaching. In light of this information, there is an undeniable need to investigate teachers' attitudes towards ICT use in foreign language education and computer anxiety in order to shed further light upon the issue, which accounts for the problem statement of the current study.

1.3. Purpose of the Study

The current study attempts to investigate the perceived computer anxiety and attitudes of Turkish prospective ELT teachers towards ICT implementation in English classes. Besides, the study aims to delve deeper into attitudes towards ICT integration taking different aspects of it into account such as prospective teachers' perceptions of computer attributes as well as their competence related to computers and computers access. It also makes an attempt to explore the relationship between the demographic backgrounds of the participants and their attitudes towards ICT. In this regard; age, gender, type of the university studied, the information on training courses, workshops, or seminars on using computers, and the preferred teaching method of the participants were analyzed. Finally, the relationship between attitudes of prospective teachers' towards ICT studying at private and state universities was investigated.

1.4. Research Questions

This study aims to find answers to the research questions below:

1. What is the perceived computer anxiety level of prospective Turkish ELT teachers studying at private and state universities towards ICT implementation in English classes?

2. What are the overall attitudes of prospective ELT teachers in Turkey towards ICT implementation in education?

3. What is the relationship between the external variables regarding prospective Turkish ELT teachers such as age, gender, type of the university, computer training, preferred teaching method and their attitudes toward ICT, attributes regarding computers, cultural perceptions and competence of ICT?

1.5. Significance of the Study

Especially with the rise of ICT in the last three decades, the educational context has experienced considerable changes, which significantly impact the lives of people in both professional and academic senses (Wang & Dostál, 2017). Consequently, as Caena and Redecker (2019) also assert, equipping students with digital competences is a crucial element of 21st-century skills. Therefore, to be able to achieve that goal, the need to equip teachers with the same competences also holds great importance. According to Lawrence and Tar (2018, as cited in Park & Son, 2020), "quantity and quality of pre-service teachers' technology experiences in their teacher education programs are a significant factor determining new teachers' adoption and application of ICTs" (p. 1). Additionally, Park and Son (2020) further argue that today's prospective teachers' need to be able to utilize the benefits of ICT in their classrooms and teaching practices is much higher than their predecessors. Despite the importance of this need, Barbour and Harrison (2016) affirm that teacher education programs fail to provide prospective teachers with necessary training and support on the issue. Closely related to such issues hindering the integration of ICT in educational contexts, the investigation of attitudes and computer anxiety of prospective teachers towards ICT use in education is essential, which constitutes the scope of this particular study. Rather than in-service teachers, this study focuses on prospective ELT teachers because as prior research also indicates, being the younger generation, they are the more frequent users of ICT (Park & Son, 2020; Teo et al., 2019). Moreover, a number of studies also indicate that teachers' attitudes towards ICT develop during their training, therefore it is of great importance to examine the issue focusing on

prospective teachers (Aslan & Zhu, 2015; Hismanoğlu, 2011; Kiraz & Özdemir, 2006; Liu, Li & Carlsson, 2010; Ranellucci, Rosenberg & Poitras, 2020).

Due to its critical impact on both language learning and teaching processes, a great deal of research studies have been carried out related to the construct of attitudes towards ICT in education. Although there is a considerable amount of research regarding the attitudes toward ICT use in education in a general sense (Albirini, 2004; Cai, Fan & Du, 2017; Guillén-Gámez & Mayorga-Fernández, 2020; Igbaria, 1989; Karakaya, 2010; Kiraz & Özdemir, 2006; Sarıçoban, 2013; Teo, 2008; Wang & Dostál, 2017; Woodrow, 1992), computer anxiety in educational contexts is usually overlooked as very few research has investigated the issue, and even fewer attempted to examine the issue in the field of foreign language teaching. When it comes to the investigation of these issues together in the Turkish context regarding foreign language teaching, there is only one study, which was conducted by Hismanoğlu (2011). Therefore, this study aims to contribute to the existing literature by investigating these issues in the Turkish context, considering additional background characteristics such as type of the university studied and preferred teaching method as well as their cultural perceptions and computer competences.

1.6. Limitations of the Study

The present study, like most studies, is not without limitations. Firstly, this is a small-scale study that was conducted with the participation of 75 prospective ELT teachers studying at different universities in Turkey; therefore, the generalizability of the results is limited as there could be a higher number of participants. The main reason for this is the extraneous circumstances caused by the Covid-19 pandemic, which led to the data being collected via solely online platforms. Secondly, due to the same reason, the variety of the universities included in the study was also quite limited, which is why the participants do not represent the entirety of Turkish prospective ELT teachers. Furthermore, the study focuses on prospective ELT teachers, and teachers from other disciplines are not within the scope of this study. In light of this information, building on the findings of the present study, future studies could examine the issue with a higher number of participants from a higher number of different universities including both state and private. The aforementioned points constitute the limitations of the current study.

CHAPTER II
LITERATURE REVIEW

2.1. The Integration of ICT in Education

Drawing on Organization for Economic Co-operation and Development (OECD) (2005) report and the research conducted by Gbenga (2006), Ghavifekr et al. (2014) summarizes the ways ICT can work in the context of education:

- as a way of supporting and transforming the process of both learning and teaching,
- as a way of supporting teacher development through external networks,
- as a way of promoting lifelong learning and training students "in skills which they will need in further education and as an ongoing learning process throughout the rest of their lives and for their future jobs", such as email communication and word processing,
- as a way of providing access to information as well as communication outside the classroom environment with the help of the Internet.

Closely related to the points listed above, this section of the study will provide information about some key concepts related to the integration of ICT in education.

2.1.1 Web 2.0 Tools: According to O'Reilly (as cited in Alaghbary, 2021), unlike the first generation of the World Wide Web which was a read-only means of communication, the second generation of it is an interactive read-and-write means of communication. Therefore, based on this definition of the second generation of World Wide Web, Web 2.0 tools are dynamic and interactive platforms and environments in which the participation of users is essential, such as blogs, social networking platforms, wikis, video streaming, and uploading sites, photo and video sharing sites, etc. (Alaghbary, 2021).

Drawing on Churches' (2008) revision of Bloom's Digital Taxonomy, Alaghbary (2021) demonstrates the set of digital verbs which illustrate the opportunities of learning provided by technology in Figure 1. Regarding the key terms from these revised and digital taxonomies, Alaghbary (2021) states that;

> Churches' Digital Taxonomy retains the categories, and their arrangement, in the Cognitive Dimension of the Revised Taxonomy and adds a set of digital verbs to each category in order to capture the learning opportunities generated by technology and suggest the digital tools to facilitate cognitive development and progression through the hierarchy from Lower Order Thinking Skills to Higher Order Thinking Skills (p. 14).

Figure 1.

Key digital verbs from the digital and revised taxonomies

Level 1 Remembering	Revised Bloom	Recognizing, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding
	Digital Bloom	Bullet pointing, bookmarking, social networking, social bookmarking, searching/googling
Level 2 Understanding	Revised Bloom	Interpreting, Summarizing, Inferring, Paraphrasing, Classifying, Comparing, Explaining
	Digital Bloom	Advanced searching, Blog journaling, Categorizing & Tagging, Commenting, Subscribing
Level 3 Applying	Revised Bloom	Carrying out, Using, Executing, Implementing, Showing, Exhibiting
	Digital Bloom	Running and operating, Playing, Uploading and sharing, Hacking, Editing
Level 4 Analyzing	Revised Bloom	Comparing, Organizing, Deconstructing, Attributing, Outlining, Structuring, Integrating
	Digital Bloom	Mashing, Linking, Reverse-engineering, Cracking
Level 5 Evaluating	Revised Bloom	Checking, Hypothesizing, Critiquing, Experimenting, Judging, Testing, Monitoring
	Digital Bloom	Blog commenting, Posting, Moderating, Collaborating, Networking, Testing, Validating
Level 6 Creating	Revised Bloom	Designing, Constructing, Planning, Producing, Inventing, Devising, Making
	Digital Bloom	Programming, Filming, Animating, Mixing, Directing, Producing, Blogging, Publishing

Note. Adapted from Churches 2008, as cited in Alaghbary (2021)

2.1.2 The International Society for Technology in Education (ISTE) Standards for Educators: According to Trust (2017), due to the surge in technological developments since the publishing of the first set of standards for educators by ISTE in 2008, which focused on "using technology to support student learning and creative thinking, design digital age activities and assessments, model digital work, promote and model digital citizenship, and engage in professional growth and leadership" (p. 1), during the academic year of 2016-2017, ISTE attempted to redesign the aforementioned standards. Obtaining data from more than 2000 educators with the aim of redesigning these previous standards, ISTE published new standards based on seven themes, namely, Learner, Leader, Citizen, Collaborator, Designer, Facilitator, and Analyst.

Below, an excerpt from ISTE Standards for Educators (2017) regarding the definitions for each of these themes is provided:

- Learner: Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

- Leader: Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.

- Citizen: Educators inspire students to positively contribute to and responsibly participate in the digital world.

- Collaborator: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.

- Designer: Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.
- Facilitator: Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students.
- Analyst: Educators understand and use data to drive their instruction and support students in achieving their learning goals (Crompton, 2017)

2.1.3 Technological Pedagogical Content Knowledge Framework (TPACK): Building on the description provided by Schulman (1986) regarding Pedagogical Content Knowledge (PCK), Koehler and Mishra (2009) published the latest version of the TPACK framework with the aim of explaining "how teachers' understanding of educational technologies and PCK interact with one another to produce effective teaching with technology".

Figure 2.

The framework of Technological Pedagogical Content Knowledge
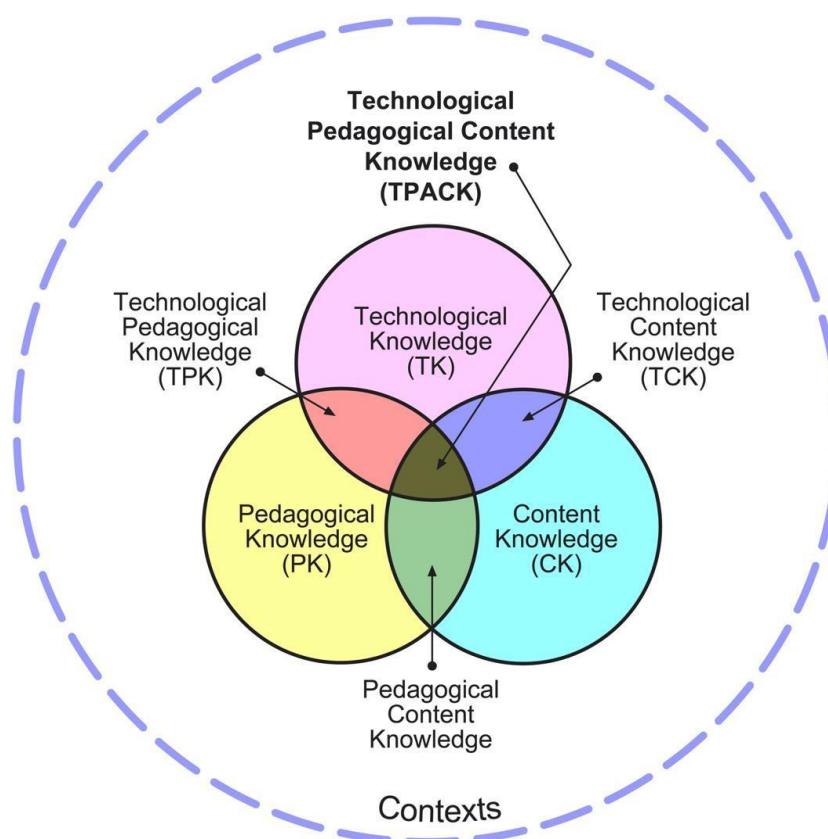
Note. (Reproduced by permission of the publisher, © 2012 by tpack.org)

According to Figure 2, which can be seen above, there are three main types of knowledge a teacher needs to have, namely, Pedagogical Knowledge (PK), Content Knowledge (CK), and Technological Knowledge (TK). The areas where these knowledge types intersect

are also of great importance, which is represented as Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), Pedagogical Content Knowledge (PCK), and finally, the intersection of all three knowledge types, which constitute the TPACK.

CK, as Mishra and Koehler (2006) also affirms, refers to the knowledge regarding the main subject matter which is aimed to be taught or learned.

PK can be defined as "teachers' deep knowledge about the processes and practices or methods of teaching and learning" (Koehler and Mishra, 2009, p. 64)

PCK, according to Koehler and Mishra (2009) is closely related to a teacher's knowledge on how to interpret, interrelate, alter and adapt the subject matter when or if needed and make it more digestible for the learner audience inside a classroom, considering their background knowledge during the entire process.

TK, on the other hand, can be explained as the knowledge regarding traditional technological tools, such as, "books, chalk and blackboard, and more advanced technologies, such as the Internet and digital video" (Mishra & Koehler, 2006, p. 1027).

The concept of TCK, according to Mishra & Koehler (2006), is concerned with the ways technology and the content are related.

TPK, which is represented by the area where TK and PK overlaps, can be explained as the knowledge regarding the elements of different technologies in terms of how they are incorporated both in learning and teaching processes (Mishra & Koehler, 2006).

Finally, briefly defined by Mishra & Koehler (2006), TPACK, "is an emergent form of knowledge that goes beyond all three components".

2.2 ICT in Language Learning and Teaching

In this section, two main concepts regarding ICT use in language learning and teaching are defined.

2.2.1 Computer-assisted Language Learning: According to Gamper and Knapp (2002), the use of new technologies for language learning and teaching has become an own discipline, known as computer-assisted language learning (CALL). They define computer-assisted language learning (CALL) as "a research field which explores the use of computational methods and techniques as well as new media for language learning and teaching". As information and communication technologies are rapidly developing, and the language learning applications and software continue to grow, a range of different areas is still shaping in the field.

2.2.2 Mobile-assisted Language Learning: In recent years, mobile technologies have also started to make their presence felt in the field of education. Traxler (2005) defined mobile learning (m-learning) as "any educational provision where the sole or dominant technologies

are handheld or palmtop devices" (p. 262). Then, Crompton (2013) suggested a modified version of Sharples et al.'s definition of form-learning, which is "learning across multiple contexts, through social and content interactions, using personal electronic devices". As can be seen, by the increasing number of publications related to mobile technologies, it is not surprising to seem-learning also gaining momentum in the language learning area.

2.3. Computer Anxiety

In this section, the concept of computer anxiety will be briefly defined, then in the upcoming sections, studies regarding the concept of computer anxiety will be presented.

Usually described as one of the most important elements hindering the implementation of ICT both in learning and teaching settings, one of the earliest definitions of computer anxiety explains the concept as "changes on four physiological measures, such as blood pressure and heart rate, which occurred while subjects worked on a computer" (Powers, 1973, as cited in Glass & Knight, 1988). Examining the current literature, it can be seen that numerous definitions have been made regarding computer anxiety, some of them relating the concept to other definitions and types of anxiety, while others put forward a set of diverging opinions on the issue.

The concept of anxiety has been examined under two major divisions, namely, 'state anxiety and 'trait anxiety (MacIntyre & Gardner, 1989; Oxford, 1999; Riasati, 2011; Spielberger, 1983). In addition to state and trait anxiety, some researchers also included a third category in their research studies, which is referred to as 'situation-specific anxiety' (eg., Spielberger, 1983; MacIntyre & Gardner, 1989; MacIntyre, 1999; Toth, 2010). Building on these definitions, Gaudron and Vignoli (2002) categorized computer anxiety as a subtype of state anxiety. Drawing on the definition provided by Maurer (1983), Gaudron and Vignoli (2002) defined computer anxiety as "the fear and the apprehension felt by an individual when considering the implications of utilizing computer technology, or when actually using computer technology", which, according to the researchers, is considered one of the best-know definitions of the concept.

2.4. Attitudes Towards ICT in Education

This section provides a brief definition of the concept of attitudes regarding the implementation of ICT in education. A detailed overview of the studies related to the concept will be presented in the upcoming sections of this chapter.

When the current literature is reviewed, it can be seen that, just like the concept of computer anxiety, the concept of attitude also has a multitude of definitions. Eagly and Chaiken

(1993) define attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (p. 1). Another definition of attitude, according to Halloran (1970), is "the predisposition of an individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner" (p. 20).

When it comes to attitudes regarding computers, Simpson et al. (1994, as cited in Hismanoğlu, 2011) define the concept as a set of certain feelings regarding the favor or disfavor of computer adoption.

2.5 Studies on Abroad About Attitudes Toward ICT and Computer Anxiety

The concepts of attitudes towards the use of ICT and computer anxiety have been the subject of many studies abroad and they have been attempted to be scrutinized through a great body of research. In this section of the study, studies conducted outside the Turkish context on attitudes towards the use of ICT and computer anxiety will be presented.

In his seminal study, adopting both quantitative and qualitative methods, Albirini (2004) investigated the main factors with regard to the attitudes of in-service EFL teachers working at high schools in the city of Hims, Syria, in relation to ICT use in their teaching practices. A detailed questionnaire was developed by the researcher for the study and was administered to 326 randomly selected teachers from the target population. After the administration of the survey, follow-up interviews were carried out with a total of 15 teachers who were selected via purposive sampling. The results of the study, drawing on a mixed-methods inquiry, revealed that the participants held mainly positive attitudes related to the integration of ICT in educational settings. The findings also showed that participants had positive perceptions about computer attributes, but they were neutral when it comes to the cultural relevance regarding computer technology to the Syrian community. Another important point the results indicated was, the participants' levels of computer access, competence, and training were low.

In another study on the attitudes toward computers and their use in EFL classrooms, Gilakjani and Leong (2012) explored how EFL teachers perceived the use of ICT in their practice of teaching English language conducting a meta-analysis. The researchers attempted to examine the issue determining seven relevant aims first, which included defining the teachers' attitudes first, discussing the different aspects of the concept of attitude, explaining teachers' attitudes towards the training of computer technology, elaborating on the attitudes of teachers and ICT integration, defining the teachers' attitudes and their experience with computers, discussing their computer anxiety and interest, and finally, reviewing the attitudes of the teachers as well as their computer literacy. The review of the relevant literature done by the

researchers showed that introducing ICT resources alone does not ensure they are being used by the teachers when it comes to practice.

Huang et al. (2017) conducted a qualitative study to investigate the attitudes of EFL teachers towards the integration of ICT in education and their acceptance of technology in a Chinese context. In-depth interviews regarding the issue have been carried out with the participation of 14 teachers working at different universities from six provinces. The data gathered by the interviews showed that, overall, the teachers held positive attitudes toward the use of ICT in teaching. The data also revealed that the major factors affecting their acceptance of technology were perceived usefulness, technology mania, subjective norm, and modernization. The researchers also noted that the teachers' degree of technology reliance varied according to their age and experience.

In another study conducted in the Chinese context, Sun and Mei (2020) attempted to investigate the factors affecting the intentions of pre-service Chinese-as-a-second/foreign language teachers to implement ICT in their future classrooms. The population of the study comprised 331 pre-service teachers studying at two national universities in China. Data gathered from a self-report questionnaire revealed that technology self-efficacy, facilitating conditions, and perceived usefulness had positive effects on the attitudes toward the integration of ICT. The findings also revealed that the experience regarding the use of ICT, attitudes toward the use of ICT, and perceived usefulness indicated a positive effect on the pre-service teachers' intention to use technology in their future teaching practices.

In the Hong Kong context, Park and Son (2020) examined the readiness of pre-service EFL teachers in terms of the CALL use conducting a qualitative study. The researchers carried out in-depth interviews with six pre-service EFL teachers with the aim of shedding further light on teachers' perceptions, experiences as well as attitudes regarding the use of ICT. The results of the study revealed that the use of ICT in EFL classrooms created a "dynamic learning environment that could enhance learning and teaching" (p. 12). As for the barriers regarding ICT integration, the majority of the participants reported more internal factors than external ones. The data of the interviews showed that, although the teachers had high confidence regarding the implementation of ICT, their application and adoption of technology regarding their teaching practices seemed to be quite limited.

Guillén-Gámez and Mayorga-Fernández (2020) looked into the issue of attitudes toward ICT integration conducting a large-scale study with a total of 867 higher education teachers, more specifically, university professors in Spain coming from various fields. The researchers attempted to analyze the issue from the perspective of an affective, cognitive, and behavioral

(ACB) model. The analysis of the data revealed that the lowest level of the attitudes belonged to behavioral ones, which was followed by affective ones.

When it comes to computer anxiety, Rahimi and Yadollahi (2011) carried out a study with the aim of analyzing the computer anxiety level of teachers in the Iranian context and how it is related to teachers' characteristics as well as the ICT implementation in English classes. The sample of the study consisted of 254 EFL teachers from Iran. Computer Anxiety Rating Scale (CARS) was used in order to measure the computer anxiety level of participants. The findings of the study showed that there was a positive relationship between the perceived computer anxiety of the participants and their age. Their gender and teaching experience, on the other hand, showed no significant relationship. Furthermore, a negative correlation between computer anxiety and the implementation of ICT was found. Also, there was a negative correlation between the implementation of ICT and age, as well as teaching experience while there was no significant relationship between the implementation of ICT and gender.

In another study conducted in the Iranian context, adopting a mixed-method, Bolandifar and Noordin (2015) examined the relationship between the attitudes of post-graduate student teachers with respect to the use of the Internet in English language classes and their computer anxiety level. A total of 160 student teachers participated in the study who were selected via stratified random sampling. For the collection of the data, CARS and Internet Attitude Scale was administered to the participants which were followed by semi-structured interviews. The findings of the study revealed a moderate level of the attitudes and perceived computer anxiety of the participants. Also, according to the independent-sample t-test results, there were significant mean differences between the participants' genders and their computer anxiety levels as well as their attitudes towards the use of the Internet in English classrooms. Moreover, the participants' computer anxiety and their attitude towards the use of the Internet were found to be negatively correlated.

Cocoradă (2014) investigated the relationship between Romanian in-service and pre-service teachers' computer anxiety and their learning motivation, taking into account several other variables such as their age, gender, and experience with computers. The findings of the study revealed that the perceived computer anxiety levels of in-service teachers were higher than pre-service teachers'. Moreover, there was a significant difference between male and female participants, females showing higher levels of computer anxiety compared to males.

Matsumura and Hann (2004) conducted a study with 207 Japanese university students to explore the effects of computer anxiety on their academic performance as well as their preference for feedback methods in their EFL writing classes. The participants of the study

received online peer and teacher feedback as well as face-to-face teacher feedback being free to choose their preferred method of feedback. The findings of the study revealed that their choices varied according to their computer anxiety levels. The results also revealed that providing the students with a choice to use or not use computers was helpful for both low anxiety and high anxiety students.

2.6. Studies About Attitudes Toward ICT and Computer Anxiety in Turkey

A number of studies regarding the attitudes toward ICT use in education and computer anxiety have been conducted in the Turkish context as well. This section includes studies conducted on the aforementioned issues in Turkey.

Karakaya (2010) examined the attitudes of English Language teachers toward the integration of ICT in education in the Turkish context as well as the extent to which teachers make use of technology in their teaching practices. The sample of the study consisted of 87 in-service English teachers working at public schools in different regions of Turkey. The data was collected through a mixed-methods design, employing both a questionnaire and semi-structured interviews. The findings of the study, gathered from quantitative and qualitative inquiries, pointed out that the participants had mainly positive attitudes regarding the use of ICT in their teaching practices. However, the extent to which the participants use ICT did not correlate with the positive attitudes they had reported. Despite having positive attitudes toward technology integration in language teaching classes, the participants reported having difficulty implementing ICT in their teaching practices in an effective way.

In another study, Aydın (2013) investigated a total number of 157 Turkish EFL teachers' perceptions about the use of ICT in EFL teaching and learning, looking into characteristics such as their reasons for the personal use of computers, software knowledge, as well as their perceptions of self-confidence along with attitudes for incorporating ICT in classrooms. The analysis of the data showed that despite having positive attitudes regarding the utilization of ICT in English classes, the participants had limited knowledge when it comes to some certain software and they were having difficulty making use of software programs. Moreover, they also reported a lack of support when it comes to technical and instructional issues.

Kiraz and Özdemir (2006) attempted to hypothesize a new model regarding technology acceptance, including educational ideology, which is a factor that is not directly related to ICT but one that influences decisions regarding educational applications. Drawing on the data collected by the administration of surveys to 320 pre-service teachers, adopting Structural Equation Modeling. The findings of the study showed that based on the educational ideologies,

the attitudes of pre-service teachers attitudes towards the use as well as the perceived usefulness of ICT differentiate and their attitudes and perceptions regarding the use of ICT in education influence the frequency of ICT use.

In the Turkish context, the only study that attempted to investigate the issue of prospective EFL teachers' attitudes toward the integration of ICT in foreign language teaching along with their perceived computer anxiety was conducted by Hismanoğlu (2011). The sample population of the study comprised 70 Turkish prospective EFL teachers. Administering CARS and Computer Attitude Scale (CAS). According to the analysis of the data, the level of perceived computer anxiety of the participants turned out to be relatively moderate. The findings further revealed that there was a significant correlation between computer anxiety and liking. However, there was no significant correlation between the perceived computer anxiety of the participants and computer usefulness. Moreover, the characteristics of the participants such as age, computer access, year of study, and ownership of computers did not show any significant correlation in terms of computer anxiety and attitude. On the other hand, while there was a positive correlation between the gender of the participants, the "usefulness" subscale of the CAS as well as their cumulative GPA and "liking" subscale of the CAS; the negative correlation was found regardşng computer-related courses taken by the participants, "liking" subscale of CAS, experience with computers and "confidence" subscale of CAS.

CHAPTER III
METHODOLOGY

This section provides a detailed overview of the research methodology regarding the current study. In-depth information regarding the research design, participants, data collection tools used in the study, and data collection procedure will be presented.

3.1. Research Questions

This study aims to investigate the attitudes of Turkish prospective ELT teachers towards the implementation of ICT in English classrooms as well as their computer anxiety.

The following research questions are addressed during the study:

1. What is the perceived computer anxiety level of prospective Turkish ELT teachers studying at private and state universities towards ICT implementation in English classes?

2. What are the overall attitudes of prospective ELT teachers in Turkey towards ICT implementation in education?

3. What is the relationship between the external variables regarding prospective Turkish ELT teachers such as age, gender, type of the university, computer training, preferred teaching method and their attitudes toward ICT, attributes regarding computers, cultural perceptions and competence of ICT?

3.2. Research Design

In order to triangulate the data by using multiple data collection tools, a sequential explanatory mixed methods design was adopted in this study. The aim of the sequential explanatory design is to examine a problem by beginning with a quantitative inquiry to both collect and analyze data and then to conduct a qualitative inquiry to explain the quantitative results (Creswell et al., 2003). The quantitative data was gathered from a questionnaire, and the qualitative data was gathered from semi-structured interviews.

3.3. Participants

The study was conducted with senior students studying at the ELT departments of different universities in Turkey, including both state and private. For the quantitative inquiry, the convenience sampling technique was adopted and a total of 75 senior pre-service teachers participated in the study. The participants' ages range from 20 to 39 and included 56 female and 19 male pre-service teachers. All of the participants were willing to take part in the study.

Because of the availability issues of the participants, again, convenience sampling was used for the qualitative inquiry and 9 of the pre-service teachers who were available participated in the interviews. 6 of the participants were female and 3 of them were male. There is, however,

a downside of the study as the ideas of the sample group that participated in the interviews might not reflect the ideas and opinions of the remainder of the target group.

3.4. Data Collection Tools

In this section, two different data collection tools are presented. The questionnaire developed by Albirini (2004) has been adopted in order to collect quantitative data. For the qualitative inquiry, semi-structured interviews have been carried out.

3.4.1. Quantitative Data Collection Tools: The questionnaire that was used to gather quantitative data was developed by Albirini (2004) to investigate the factors related to the attitudes of Syrian high school EFL teachers toward Information and Communication Technology.

The questionnaire comprises six sections. Section 1 contains demographic information of the participants such as age, gender, type of the university, teaching experience, the type of the institution in which the teaching took place if there is any teaching experience, the information on training courses, workshops, or seminars on using computers and the preferred teaching method.

The questionnaire covers six sections and five scales:

- Section I: Demographic Information
- Section II: Attitudes toward ICT
- Section III: Computer Attributes
- Section IV: Cultural Perceptions
- Section V: Computer Competence
- Section VI: Computer Access

The aforementioned sections are described in detail below.

The items in the "Demographic Information" section of the questionnaire are related to characteristics of the prospective teachers, namely: age, gender, type of the university, teaching experience, the type of institution in which the teaching took place if there is any teaching experience, the information on training courses, workshops, or seminars on using computers and the preferred teaching method. There is an item that is included in the original form of the questionnaire but omitted from the one used for this study, which is income, as the majority of the participants in the pilot study refused to answer this item. There is also one more item added to the questionnaire which was not included in the original study, namely, the type of the university studied.

"Attitudes toward ICT Scale", which is the second section of the survey includes 20 items that are related to the attitude towards ICT. The Attitudes Toward ICT scale contains three sub-scales, which are briefly described below:

- Affective subscale (items 1 to 6), which corresponds to a teacher's emotional response and anxiety towards the integration of ICT in educational settings
- Cognitive subscale (items 7 to 15), which refers to a teacher's knowledge of ICT
- Behavioral subscale (items 16 to 20), which refers to a teacher's behavior towards ICT in education

The Attitudes Toward ICT scale has 20 items with three factors and it was designed as a five-point Likert scale between "strongly disagree (1)" and "strongly agree (5)", higher scores pointing to more positive attitudes and lower ones indicating more negative attitudes.

"The Computer Attributes Scale" includes eighteen items and four subscales in accordance with the four innovation attributes which are put forward by Rogers (1995). The subscales and corresponding items are listed below:

- Computers' relative advantage, items 21-25
- Computer compatibility, items 26-30
- Computer complexity, items 30-34
- Computer observability, items 35-38

The computer Attributes scale was also designed as a 5-point Likert scale, with higher scores pointing to more positive perceptions of computer attributes.

"Cultural Perceptions Scale" includes sixteen items in a 5-point Likert scale form. The items correspond to perceptions of teachers regarding the impact, relevance, and the value of ICTs in relation to culture. Just like the Attitudes Toward ICT Scale and Computer Attributes Scale, higher scores indicate more positive perceptions.

"Computer Competency Scale" includes fifteen statements that correspond to the ways in which the computer technologies are used in education.

"The Computer Competence Scale" was designed as a 4-point Likert scale, namely, no competence (1), little competence (2), moderate competence (3), and much competence (4).

"The Computer Access Scale" includes three items that are related to the possible locations where computers might be available to be used by EFL teachers, namely: at home, at school and others. The scale was designed as a 5-point Likert scale, ranging from never (1) to daily (5), with higher scores indicating better access to the computers.

In the actual study carried out by Albirini (2004), Cronbach's Alpha scores for the four main scales were as follows: attitude related to computers (.90), attributes of computers (.86), cultural perceptions (.76), and finally, computer competence (.94). The questionnaire was piloted with a separate group of 22 participants. Since the Cronbach's Alpha score of the piloting was .87, the researcher proceeded to the actual study. In addition to its high reliability and validity statistics presented by Albirini (2004), the Cronbach's Alpha score of the actual study was .83, which means that the questionnaire is reliable and further analysis of the data can be conducted.

3.4.2. Qualitative Data Collection Tools: For the sake of the triangulation of the quantitative data, semi-structured interviews were carried out. As the first stage, in order to determine the participants that will take part in the interviews, a statement was included in the demographic information section of the questionnaire as follows: "If you're interested in a short follow-up interview to contribute further to the research, please leave your e-mail address below.". Of the 14 responses given for this statement, only 9 of the participants were able to take part in the interviews due to the effects of the pandemic. The interviewees were asked three questions. (See Appendix C)

1. How does the integration of computers into the field of education make you feel?

2. In what ways do you think computer technology can be beneficial for educational settings?

3.5. Data Collection Procedure

This section covers thorough information regarding data collection procedures. Firstly, the process of quantitative data collection will be explained. Then, the details of the qualitative data collection process will be presented.

3.5.1. Quantitative data collection procedure: The entire data collection phase was carried out online due to pandemics. After the adaptation phase, the questionnaire was typed in the form of a Google Forms document, then the link of the form was shared with the participants via social networks such as Whatsapp groups of the students.

The questionnaire was piloted with a separate group of 18 participants. The reliability analysis of the pilot study showed that all scales indicated high internal consistency with Cronbach's Alpha scores above 0.70.

For the main study, the consent of the Research Ethics Committee was requested. After the approval, all the procedures were planned. After the reliability analysis process of the pilot study, the questionnaire was administered to a total of 75 prospective ELT teachers. Due to restrictions and negative effects of the Covid-19 pandemic, it took around four weeks

to distribute and collect the numerical data. Since after the first two weeks of the data collection process there was quite a limited participation, more universities were included in the study in the last two weeks in order to increase the participation. For the sake of anonymity, the participants were not forced to provide personal information that could be tied to their identities such as name and contact number. To be able to identify the volunteers for the interview, the only information that could be considered personal asked from participants was an e-mail address, which was left optional in the questionnaire. In addition to its high reliability and validity statistics presented by Albirini (2004), the Cronbach's Alpha scores of the actual study were all above 0.74, which means that the questionnaire is reliable and further analysis of the data can be conducted. The reliability coefficients for each scale are presented below in Table 1.

Table 1

Reliability Coefficients

Scale	α	95% CI
Computer Attitude	0.904	0.868 - 0.932
Computer Attributes	0.855	0.800 - 0.897
Cultural Perceptions	0.742	0.646 - 0.817
Computer Competence	0.900	0.860 - 0.930
Computer Access	0.490	0.300 - 0.639

As seen in the results, all scales except for Computer Access indicated high internal consistency in the actual study. For this reason, Computer Access was excluded from the analyses.

3.5.2. Qualitative data collection procedure: Two weeks after the quantitative data collection, the interviews were carried out with a total of 9 prospective teachers. Again, due to pandemic-related limitations, the interviews were conducted via online mediums on a one-to-one basis in the participants' mother tongue so that they could express themselves better and provide deeper data on the issue. The process of the interview was audio recorded. During the process, based on the interviewees' answers, some notes and keywords were composed in order to be coded later. After the interview process, the data gathered was coded to support the quantitative findings.

3.6. Data Analysis Procedure

Since the quantitative data analysis part of the study included the comparison of mean scores divided by two or three groups, assumptions of t-test and ANOVA, namely the normality of data distribution and variance homogeneity, were initially tested (Field, 2013). The

assumption of normality was checked through skewness and kurtosis values and Q-Q Plots. The results are shown below in Table 2, Figure 1, Figure 2, Figure 3, and Figure 4.

Table 2

Skewness and Kurtosis Values

Scale	Skewness	*SE*	Kurtosis	*SE*
Computer Attitude	-0.189	0.277	-0.304	0.548
Computer Attributes	-0.275	0.277	-0.560	0.548
Cultural Perceptions	0.207	0.277	0.126	0.548
Computer Competence	-0.047	0.277	-0.339	0.548
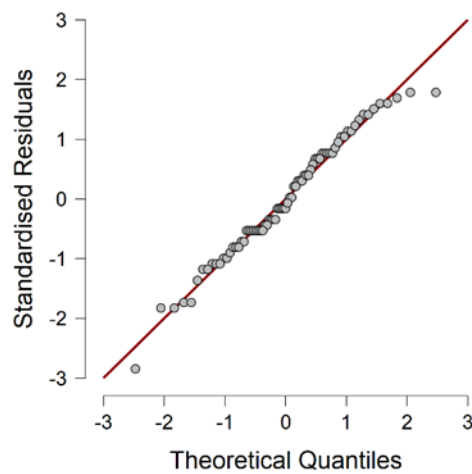
Figure 3. Q-Q Plot for Mean Computer Attitude
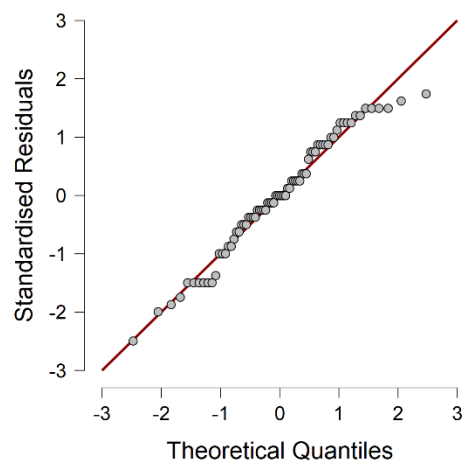
Figure 4. Q-Q Plot for Mean Computer Attributes
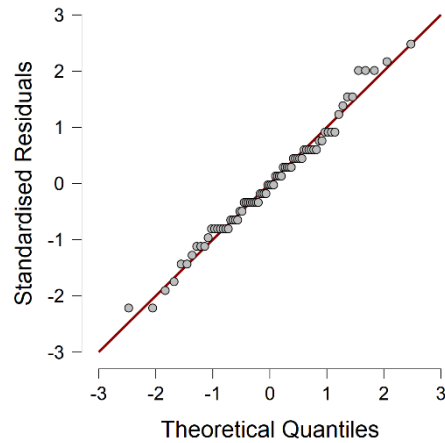
Figure 5. Q-Q Plot for Mean Cultural Perceptions
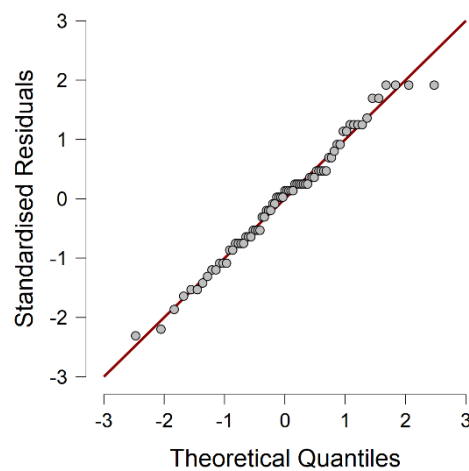
Figure 6. Q-Q Plot for Mean Computer Competence

As seen in the results, the skewness and kurtosis values were around or below 1.00 and the standardized residuals for all parts of the questionnaire predominantly followed a straight line without any major deviation. Therefore, the normality of data distribution was assumed.

Regarding the second assumption, namely variance homogeneity, Levene's Tests showed that variances were equal for all variables in all models (p > .05). Considering the normal distributions and equal variances, the analyses run on the data are tabulated below in Table 3.

Table 3

Analyses Run on the Data

Variable	N of Groups	Analysis
Age	2	Independent Samples T-Test
Gender	2	Independent Samples T-Test
Type of University	2	Independent Samples T-Test
Training Attendance	2	Independent Samples T-Test
Preferred Method	3	ANOVA

For the analysis of the qualitative data, the technique of content analysis was employed by the researcher. The answers gathered from the interviewees were coded into keywords according to the dominant characteristics.

CHAPTER IV

RESULTS

The descriptive results pertaining to each part of the questionnaire are presented below in Table 4.

Table 4

Descriptive Results (N = 75)

Scale	*M*	*SD*	*Mdn*	*Min*	*Max*
Computer Attributes	3.945	0.446	3.944	2.833	4.722
Computer Attitude	3.886	0.540	3.800	2.350	4.850
Cultural Perceptions	3.344	0.426	3.333	2.400	4.400
Computer Competence	1.852	0.600	1.933	0.467	3.000

As shown in Table 4 the highest mean was observed in the Computer Attributes scale ($M = 3.95$, $SD = 0.45$) with a minimum of 2.83 and a maximum of 4.72. The lowest mean was obtained in the Computer Competence scale ($M = 1.85$, $SD = 0.60$) with a minimum of 0.47 and a maximum of 3.00. However, it should be noted that the Computer Competence scale had four rating points.

Table 5

Items	Disagree (%)	Undecided (%)	Agree (%)	Mean	SD
1. Computers do not scare me at all.	9.3	26.7	64	3.803	.973
2. Computers make me feel uncomfortable.*	12	22.7	65.3	3.816	1.023
3. I am glad there are more computers these days.	9.4	16	74.6	3.954	1.038
4. I do not like talking with others about computers.*	13.3	34.7	52.0	3.563	1.017
5. Using computers is enjoyable.	1.3	32.0	66.6	3.857	.800
6. I dislike using computers in teaching.*	12	18.7	69.3	3.757	1.015
7. Computers save time and effort.	8	6.7	85.3	4.012	.893
8. Schools would be a better place without computers.*	10.6	8	81.4	4.017	1.033

9. Students must use computers in all subject matters.	36	34.6	29.4	2.350	1.031
10. Learning about computers is a waste of time.*	1.3	1.4	97.3	4.850	.601
11. Computers would motivate students to do more study.	13.3	34.7	52	3.52	.891
12. Computers are fast and efficient means of getting information.	4.0	2.7	93.3	4.35	.726
13. I would never need a computer in my classroom.*	4	9.3	86.7	4.25	.790
14. Computers can enhance students' learning	5.4	12	82.6	3.99	.744
15. Computers do more harm than good.*	8	25.3	66.7	3.72	.847
16. I would rather do things by hand than with a computer.	28	28	44	3.24	1.184
17. If I had money, I would buy a computer.	6.7	13.3	80	4.05	.853
18. I would avoid computers as much as possible.*	6.7	9.3	84	4.07	.811
19. I would like to learn more about computers.	5.3	16	78.7	4.09	.857
20. I have no intention to use computers in the near future.*	5.3	6.7	88	4.27	.811

* The items which were reverse coded in terms of meaning for clearer comment

Table 6

Mean scores for the subscales of Attitude Toward ICT Scale

Subscales	Mean	SD
1. Affective domain	3.79	.977
2. Cognitive domain	3.89	.839
3. Behavioral domain	3.94	.893

4.1 Age

The descriptive results as well as the comparisons related to the participants' age groups are presented below in Table 7.

Table 7

Age Group Comparisons (N = 75)

Scale	Group	n	M	SD	t	df	p	d
Computer Attitude	20-29	69	3.867	0.544	-1.013	73	.315	0.431
	30-39	6	4.100	0.472				
Computer Attributes	20-29	69	3.944	0.456	-0.048	73	.962	0.021
	30-39	6	3.954	0.343				
Cultural Perceptions	20-29	69	3.344	0.436	-0.004	73	.997	0.002
	30-39	6	3.345	0.322				
Computer Competence	20-29	69	1.859	0.603	0.359	73	.720	0.153
	30-39	6	1.767	0.602				

As seen in Table 7, the mean values for all scales were quite close to one another in the 20-29 ($n = 69$) and 30-39 ($n = 6$) age groups. Accordingly, the t-test results revealed no evidence for a statistically significant difference between age groups in those comparisons ($p > .05$).

4.2 Gender

The descriptive results and the gender comparisons for all scales are presented below in Table 8.

Table 8

Gender Comparisons (N = 75)

Scale	Group	n	M	SD	t	df	p	d
Computer Attitude	Female	56	3.737	0.505	-4.618	73	**< .001**	1.226
	Male	19	4.324	0.384				
Computer Attributes	Female	56	3.844	0.446	-3.634	73	**< .001**	0.965
	Male	19	4.243	0.288				
Cultural Perceptions	Female	56	3.260	0.391	-3.118	73	**.003**	0.828
	Male	19	3.593	0.436				
Computer Competence	Female	56	1.742	0.551	-2.853	73	**.006**	0.757
	Male	19	2.175	0.634				

As shown in the results, statistically significant differences were observed in all scales according to the genders of the participants. According to the results, the mean Computer Attitude score of male participants ($M = 4.32$, $SD = 0.38$) was higher than that of female participants in a significant measure ($M = 3.74$, $SD = 0.51$) with a large effect ($t = -4.62$, $df = 73$, $p < .001$, $d = 1.23$). The mean Computer Attributes score of the male participants ($M =$

4.24, *SD* = 0.29) was also higher than that of female participants (*M* = 3.84, *SD* = 0.45) with a large effect (*t* = -3.63, *df* = 73, *p* < .001, *d* = 0.97). In the Cultural Perceptions scale, the male participants (*M* = 3.59, *SD* = 0.44) had a significantly higher mean score than the female participants (*M* = 3.26, *SD* = 0.39) with a large effect (*t* = -3.12, *df* = 73, *p* < .01, *d* = 0.83). Lastly, the male participants' mean Computer Competence score (*M* = 2.18, *SD* = 0.63) was significantly higher than that of female participants (*M* = 1.74, *SD* = 0.55) with a medium effect (*t* = -2.85, *df* = 73, *p* < .01, *d* = 0.76). In brief, gender comparisons revealed that the male participants' mean scores were significantly higher than the female participants' mean scores in all scales investigated.

4.3. Type of University

The descriptive results and university type comparisons are tabulated below in Table 9.

Table 9

University Type Comparisons (N = 75)

Scale	Group	*n*	*M*	*SD*	*t*	*df*	*p*	*d*
Computer Attitude	State	52	3.860	0.555	-0.634	73	.528	0.159
	Private	23	3.946	0.510				
Computer Attributes	State	52	3.905	0.479	-1.180	73	.242	0.296
	Private	23	4.036	0.351				
Cultural Perceptions	State	52	3.369	0.426	0.770	73	.444	0.193
	Private	23	3.287	0.429				
Computer Competence	State	52	1.768	0.597	-1.846	73	.069	0.462
	Private	23	2.041	0.573				

As shown in Table 9, the mean scores of the participants who studied in state (n = 52) and private (n = 23) universities were quite close in all scales. Parallel to this, no statistically significant difference was observed between two groups in any of the scales (p > .05).

4.4. Training Attendance

The descriptive findings and training attendance status of the participants are presented below in Table 10 along with comparisons.

Table 10

Comparisons by Training Attendance Status (N = 75)

Scale	Group	*n*	*M*	*SD*	*t*	*df*	*p*	*d*
Computer Attributes	No	47	3.854	0.536	-0.657	73	.513	-0.157
	Yes	28	3.939	0.551				
Computer Attitude	No	47	3.951	0.426	0.157	73	.876	0.037
	Yes	28	3.935	0.485				
Cultural Perceptions	No	47	3.323	0.374	-0.541	73	.590	-0.129

	Yes	28	3.379	0.507			
Computer Competence	No	47	1.825	0.601	-0.485	73	.629	-0.116
	Yes	28	1.895	0.606			

The mean values obtained separately for the groups who have attended training ($n = 28$) and who have not ($n = 47$) were seen to be quite similar with only slight differences. T-test results showed that there was no evidence for a statistically significant difference between the groups in any of the scales ($p > .05$).

4.5. Method Used

The descriptive results pertaining to the methods used by the participants are shown below in Table 11.

Table 11

Methods Used by the Participants (N = 75)

Method	Scale	n	M	SD	Min	Max
Active Discussion	Computer Attitude	7	4.193	0.513	3.500	4.650
	Computer Attributes		4.048	0.554	3.278	4.611
	Cultural Perceptions		3.514	0.414	3.200	4.200
	Computer Competence		1.943	0.700	1.067	3.000
Collaborative Activities	Computer Attitude	36	3.808	0.477	2.900	4.750
	Computer Attributes		3.912	0.386	3.167	4.722
	Cultural Perceptions		3.220	0.409	2.400	4.200
	Computer Competence		1.868	0.564	0.467	3.000
Demonstration	Computer Attitude	14	3.750	0.441	3.150	4.700
	Computer Attributes		3.774	0.398	3.056	4.611
	Cultural Perceptions		3.419	0.362	2.733	4.267
	Computer Competence		1.733	0.530	1.133	2.667
Hands-on Learning	Computer Attitude	4	4.400	0.555	3.600	4.800
	Computer Attributes		4.458	0.160	4.333	4.667
	Cultural Perceptions		3.417	0.274	3.067	3.733
	Computer Competence		2.067	1.046	0.533	2.867
Lecturing	Computer Attitude	7	4.121	0.591	3.300	4.850
	Computer Attributes		4.135	0.443	3.278	4.556
	Cultural Perceptions		3.667	0.442	3.133	4.400
	Computer Competence		1.867	0.752	0.933	2.867
Role Playing	Computer Attitude	4	3.400	0.928	2.350	4.300
	Computer Attributes		3.570	0.705	2.833	4.278
	Cultural Perceptions		2.950	0.383	2.600	3.467
	Computer Competence		1.483	0.427	0.933	1.933
Computer-assisted Instruction	Computer Attitude	3	4.150	0.265	3.850	4.350
	Computer Attributes		4.278	0.255	4.000	4.500
	Cultural Perceptions		3.755	0.385	3.533	4.200

	Scale	n	M	SD	Min	Max
	Computer Competence		2.155	0.434	1.733	2.600
Total	Computer Attitude	75	3.886	0.540	2.350	4.850
	Computer Attributes		3.945	0.446	2.833	4.722
	Cultural Perceptions		3.344	0.426	2.400	4.400
	Computer Competence		1.852	0.600	0.467	3.000

The descriptive results revealed that the highest mean score was obtained in the Computer Attributes scale for the Hands-on Learning group ($M = 4.46$, $SD = 0.16$) and the lowest mean score was obtained in the Computer Competence scale for the Role Playing group ($M = 1.48$, $SD = 0.43$). Even though there were several participants who preferred each of the methods, it was seen that some of the methods such as Computer-assisted Instruction, Role Playing or Hands-on Learning were preferred by too few participants to make a meaningful comparison. For this reason, the responses were reduced to Collaborative Activities ($n = 36$), Demonstration ($n = 14$) and Other ($n = 25$). The results of the reduction can be seen below in Table 12.

Table 12

Methods Used by the Participants (reduced) (N = 75)

Method	Scale	n	M	SD	Min	Max
Other (1)	Computer Attitude	25	4.074	0.636	2.350	4.850
	Computer Attributes		4.089	0.519	2.833	4.667
	Cultural Perceptions		3.480	0.446	2.600	4.400
	Computer Competence		1.893	0.694	0.533	3.000
Collaborative	Computer Attitude	36	3.808	0.477	2.900	4.750
Activities (2)	Computer Attributes		3.912	0.386	3.167	4.722
	Cultural Perceptions		3.220	0.409	2.400	4.200
	Computer Competence		1.868	0.564	0.467	3.000
Demonstration (3)	Computer Attitude	14	3.750	0.441	3.150	4.700
	Computer Attributes		3.774	0.398	3.056	4.611
	Cultural Perceptions		3.419	0.362	2.733	4.267
	Computer Competence		1.733	0.530	1.133	2.667
Total	Computer Attitude	75	3.886	0.540	2.350	4.850
	Computer Attributes		3.945	0.446	2.833	4.722
	Cultural Perceptions		3.344	0.426	2.400	4.400
	Computer Competence		1.852	0.600	0.467	3.000

Descriptive analysis of the reduced data showed that the highest mean was observed in the Computer Attributes scale for the Other group ($M = 4.09$, $SD = 0.52$) and the lowest mean was observed in the Computer Competence scale for the Demonstration group ($M = 1.73$, $SD = 0.53$). ANOVA and Tukey post-hoc results for the comparison of groups are tabulated below in Table 13.

Table 13

Comparison of Method Preference Groups

Scale	Variable	*SS*	*df*	*MS*	*F*	*p*	Differences
Computer Attitude	Method	1.360	2	0.680	2.423	.096	**-**
	Residuals	20.203	72	0.281			
Computer Attributes	Method	0.966	2	0.483	2.533	.087	**-**
	Residuals	13.738	72	0.191			
Cultural Perceptions	Method	1.091	2	0.545	3.184	**.047**	**1 > 2,**
	Residuals	12.332	72	0.171			**p < .05**
Computer Competence	Method	0.250	2	0.125	0.341	.712	**-**
	Residuals	26.354	72	0.366			

ANOVA results revealed no statistically significant difference among method preference groups in the Computer Attitude, Computer Attributes and Computer Competence Scales ($p > .05$). On the other hand, a statistically significant difference was observed in the Cultural Perceptions scale according to the method preferred ($F_{(2, 72)} = 3.18$, $p < .05$). Tukey Post Hoc analysis showed that the mean Cultural Perceptions score of the Collaborative Activities group was significantly lower than that of the Other group ($p < .05$). The Demonstration group did not differ from the other groups in the same scale.

4.6. Qualitative Results

In this section, answers gathered from interviewees are coded and tabulated according to the emergent themes.

Table 14

Interviewees' opinions on interview question 1

Interview question	Theme	Participant Comment

| How does the integration of computers into the field of education make you feel? | Positive attitudes towards computer implementation | I think computers provide opportunities which were not available in the past.

I cannot think of a lesson without computers. I make use of computers and various software in every lesson I prepare for my teaching practicum.

In my opinion, computers are essential for education, but in our country, the implementation of computers into education is not enough. |
| | Negative attitudes towards computer implementation | Even though technology provides many opportunities, I think we, as teachers, should be very careful while using these technologies and improve ourselves about online safety, because online environments are dangerous places because of hackers and malwares. |

CHAPTER V

DISCUSSION

Based on the quantitative and qualitative findings, this chapter of the study provides discussion with respect to the research questions of the study. Drawing on previous research, the statistical findings presented in the previous chapter of the study are demonstrated, discussed and interrelated to previous literature. For the sake of reader-friendliness and an easy-to-follow overview, the sections of this chapter are designed in the form of research questions of the current study.

5.1 What is the perceived computer anxiety level of prospective Turkish ELT teachers studying at private and state universities towards ICT implementation in English classes?

As stated in the Methodology chapter of the study, higher scores for the Attitudes Towards ICT Scale are considered the indication of more positive attitudes while lower scores indicate more negative attitudes. As the affective subscale of the attitudes scale includes items which are related to perceived computer anxiety levels of the participants, higher results indicate lower anxiety. When Table 5 and Table 6 are examined, it can be seen that the perceived computer anxiety levels of the participants are relatively low.

When each of the corresponding statements are examined, the mean scores indicate that prospective ELT teachers do not feel scared by the presence of computers. Neither do they feel uncomfortable when they are around computers. On the contrary, they show quite positive attitudes towards today's increased number of computers. The results further indicate that the prospective ELT teachers have no problem discussing computers with peers and mentors and they enjoy using computers both in their teaching practices and daily lives. The qualitative data gathered from the interviews mostly support these findings, only one of the interviewees (Interviewee 5) being skeptical about the use of ICT both in educational settings and daily life.

In favor of computers, Interviewee 7 (I7) stated that *"...I think computers provide opportunities which were not available in the past"*, which indicates a positive attitude as well as lower anxiety felt by computers. Similarly, I9 stated that *"...I cannot think of a lesson without computers. I make use of computers and various software in every lesson I prepare for my teaching practicum."*, indicating lower anxiety regarding the use of computers in educational settings. However, I7 expressed concerns regarding computers *"...I know that computers and technology are beneficial in a general sense, but still, we should not forget that the Internet is also a dangerous place, especially for kids and people who are not competent users of technological devices."*. During the interview process, I7 also repeated several times that he

was a competent user of computers and most of the technological devices, which may indicate that competence alone does not reduce the level of anxiety felt by computers.

The findings of the current study regarding computer anxiety differ from Hismanoğlu's (2011) findings. In a study which was conducted with a total of 70 pre-service EFL teachers, Hismanoğlu (2011) investigated the computer anxiety levels of the participants as well as their attitudes toward ICT integration. The results pointed out that pre-service EFL teachers had a moderate level of anxiety.

5.2 What are the overall attitudes of prospective ELT teachers in Turkey towards ICT implementation in education?

As the descriptive findings of the study indicate, overall, the prospective teachers have positive attitudes towards the implementation of ICT in education with the mean score of 3.886, which is in line with previous research (Albirini, 2004; Gilakjani & Leong, 2012; Huang et al., 2017). In terms of the subscales of attitudes towards the use of ICT, prospective teachers showed positive attitudes regarding all three domains, namely, affective, cognitive and behavioral, which is also in accordance with Albirini's (2004) findings.

When we take a deeper look at the attitudes of prospective teachers, the majority of them think that learning about computers is not a waste of time. The mean score for the corresponding reverse-coded statement was found 4.850, which can be seen in Table 5. The answers gathered from the participants during the interviews also support this finding as I4 stated:

We definitely lack enough attention to technology when it comes to the courses we take during our training. We need more courses that focus on using instructional technologies in order to be more competent users of these technologies. When we look at our curriculum, it can be seen that there are only two courses on this issue as far as I can remember now, which is clearly not enough.

In the Turkish setting, the curriculum for the departments of English Language Teaching has been updated by Higher Education Council (YÖK) after the spring term of the 2017-2018 academic year. I4 was a student of pre-update curriculum, which means there were three courses regarding the use of computers, two in his first two semesters, namely, "Introduction to Computer I", "Introduction to Computer II"; one in his fourth semester, namely, "Instructional Technologies and Material Design". However, starting from the fall term of 2018-2019, the updated curriculum includes only two courses related to technology, which can be considered as a drawback as the number of the courses related to ICT decreases.

Therefore, increasing the number of the courses related to instructional technologies in the curriculum might improve the competence of the prospective teachers regarding computers.

Another important point the results demonstrate is that the participants were indecisive when it comes to whether students must use computers for every subject matter they come across. All of the percentages were quite close for the participants that disagreed, agreed and remained undecided regarding the corresponding statement. Despite the divergence of opinions on this statement, the majority of the prospective teachers appeared to be thinking that computers are not suitable for all subject matters. When the qualitative findings were examined, there were no responses directly related to this issue. However, I5 put forward some opinions that could be considered negative regarding the use of computers in education. I5 was the only participant that appeared to be cautious when it comes to technology use in general. As it can be seen in Table 16, I5 stated that *"...even though technology provides many opportunities, I think we, as teachers, should be very careful while using these technologies and improve ourselves about online safety, because online environments are dangerous places because of hackers and malwares."*

5.3 What is the relationship between external variables regarding prospective Turkish ELT teachers such as age, gender, type of the university, computer training, preferred teaching method and their attitudes toward ICT, perceived computer attributes, cultural perceptions and computer competence?

According to the analysis of the results presented in Table 9, participants' ages ranged from 20 to 39. Similar to Albirini's (2004) findings, no significant difference between the two age groups was found regarding their age. However, when the qualitative data of the study was examined, one of the interviewees put forward opinions regarding the issue of age and technology use in educational settings. Although the question was about the ways computers can be useful for education, I9 stated:

> *Based on my observations during our teaching practicum, I can say that older teachers tend to use less technology in a lesson. For example, when I prepare a lesson for my teaching practicum, the students always get really excited because I always include activities that are conducted through Wordwall and Kahoot. On the other hand, our mentor teacher always uses the coursebooks provided by MoNE (Ministry of National Education) and nothing else.*

According to Albirini (2004), external variables such as age, gender, type of the school, etc. are not expected to have any significant effects on the attitudes of the teachers. However,

even though age did not appear to have any significant effect on the attitudes of prospective teachers, some of the other external variables were found to have a significant effect on attitudes, which is not in accordance with Albirini's (2004) findings.

Unlike the variable "age", statistically significant differences were observed between the two groups of prospective teachers' genders. According to the findings of the study, the mean score for the perceived attitudes of male participants towards the use of ICT ($M = 4.32$, $SD = 0.38$) was significantly higher than that of the female participants with a large effect ($t = -4.62$, $df = 73$, $p < .001$, $d = 1.23$). Also, male participants of the current study were found to hold more positive perceptions of computer attributes when compared to female participants. Furthermore, male participants of this study were found to have higher perceptions regarding the cultural relevance of ICT with a large effect, and computer competence with a medium effect, which indicates that, male prospective teachers may be more likely to employ ICT than female prospective teachers due to being more competent users of ICT as well as their positive thoughts about the effects of computers on their curriculum goals and teaching practices as. These findings regarding gender are in line with Akcaoğlu's (2007) findings. Akcaoğlu (2007) conducted a study with a total of participants to investigate in-service and pre-service ELT teachers' attitudes towards ICT integration in educational environments, in which he found that male in-service teachers held more positive attitudes toward the incorporation of ICT in educational settings. However, these findings differ from Albirini's (2004) findings. The findings regarding the relationship between the gender of the participants and their attitudes do not agree with Na's (1993) findings as well. In the study conducted with agricultural teachers, Na (1993) found that there was no significant relationship between male and female samples regarding their attitudes towards the incorporation of ICT in education. In a more recent study which was conducted in the Turkish context, Karakaya (2010) also found no significant difference between male and female in-service EFL teachers' attitudes regarding the use of ICT in their teaching practices, which differs from the current study in this regard.

When it comes to the types of the universities in which prospective teachers continued their training, no significant differences were observed. Prospective ELT teachers studying at private and state universities appeared to have quite similar perceptions when it comes to their attitudes towards the implementation of ICT in educational settings, computer competences and attributes as well as cultural relevance of the ICT with regard to Turkish society. These results may indicate that the quality of the English language teacher training is quite similar both in state and private universities in Turkey with regard to technology integration. As no study

before the current one looked into the relationship between the type of the university, the findings of this study regarding the issue could not be compared to other studies.

Another external variable that was examined in the current study was the computer training taken by the prospective ELT teachers. Only slight differences were observed between the prospective teacher groups who took a training regarding ICT use and who did not. Although one would expect the training related to the use of computers to influence computer competence, the results showed no significant difference. Similar to the findings regarding the type of the university which were discussed above, the reason behind that may be due to the quality of the education the prospective teachers had taken in the Turkish setting. In other words, whether prospective ELT teachers take additional training on computers or not, the current educational system in Turkey may be successful at equipping prospective ELT teachers with positive attitudes towards ICT integration.

As for the teaching methods preferred by the prospective teachers, when the findings are examined, it can be seen that the majority of the prospective ELT teachers prefer to employ collaborative activities in their teaching practice. On a side note, the reason behind that might be, again, due to the quality of the current higher education system in the Turkish context. According to Tütüniş and Yalman (2020), for the sake of a more effective learning and teaching setting, 21st century teachers need to be equipped with 21st century skills, which consist of four Cs (critical thinking, communication, creativity and collaboration). Tütüniş and Yalman (2020) further argue that "an effective teacher would create real-life situations in class for communication and collaboration enabling students for dialogic co-construction of meaning" (p. 1170). On the other hand, the results of the current study regarding the effect of preferred teaching methods on prospective teachers' attitudes towards the integration of ICT did not yield any significant results. However, when the reduced version of the results are examined, it can be seen that perceptions of the prospective ELT teachers who preferred to employ collaborative activities regarding the cultural relevance of ICTs were lower than the "Other" group, which includes participants who favor active discussion, hands-on learning, lecturing, role playing and computer-assisted instruction.

CHAPTER VI
CONCLUSION

6.1. Summary

The world is changing every day in line with the rapid advancement of technology, which, as a result, is altering the way we think, converse, communicate, connect and most importantly learn and teach. According to Tütüniş and Yalman (2020), today's classrooms are filled with students of generation Z, who are born into the vast opportunities provided by technology, therefore, who are way smarter and much more adaptable to the ever-changing nature of the technology than their predecessors. If teachers of today are to keep up with such a demanding audience in 21st century classrooms, they have to possess quite a good level of digital literacy. Tütüniş and Yalman (2020), further argue that 21st century teachers' objective is not only to transfer their knowledge to their students, but also train them to "become global citizens who embrace lifelong learning" (p. 1174). With this mindset, the current study aimed to shed further light on two of the most crucial issues preventing future teachers from harnessing the power of the technology in their teaching practice, namely their attitudes towards the adoption of ICT and their perceived anxiety regarding the use of computers.

To achieve that goal, the current study focused on three research questions: (1) What is the perceived computer anxiety level of prospective Turkish ELT teachers studying at private and state universities towards ICT implementation in English classes? (2) What are the overall attitudes of prospective ELT teachers in Turkey towards ICT implementation in education? (3) What is the relationship between the external variables regarding prospective Turkish ELT teachers such as age, gender, type of the university, computer training, preferred teaching method and their attitudes toward ICT, attributes regarding computers, cultural perceptions and competence of ICT?

RQ1, "What is the perceived computer anxiety levels of prospective Turkish ELT teachers towards ICT implementation in English classes?" attempted to shed more light on the computer anxiety levels of the prospective ELT teachers in the Turkish setting. The results of the study regarding this question revealed that the Turkish prospective ELT teachers had low levels of anxiety with respect to computers, which differed from the only similar study in the Turkish setting which was conducted by Hismanoğlu (2011), the results of which indicated a moderate level of computer anxiety among Turkish pre-service EFL teachers.

RQ2, "What are the overall attitudes of prospective ELT teachers in Turkey towards ICT implementation in education?" aimed to shed further light on the attitudes of prospective Turkish ELT teachers regarding the integration of ICT in educational settings. Although the

quantitative results yielded mainly positive attitudes, the qualitative findings revealed the importance as well as the lack thereof regarding the courses related to technology in the current curriculum.

RQ3, "What is the relationship between the external variables regarding prospective Turkish ELT teachers such as age, gender, type of the university, computer training, preferred teaching method and their attitudes toward ICT, attributes regarding computers, cultural perceptions and competence of ICT?" aimed to investigate the external variables regarding the attitudes of prospective teachers toward computers, their perceptions of computer attributes, the cultural relevance of the computer technologies and computer competences. The findings of the study suggested that while variables like age, the type of the university, the training related to computers taken by the prospective teachers did not have significant effects on the dependent variables, significant differences regarding the gender of the participants were found all of the four groups of variables, revealing significantly higher mean scores in favor of males.

6.2. Implications

The findings of the current study suggest a number of implications for English teachers as well as the educational authorities.

Although the participants of the current study proposed mainly positive attitudes towards the integration of ICT and relatively lower levels of anxiety regarding computer use according to the quantitative findings, qualitative findings along with the review of the relevant literature on the issue indicate a lack of attention to the training of prospective teachers regarding the instructional technologies as the number of the courses related to technology use has been reduced with the new curriculum. Therefore, providing more exposure to computers during the training of prospective teachers as well as increasing the number of the courses on instructional technologies which focus on how to integrate ICT in the educational settings may be effective in eradicating problems resulting from computer anxiety and negative attitudes towards the integration of ICT. In light of this information, policymakers may revise the current curriculum of ELT programs and increase the number of courses on how to functionally integrate ICT in English classrooms.

6.3. Suggestions for Further Research

This study has been carried out with the participation of a total of 75 students from a number of universities in Turkey, including both state and private. Due to the very limited number of participants, the study poses generalizability issues. Therefore, building on the findings of the current study, it is suggested for future studies to include a more diverse sample group from a higher number of state and private universities as well as a higher number of

participants in order to ensure more generalizable findings on such an important issue. Moreover, the current study focuses solely on the perceived computer anxiety levels and attitudes of prospective ELT teachers. Future research can investigate these issues focusing on both in-service and pre-service teachers for the sake of more extensive findings. Finally, since the current study includes only the perspective of participants from ELT departments, future studies can look into the issue including the perspectives of other respective fields.

REFERENCES

Akcaoğlu, M. (2008). *Exploring technology integration approaches and practices of preservice and in-service English language teachers* (Master's thesis, Middle East Technical University).

Alaghbary, G. S. (2021). Integrating technology with Bloom's revised taxonomy: Web 2.0-enabled learning designs for online learning. *Asian EFL Journal*, *28*(1), 10-37.

Albirini, A. (2004). *An exploration of the factors associated with the attitudes of high school EFL teachers in Syria toward information and communication technology*. The Ohio State University.

Askar, P., & Umay, A. (2001). Pre-service elementary mathematics teachers' computer self efficacy, attitudes towards computers, and their perceptions of computer enriched learning environments. In Proceedings of *Society for Information Technology and Teacher Education International Conference 2001* (eds C. Crawford, D.A.Willis, R. Carlsen, I. Gibson, K. McFerrin, J. Price & R. Weber), pp. 2262–2263. AACE, Chesapeake, VA.

Aslan, A., & Zhu, C. (2015). Pre-Service Teachers' Perceptions of ICT Integration in Teacher Education in Turkey. *Turkish Online Journal of Educational Technology-TOJET*, *14*(3), 97-110.

Aydın, S. (2013). Teachers' perceptions about the use of computers in EFL teaching and learning: The case of Turkey. *Computer Assisted Language Learning*, *26*(3), 214-233.

Barbour, M. K., & Harrison, K. U. (2016). Teachers' perceptions of K-12 online: Impacting the design of a graduate course curriculum. *Journal of Educational Technology Systems*, *45*(1), 74-92.

Bolandifar, S., & Noordin, N. (2015). Computer Anxiety and Attitudes toward Using Internet in English Language Classes among Iranian Postgraduate Student Teachers. *Pertanika Journal of Social Sciences & Humanities*, *23*(2), 355-374.

Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: the case for the european digital competence framework for educators (digcompedu). *European Journal of Education*, *54*(3), 356-369.

Cai, Z., Fan, X., & Du, J. (2017). Gender and attitudes toward technology use: A meta-analysis. *Computers & Education*, *105*, 1-13.

Cocoradă, E. (2014). Computer anxiety and motivation for learning of future teachers. *eLearning & Software for Education*, (2), 96-101.

Crompton, H. (2017). *ISTE Standards for educators: A guide for teachers and other professionals*. International Society for Technology in Education.

Crompton, H. (2013). A historical overview of mobile learning: toward learner-centered education. In Berge, Z. L., & Muilenburg, L. Y. (Eds). *Handbook of mobile learning*. (pp. 3-14). Routledge.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics (4th ed.)*. London, UK: Sage.

Gamper, J., & Knapp, J. (2002). A review of intelligent CALL systems. *Computer Assisted Language Learning*, *15*(4), 329-342.

Gaudron, J. P., & Vignoli, E. (2002). Assessing computer anxiety with the interaction model of anxiety: development and validation of the computer anxiety trait subscale. *Computers in Human Behavior*, *18*(3), 315-325.

Gbenga, A. (2006). *Information and communication technology and web mining techniques*. In education trust fund capacity building workshop for knowledge-driven growth for Nigerian universities, University of Ilorin, Nigeria.

Gilakjani, A. P., & Leong, L. M. (2012). EFL Teachers" Attitudes toward Using Computer Technology in English Language Teaching. *Theory & Practice in Language Studies*, *2*(3).

Glass, C. R., & Knight, L. A. (1988). Cognitive factors in computer anxiety. *Cognitive therapy and research*, *12*(4), 351-366.

Guillén-Gámez, F. D., & Mayorga-Fernández, M. J. (2020). Identification of variables that predict teachers' attitudes toward ICT in higher education for teaching and research: A study with regression. *Sustainability*, *12*(4), 1312.

Hismanoğlu, M. (2011). The Elicitation of Prospective EFL Teachers' Computer Anxiety and Attitudes. *International Online Journal of Educational Sciences*, 3(3), 930-956.

Hopkins, L., Brookes, F., & Green, J. (2013). Books, bytes and brains: The implications of new knowledge for children's early literacy learning. *Australasian Journal of early childhood*, *38*(1), 23-28.

Huang, F., Teo, T., & Zhou, M. (2019). Factors affecting Chinese English as a foreign language teachers' technology acceptance: A qualitative study. *Journal of Educational Computing Research*, *57*(1), 83-105.

Igbaria, M. & Parasuraman, S. (1989). A path analytic study of individual characteristics, computer anxiety and attitudes toward microcomputers. *Journal of Management*, 15(3), 373-388.

Karakaya, K. (2010). *An investigation of English language teachers' attitudes toward computer technology and their use of technology in language teaching* (Master's thesis, Middle East Technical University).

Kiraz, E., & Ozdemir, D. (2006). The relationship between educational ideologies and technology acceptance in pre-service teachers. *Journal Of Educatıonal Technology and Society*, *9*(2), 152-165.

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary issues in technology and teacher education*, *9*(1), 60-70.

Lafford, P. A. & Lafford, B.A. (1997). Learning language and culture with Internet technologies. In M. Bush & R. M. Terry (Eds.), *Technology-Enhanced Language Learning* (pp. 215-262). Lincolnwood, Illinois: National textbook Company.

Lawrence, J.E., & Tar, U.A. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International*, 55(1), 79–105.

Liu, Y., Li, H., & Carlsson, C. (2010). Factors driving the adoption of m-learning: An empirical study. *Computers & Education*, *55*(3), 1211-1219.

MacIntyre, P. D., & Gardner, R. C. (1989). Anxiety and second language learning: Toward a theoretical clarification. *Language learning*, 39(2), 251-275.

Matsumura, S., & Hann, G. (2004). Computer anxiety and students' preferred feedback methods in EFL writing. *The modern language journal*, *88*(3), 403-415.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers college record*, *108*(6), 1017-1054.

Organization for Economic Co-Operation and Development (OECD). (2005). *Annual Report Prepared by the Public Affairs Division, Public Affairs and Communications Directorate*. Published under the responsibility of the Secretary-General of the OECD.

Oxford, R. L. (1999). Anxiety and the language learner: New insights. *Affect in language learning*, 58-67.

Park, M., & Son, J. B. (2020). Pre-service EFL teachers' readiness in computer-assisted language learning and teaching. *Asia Pacific Journal of Education*, 1-15.

Rahimi, M., & Yadollahi, S. (2011). Computer anxiety and ICT integration in English classes among Iranian EFL teachers. *Procedia Computer Science*, *3*, 203-209.

Ranellucci, J., Rosenberg, J. M., & Poitras, E. G. (2020). Exploring preservice teachers' use of technology: The technology acceptance model and expectancy–value theory. *Journal of Computer Assisted Learning*, *36*(6), 810-824.

Raub, A.C. (1981). *Correlates of computer anxiety in college students*. Unpublished doctoral dissertation, University of Pennsylvania.

Revilla Munoz, O., Alpiste Penalba, F., Fernandez Sanchez, J., & Santos, O. C. (2017). Reducing techno-anxiety in high school teachers by improving their ICT problem-solving skills. *Behaviour & Information Technology*, *36*(3), 255-268.

Riasati, M. J. (2011). Language learning anxiety from EFL learners' perspective. *Middle-East Journal of Scientific Research*, 7(6), 907-914.

Schleicher, A. (2019). *Helping Our Youngest to Learn and Grow: Policies for Early Learning. International Summit on the Teaching Profession*. OECD Publishing.

Sharples, M. (2005). Learning As Conversation: Transforming Education in the Mobile Age. *In Proceedings of Conference on Seeing, Understanding, Learning in the Mobile Age* (pp. 147-152). Budapest, Hungary.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational researcher*, *15*(2), 4-14.

Spielberger, C. D., Gorsuch, R. C., & Lushene, R. E. (1983). Manual for the State-Trait Anxiety Inventory Psychologists Press: Palo Alto, CA.

Sun, P. P., & Mei, B. (2020). Modeling preservice Chinese-as-a-second/foreign-language teachers' adoption of educational technology: a technology acceptance perspective. *Computer Assisted Language Learning*, 1-24.

Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, *24*(4), 413-424.

Teo, T., Sang, G., Mei, B., & Hoi, C. K. W. (2019). Investigating pre-service teachers' acceptance of Web 2.0 technologies in their future teaching: a Chinese perspective. *Interactive Learning Environments*, *27*(4), 530-546.

Toth, Z. (2010). *Foreign language anxiety and the advanced language learner: A study of Hungarian students of English as a foreign language*. Cambridge Scholars Publishing.

Traxler, J (2005, June). *Defining Mobile Learning*. Paper presented at the IADIS International Conference Mobile Learning 2005, Qawra, Malta.

Trust, T. (2018). 2017 ISTE standards for educators: from teaching with technology to using technology to empower learners. *Journal of Digital Learning in Teacher Education*, *34*(1), 1-3.

Tütüniş, B. & Yalman (2020). Teacher education and foreign language teacher professionalism in the 21st century. *International Online Journal of Education and Teaching (IOJET)*, 7(3), 1168-1176. Retrieved from https://iojet.org/index.php/IOJET/article/view/812

Wang, X., & Dostál, J. (2017). An analysis of the integration of ICT in education from the perspective of teachers' attitudes. *EDULEARN17*, 8156-8162.

APPENDIX

Appendix A: Attitudes Toward ICT Questionnaire

Dear Participants,

The purpose of this survey, which is part of an MA thesis, is to examine your attitudes towards the use of information technologies in English language classes in Turkey. The questionnaire consists of six sections. Each section begins with some directions pertaining to that part only. As you begin each section, please read the directions carefully and provide your responses candidly in the format requested. Thanks for your participation.

- After reading the items, tick one of the boxes (**1, 2, 3, 4, 5**) which expresses your preference best.

  5 = **Strongly Agree**
  4 = **Agree**
  3 = **Neutral**
  2 = **Disagree**
  1 = **Strongly Disagree**

Section 1: Demographic Information

1. **Your age:**

2. 20-29 / 30-39 / 40-49 / 50 and over

3. **Gender:** K _____ / E_____

4. **In what type of university do you study?**

   State / Private

5. In what type of school/institution do you teach? (You can leave this field blank if you don't have any teaching experience)

   Urban / Suburban / Rural

6. Have you ever attended any training course, workshop, or seminar on using computers?

   Yes / No

- If "Yes", please specify the number of hours and/or days: _____

7. What is the teaching method you use most often?

- Active discussion
- Collaborative activities
- Demonstration
- Hands-on learning
- Lecturing
- Role playing
- Computer-assisted instruction
- Other (please specify): _____

8. If you're interested in a short follow-up interview to contribute further to the research, please leave your e-mail address below.

_____

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
	SECTION 2: Please indicate your reaction to each of the following statements by choosing the option that represents your level of agreement or disagreement with it. Make sure to respond to every statement.					
1.	Computers do not scare me at all.					
2.	Computers make me feel uncomfortable.					
3.	I am glad there are more computers these days.					
4.	I do not like talking with others about computers.					
5.	Using computers is enjoyable.					
6.	I dislike using computers in teaching.					
7.	Computers save time and effort.					
8.	Schools would be a better place without computers.					

9.	Students must use computers in all subject matters.					
10.	Learning about computers is a waste of time.					
11.	Computers would motivate students to do more study.					
12.	Computers are a fast and efficient means of getting information.					
13.	I do not think I would ever need a computer in my classroom.					
14.	Computers can enhance students' learning					
15.	Computers do more harm than good.					
16.	I would rather do things by hand than with a computer.					
17.	If l had the money, I would buy a computer.					
18.	I would avoid computers as much as possible.					
19.	I would like to learn more about computers.					
20.	I have no intention to use computers in the near future.					
	SECTION 3: Please indicate your reaction to each of the following statements by choosing the option that represents your level of agreement or disagreement with it. Make sure to respond to every statement.					
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1.	Computers will improve education.					
2.	Teaching with computers offers real advantages over traditional methods of instruction.					
3.	Computer technology cannot improve the quality of students' learning.					
4.	Using computer technology in the classroom would make the subject matter more interesting.					
5.	Computers are not useful for language learning.					
6.	Computers have no place in schools.					
7.	Computer use fits well into my curriculum goals.					
8.	Class time is too limited for computer use.					
9.	Computer use suits my students' learning preferences and their level of computer knowledge.					

10.	Computer use is appropriate for many language learning activities.					
11.	It would be hard for me to learn to use the computer in teaching.					
12.	I have no difficulty in understanding the basic functions of computers.					
13.	Computers complicate my task in the classroom.					
14.	Everyone can easily learn to operate a computer.					
15.	I have never seen computers at work.					
16.	Computers have proved to be effective learning tools worldwide.					
17.	I have never seen computers being used as an educational tool.					
18.	I have seen some Turkish teachers use computers for educational purposes.					
	SECTION 4: Please indicate your reaction to each of the following statements by choosing the option that represents your level of agreement or disagreement with it. Make sure to respond to every statement.					

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1.	Computers will not make any difference in our classrooms, schools, or lives.					
2.	Students need to know how to use computers for their future jobs.					
3.	Students prefer learning from teachers to learning from computers.					
4.	Knowing about computers earns one the respect of others.					
5.	Computers will improve our standard of living.					
6.	Using computers would not hinder Turkish generations from learning their traditions.					
7.	People who are skilled in computers have privileges not available to others.					
8.	Computers will increase our dependence on foreign countries.					
9.	There are other social issues that need to be addressed before implementing computers in education.					
10.	The increased proliferation of computers will make our lives easier.					
11.	Computers dehumanize society.					

		No competence	Little competence	Moderate competence	Much competence
12.	Working with computers does not diminish people's relationships with one another.				
13.	Computers encourage unethical practices.				
14.	Computers should be a priority in education.				
	SECTION 5: Please indicate your current computer competence level (i.e., both your knowledge of and your skill in using computers) regarding each of the following statements. Make sure to respond to every statement.				
1.	Install new software on a computer.				
2.	Use a printer.				
3.	Use a computer keyboard				
4.	Operate a word processing program (e.g., Word).				
5.	Operate a presentation program (e.g., PowerPoint).				
6.	Operate a spreadsheet program (e.g., Excel).				
7.	Operate a database program (e.g., Access)				
8.	Use the Internet for communication (e.g., email & chatroom)				
9.	Use the World Wide Web to access different types of information.				
10.	Solve simple problems in operating computers.				
11.	Operate a graphics program (e.g., Photoshop).				
12.	Use computers for grade keeping.				
13.	Select and evaluate educational software.				
14.	Create and organize computer files and folders.				
15.	Remove computer viruses				
	SECTION 6: Please identify how often you have computer access in the following contexts:				

		Never	Once a month	Once a week	2 or 3 times a week	Daily
1.	In your home					
2.	At school (computer lab or library)					
3.	Diğer (ör.internet kafeler, v.b.).					

Appendix B: Bilgi Teknolojilerine Yönelik Tutumlar Anketi

Sayın Katılımcılar,

Bir yüksek lisans tezi çalışmasının parçalarından biri olan bu anketin amacı, Türkiye'deki İngilizce dersi sınıflarında bilgi teknolojilerinin kullanılmasına yönelik tutumunuzu incelemektir. Anket altı bölümden oluşmaktadır. Her bölümün başında, o bölümle ilgili bazı talimatlar bulunmaktadır. Bölümlere başlarken lütfen talimatları dikkatlice okuyunuz ve yanıtlarınızı istenen formatta içtenlikle veriniz. Katılımınız için teşekkürler.

- Maddeleri okuduktan sonra, tercihinizi en iyi şekilde ifade edecek şekilde (**1, 2, 3, 4, 5**) **kutucuklarından birini işaretleyiniz.**

  5 = **Kesinlikle Katılıyorum**
  4 = **Katılıyorum**
  3 = **Kararsızım**
  2 = **Katıl<u>mı</u>yorum**
       Kesinlikle
  1 = **Katıl<u>mı</u>yorum**

1. **Yaşınız:**

2. 20-29 / 30-39 / 40-49 / 50 ve üzeri

3. **Cinsiyet:** K _____ / E_____

4. **Öğrenim gördüğünüz üniversitenin türü:**

   Devlet / Vakıf

5. Öğretmenlik yaptığınız okulun/kurumun türü? (Bu kısmı öğretmenlik tecrübensiz

yoksa boş bırakabilirsiniz.)

   Şehir merkezi / Şehir dışı / Kırsal

6. Bilgisayar kullanımı ile ilgili herhangi bir kurs, çalıştay veya seminere katıldınız mı?

   Evet / Hayır

- Cevabınız evet iste lütfen süresini saat ya da gün olarak belirtiniz: _____

7. Çoğunlukla kullandığınız öğretim yöntemi nedir?

- Aktif tartışma
- İşbirlikçi aktiviteler

- Gösterme (Göstererek öğretme)

- Aktif katılımlı öğrenme

- Anlatarak öğretme

- Rol yaptırma

- Bilgisayar destekli eğitim

- Diğer (Lütfen belirtiniz): _____

9. Araştırmaya daha fazla katkıda bulunmak üzere kısa bir takip görüşmesi ile ilgilenirseniz, lütfen aşağıya e-posta adresinizi bırakınız.

_____

		Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
		1	2	3	4	5
	2. BÖLÜM: Lütfen aşağıdaki ifadelerin her birine katılma veya katılmama düzeyinizi temsil eden seçeneğe işaret koyarak belirtiniz. Her ifadeye yanıt verdiğinizden emin olunuz.					
1.	Bilgisayar beni hiç korkutmuyor.					
2.	Bilgisayarlar beni huzursuz ediyor.					
3.	Günümüzde daha fazla bilgisayar olmasından memnunum.					
4.	Başkalarıyla Bilgisayarlar hakkında konuşmayı sevmiyorum.					
5.	Bilgisayar kullanmak zevklidir.					
6.	Öğretirken bilgisayar kullanmayı sevmiyorum.					
7.	Bilgisayarlar zamandan ve emekten tasarruf sağlarlar.					
8.	Bilgisayarlar olmadan okullar daha iyi yerler olurdu.					
9.	Öğrenciler her konuda bilgisayar kullanmalıdır.					
10.	Bilgisayarlar hakkında bilgi edinmek zaman kaybıdır.					
11.	Bilgisayarlar, öğrencileri daha çok çalışmaları için motive eder.					
12.	Bilgisayarlar bilgiye ulaşmada hızlı ve etkin bir araçtır.					
13.	Sınıfta/sınıfımda bir bilgisayara ihtiyacım olacağını sanmıyorum.					
14.	Bilgisayarlar, öğrencilerin öğrenmesini geliştirebilir/artırabilir.					

15.	Bilgisayarların yarardan çok zararı vardır.					
16.	Bir şeyi bilgisayarla yapmaktansa kendim yapmayı tercih ederim.					
17.	Param olsa bilgisayar alırım.					
18.	Bilgisayarlardan mümkün olduğunca uzak dururum.					
19.	Bilgiysayarlar hakkında daha çok şey öğrenmek isterim.					
20.	Yakın gelecekte bilgisayar kullanmak niyetinde değilim.					

3. BÖLÜM: Lütfen aşağıdaki ifadelerin her birine katılma veya katılmama düzeyinizi temsil eden seçeneğe işaret koyarak belirtiniz. Her ifadeye yanıt verdiğinizden emin olunuz.

		Kesinlikle Katılmıyorum	Katılmıyorum	Kaaarsızım	Katılıyorum	Kesinlikle Katılıyorum
		1	2	3	4	5
1.	Bilgisayarlar eğitimi geliştirir.					
2.	Bilgisayarlarla öğretim, geleneksel öğretim yöntemlerine göre gerçek avantajlar sunar.					
3.	Bilgisayar teknolojisi öğrencinin öğrenme kalitesini artıramaz.					
4.	Sınıfta bilgisayar teknolojisinin kullanılması işlenen konuyu daha ilginç hale getirecektir.					
5.	Bilgisayarlar, dil öğrenimi için yararlı değildir.					
6.	Bilgisayarların okullarda yeri yoktur.					
7.	Bilgisayar kullanımı müfredat hedeflerime tamamıyla uymaktadır.					
8.	Ders saati, bilgisayar kullanımı için son derece sınırlıdır.					
9.	Bilgisayar kullanımı, öğrencilerin öğrenme tercihlerine ve bilgisayar bilgisi düzeyine uygundur.					
10.	Bilgisayar kullanımı, birçok dil öğrenme aktivitesi için faydalıdır.					
11.	Bilgisayarı, öğretim amaçlı kullanmayı öğrenmek benim için zordur.					
12.	Bilgisayarların temel fonksiyonlarını anlamakta zorluk çekmiyorum.					
13.	Bilgisayarlar sınıftaki işimi zorlaştırır					
14.	Herkes kolaylıkla bilgisayar kullanmasını öğrenebilir.					
15.	Bilgisayarların dünya çapında etkin öğrenme araçları olduğu kanıtlanmıştır.					

		Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
16.	Bilgisayarların bir eğitim aracı olarak kullanıldığını hiç görmedim.					
17.	Bazı Türk öğretmenlerin bilgisayarları eğitim amaçlı kullandıklarını gördüm.					
	4. BÖLÜM: Lütfen aşağıdaki ifadelerin her birine katılma veya katılmama düzeyinizi temsil eden seçeneğe işaret koyarak belirtiniz. Her ifadeye yanıt verdiğinizden emin olunuz.					
		1	**2**	**3**	**4**	**5**
1.	Bilgisayarlar, sınıflarımızda, okullarımızda ve yaşamımızda herhangi bir farklılık oluşturmaz.					
2.	Öğrenciler, gelecekteki meslekleri için bilgisayarların nasıl kullanılacağını bilmeleri gerekir.					
3.	Öğrenciler bilgisayarlardan öğrenmek yerine öğretmenlerinden öğrenmeyi tercih ederler.					
4.	Bilgisayarlar hakkında bilgiye sahip olan birisi diğerlerinin saygısını kazanır.					
5.	Bilgisayarlar yaşam standardımızı geliştirir.					
6.	Bilgisayarlar çok hızlı bir şekilde artmaktadır.					
7.	Bilgisayar kullanma becerisine sahip kişilerin başkalarının sahip olmadıkları ayrıcalıkları vardır.					
8.	Bilgisayarlar yabancı ülkelere bağımlılığımızı artırmaktadır.					
9.	Bilgisayarları eğitimde kullanmadan önce ele alınması gereken başka sosyal konular vardır.					
10.	Bilgisayarların giderek çoğalması hayatımızı kolaylaştıracaktır.					
11.	Bilgisayarlar toplumun insani değerlerini kaybettirir.					
12.	Bilgisayarlarla çalışmak insanların birbirleriyle olan ilişkilerini sınırlandırmaz.					
13.	Bilgisayarlar etik olmayan uygulamaları teşvik eder.					
14.	Bilgisayarlar eğitimde öncelik olmalıdırlar.					
	5. BÖLÜM: Lütfen aşağıdaki ifadelerin her biri ile ilgili olarak mevcut bilgisayar yeterlilik seviyenizi (yani hem bilgisayar bilginizi hem de bilgisayar kullanma becerinizi) belirtiniz. Her ifadeye yanıt verdiğinizden emin olunuz.					

		Yeterliliğim yok	Düşük seviyede yeterlilik	Orta seviyede yeterlilik	Yüksek seviyede yeterlilik
1.	Bilgisayara yeni yazılım kurabilirim.				
2.	Yazıcıyı kullanabilirim.				
3.	Bilgisayar klavyesini kullanabilirim.				
4.	Bir kelime işlemci programını kullanabilirim/çalıştırabilirim (ör. Word).				
5.	Bir sunum programı kurabilirim (ör. PowerPoint).				
6.	Bir elektronik tablo programını kullanabilirim (ör. Excel).				
7.	Bir veritabanı programını kullanabilirim (ör. Access).				
8.	İnterneti iletişim için kullanabilirim (ör. E-mail & Sohbet odaları)				
9.	Farklı bilgilere erişim için dünya çapındaki ağı kullanabilirim.				
10.	Bilgisayarları çalıştırmada ortaya çıkabilecek basit problemleri çözebilirim.				
11.	Bir grafik programını kullanabilirim (ör. Photoshop).				
12.	Bilgisayarları değerlendirme notlarını saklamak için kullanabilirim.				
13.	Eğitimle ilgili yazılımları seçebilir ve değerlendirebilirim.				
14.	Bilgisayar dosyası ve klasörü oluşturabilir ve düzenleyebilirim.				
15.	Bilgisayar virüslerini bilgisayardan kaldırabilirim.				
	6. BÖLÜM: Lütfen bilgisayarlara aşağıda belirtilen bağlamlarda ne sıklıkta erişiminiz olduğunu belirtiniz.				

		Asla	Ayda Bir	Haftada Bir	Haftada 2 ya da 3 Kez	Her Gün
1.	Evde					
2.	Okulda (Bilgisayar laboratuvarı ya da kütüphanede).					
3.	Diğer (ör.internet kafeler, v.b.).					

Appendix C: Interview Questions

1. How does the integration of computers into the field of education make you feel?

2. In what ways do you think computer technology can be beneficial for educational settings?

ÖZ GEÇMİŞ		
Adı-Soyadı	Arif Ata Alkayalar	
Bildiği Yabancı Diller	İngilizce	
Eğitim Durumu	**Başlama - Bitirme**	**Kurum Adı**
Lise	2007	2010	Özel Edirne Bahçeşehir Koleji Anadolu Lisesi
Lisans	2011	2016	Uludağ Üniversitesi
Yüksek Lisans	2017		Uludağ Üniversitesi
Doktora			
Çalıştığı Kurum	**Başlama - Ayrılma**	**Çalışılan Kurumun Adı**
1.	2019		İstanbul Kültür Üniversitesi
2.			
3.			
Üye Olduğu Bilimsel ve Meslekî Kuruluşlar	IATEFL (International Association for Teachers of English as a Foreign Language)	
Katıldığı Proje ve Toplantılar		
Yayınlar:	Gündoğdu, B. & Alkayalar, A. (2021). Early Teacher Identity and Initial Teaching Beliefs of EFL Pre-service Teachers During Covid-19 Pandemic: What Changed?. Eurasian Journal of Teacher Education, 2 (3), 195-220. Retrieved from https://dergipark.org.tr/tr/pub/ejte/issue/66119/915102	
Diğer:	Alkayalar, A. A. & Bal, S. (2018). Vocabulary Learning Strategy Preferences of Turkish EFL Students: A Comparison of Different Proficiency Levels. 10th International ELT Research Conference (Özet Bildiri/Sözlü Sunum)(Yayın No:5071031)	
	Tarih 06.02.2022 **İmza** **Adı-Soyadı** Arif Ata Alkayalar	