HACETTEPE ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Department of Foreign Languages Education
English Language Teaching Program

PERCEPTIONS AND ATTITUDES OF PRE-SERVICE ENGLISH TEACHERS ON BLENDED EDUCATION PRACTICES

Aylin ÇAKALLI

Master's Thesis

Ankara, 2024

With leadership, research, innovation, high quality education and change,

To the leading edge... Toward being the best...

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İNGİLİZCE ÖĞRETMEN ADAYLARININ HARMANLANMIŞ EĞİTİM UYGULAMALARINA İLİŞKİN ALGI VE TUTUMLARI

Aylin ÇAKALLI

Master's Thesis

Ankara, 2024

Acceptance and Approval

To the Graduate School of Educational Sciences,

This thesis prepared by **AYLİN ÇAKALLI** and entitled “Perceptions and Attitudes of Pre-service English Teachers on Blended Education Practices” has been approved as a thesis for the Degree of **Master** in the **Program of English Language Teaching** in the **Department of Foreign Languages Education** by the members of the Examining Committee.

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This is to certify that this thesis has been approved by the aforementioned examining committee members on 18/06/2024 in accordance with the relevant articles of the Rules and Regulations of Hacettepe University Graduate School of Educational Sciences, and was accepted as a Master’s Thesis in the Program of English Language Teaching by the Board of Directors of the Graduate School of Educational Sciences from ...../...../.....

Prof. Dr. İsmail Hakkı MİRİCİ

Director of Graduate School of Educational Sciences

Abstract

This two-stage explanatory sequential study aimed to examine the perceptions and attitudes of Hacettepe University English Language Teaching undergraduate program students about blended learning practices and their implementation plans in their service years. In the first phase, students' views were addressed with a scale to compare the effectiveness of blended learning variables. The information obtained from this phase was analyzed in more detail in the second phase. In the second phase, semi-structured interviews were conducted with students to enrich the qualitative results further. The study was conducted with students who had experienced the face-to-face, online, and blended curriculum in the undergraduate English Language Teaching program at Hacettepe University. Participants were selected through a convenience sampling method. The data were analyzed with SPSS software, and the semi-structured interview questions were updated based on the results obtained. The results of this study provide important insights into the development of blended learning. While the findings emphasize a moderate approach to blended teaching methods, they indicate that face-to-face instruction is preferable in terms of implementation.

Keywords: blended education, face-to-face education, online education, pre-service english teachers, english language education

Öz

Bu iki aşamalı açıklayıcı sıralı desen çalışma Hacettepe Üniversitesi İngilizce Öğretmenliği lisans programı öğrencilerinin harmanlanmış öğrenme uygulamaları hakkındaki algı ve tutumlarını ve çalışma yıllarındaki uygulama planlarını incelemeyi amaçlamaktadır. İlk aşamada, öğrencilerin görüşleri harmanlanmış eğitim değişkenlerinin verimliliklerinin karşılaştırılmasını hedefleyen bir ölçekle ele alınmıştır. Bu aşamadan elde edilen bilgiler, ikinci aşamada daha ayrıntılı bir şekilde incelenmiştir. İkinci aşamada, nicel sonuçları daha da zenginleştirmek için öğrencilerle yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Çalışma, Hacettepe Üniversitesi İngilizce Öğretmenliği lisans programında yüz yüze, online ve harmanlanmış eğitim programını deneyimlemiş öğrenciler ile yürütülmüştür. Katılımcılar kolayda örneklem yöntemiyle seçilmiştir. Veriler, SPSS programı ile analiz edilmiş ve elde edilen sonuçlara dayanarak yarı yapılandırılmış görüşme soruları güncellenmiştir. Bu çalışmanın sonucunda harmanlanmış eğitimin gelişimi hakkında kayda değer içgörüler sunulmuştur. Bulgular, harmanlanmış eğitim yöntemlerine yönelik ılımlı bir yaklaşımı vurgularken, uygulama açısından yüz yüze eğitimin daha tercih edilebilir olduğunu işaret etmektedir.

Anahtar sözcükler: harmanlanmış eğitim, yüz yüze eğitim, online eğitim, ingilizce öğretmen adayları, ingiliz dili eğitimi

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Symbols and Abbreviations

CALL: Computer-Assisted Language Learning

ELT: English Language Teaching

FLE: Foreign Language Education

ICT: Information and Communication Technologies

L2: Second/Foreign language

SLL: Second language learning

Chapter 1

Introduction

This study is designed to investigate the perceptions and attitudes of pre-service English Language Teachers who have experienced receiving their undergraduate education through online, blended, and face-to-face education. This chapter comprises the statement of the problem, aim and significance of the study, research questions, assumptions, limitations, and definitions regarding the study.

Statement of the Problem

The Internet has been an inseparable part of teaching practices for decades. Once serving as a research tool for teachers to find original data in a variety of fields (Larsen-Freeman & Anderson, 2013), in time, it has expanded its scope to become a teaching tool. While this is an expected outcome given the breadth of areas in which we utilize the Internet, the pandemic has thrown the relationship between education and the Internet into an unnatural rush (OECD, 2022). In our system, where teaching has evolved according to the needs of the world, online classrooms and blended learning classrooms where face-to-face education is blended with online education have been established. As a result, the concept of classroom environment has acquired a new definition and requirements. Özer and Turan (2021) reported that pre-service teachers' preferences for distance, online, and blended education programs were face-to-face education, blended education, and distance education, respectively. From another perspective, Can (2020) emphasized that distance and open education practices in Türkiye need to be strengthened in terms of access, content, design, infrastructure, implementation, quality, security, pedagogy, and legislation. Balcı (2017) stated that students' learning styles also affect the quality of blended education, while Korucu and Kabak (2020) prioritized the need for comprehensive planning that covers the necessities and requirements of all parties so as to apply blended education practices efficiently. The pandemic has created a

mandatory application area in terms of defining the requirements of online education applications and eliminating their deficiencies. In addition, face-to-face education, which was to start in April 2023, was gradually switched back to blended education with the help of remote, synchronized online classes on February 6, 2023, due to the occurrence of a large-scale earthquake disaster affecting 11 provinces in Türkiye. Considering that the Covid-19 pandemic and wide ranged earthquakes in the Southeastern region made for a consecutive use of blended education in Türkiye, the lack of a study analyzing the perceptions and attitudes about the consecutive blended education practices by pre-service teachers creates a gap in the literature. The research sets out to gain a clearer view of the perceptions and attitudes of pre-service teachers in the ELT field at Hacettepe University.

Aim and Significance of the Study

The purpose of this two-phase, explanatory sequential mixed methods study is to analyze pre-service EFL teachers' perceptions and attitudes about blended learning practices and implementation plans in the field of English. In the first phase, quantitative research questions address the comparison of online, face-to-face, and blended teaching variables with pre-service English language teachers studying at Hacettepe University. The information obtained from this first phase is analyzed further in the second qualitative phase. In the second phase, semi-structured interviews with 16 prospective volunteer EFL teachers studying at Hacettepe University are used to elaborate further on the quantitative results. The reason for pursuing qualitative research in the second phase is to better understand and explain the quantitative results and to complement the limitations of quantitative research regarding reliability.

The fact that the positive results of theory-based studies (İnce, 2015; Dullien, 2016; Khasawneh, 2020; Aksel, 2021; Özçelik, 2021) reporting positive attitudes towards blended education, which have been conducted since the Internet has been included in

education and training, do not match with practice-based studies (Çavdar, 2018; Fife, 2020; Harris, 2017), which give results close to neutrality, reveals the effect of practice-based experiences in blended education on the results of the research. However, there is some practice-based research reporting successful practice-based blended education experiences. In this context, considering that blended and online education has been repeated at certain and frequent intervals, it has been seen that determining the points open to improvement and evaluating blended education from the perspective of pre-service teachers by examining blended education under post-pandemic conditions contribute to the literature. Supportingly, Singh et al. (2021) emphasized the need for up-to-date studies regarding the effectiveness of blended education designs in the post-pandemic world.

Research Questions

This study meets the following research questions:

1. What are the pre-service English teachers' perceptions of face-to-face learning environments?

2. What are the pre-service English teachers' perceptions of the online learning environment?

3. What are the pre-service English teachers' perceptions of blended learning environment?

4. What are the pre-service English teachers' perceptions of technical matters in face-to-face learning practices?

5. What are the pre-service English teachers' perceptions of technical matters in online learning practices?

6. What are the pre-service English teachers' perceptions of technical matters in blended learning practices?

7. According to pre-service English Teachers, what are the differences between online, face-to-face, and blended learning practices regarding their professional development?

8. What changes do pre-service English teachers suggest to make blended learning more effective?

Assumptions

Firstly, it is assumed that the participating pre-service language teachers have been exposed to blended learning long enough to have a preference for the teaching and learning mediums. Secondly, it is assumed that all participants of the research have formed opinions regarding blended teaching practices they have experienced so far, including their learning and preferences for teaching in the future. Also, it is assumed that the teacher candidates have thought about their oncoming work experiences in relation to the learning background they have received so far, including blended learning experiences.

Limitations

This two-phase, explanatory sequential mixed methods study is limited in the number of participants and the specific teaching field of the participants. Moreover, this study describes the perceptions of teacher candidates regarding online, blended, and face-to-face teaching under four headings: face-to-face learning environment, online learning environment, blended learning environment, and technical issues. In that, the descriptions do not pose a general positive or negative attitude, but rather, they display a specific evaluation.

Definitions

Authentic Language: Language used in a real context (Larsen-Freeman & Anderson, 2013).

Second Language Acquisition: Ortega (2008, p.g. 10) recapitulated SLA as the field of research that studies the aptitude to acquire other languages in different stages of life.

Second Language: Second language, L2, stands for the additional language acquired after the acquisition of the native language within the practice and the use of real-life situations.

Foreign language: Foreign language refers to the additional language or languages learned after the acquisition of the native language.

English as a Second Language (ESL): Carter & Nunan (2000, p.g. 6) states that for teaching and learning English in nations, settings, and cultures where English is the primary language of communication, the definition ESL is commonly used. Speaking English as a Second Language means that people who are not native English speakers need to use it for communication at work, in school, and in society. Additionally, the phrase is used in nations where English is the primary language spoken.

English as a Foreign Language(EFL): It refers to the language education provided in nations that do not need or use English in communication at work, school, or society. English is a lesson that is part of the curriculum rather than a part of the daily life.

Communicative Language Teaching: The teaching approach that is formed around the idea of “language is for communication.”

Conscious Language Learning: Krashen and Selinger (1975) defined conscious language learning as the conscious version of language acquisition aided by error correction and the provision of explicit rules to the learner.

Engagement: Engagement is comprised of multiple definitions. Among all its definitions, Skinner and Pitzer (2012) stated its central feature is “the notion of action”.

Computer-Assisted Language Learning: Under the umbrella of second language acquisition (SLA), Thomas and Yamazaki (2023) define computer-assisted language learning (CALL) as studies on digital technologies’ mediation in language instruction and learning.

Information and communication technology (ICT): Ardıç & Çiftçi (2019) defined ICT as the technologies enabling access to information via telecommunication, such as cell phones, the Internet, and other mediums that enable communication.

Emergency Remote Teaching: Hodges et al. (2020) defined Emergency Remote Teaching (ERT) as the crisis-induced switch in education to online, hybrid, or blended mediums of teaching. The differentiation between ERT and regular online assisted teaching occurs in the planning stage as Emergency Remote Teaching is instead a solution found as a response to a crisis, whereas online assisted teaching methods are the objects of planned goals of teaching rather than being a response to a crisis.

Blended education: Also known as blended learning or hybrid learning, blended education is briefly summarized by Hubbard (2021, pg. 74) as classrooms that combine both online and face-to-face teaching, the online version being synchronous or asynchronous.

Blended education typically involves the following key components:

In-Person Instruction: In-person instruction is a part of traditional education where the teacher and students are present at the same place during the course, and the input is delivered in person.

***Online instruction*:** Online Instruction is a part of technology-based education that refers to teachers providing instruction to students through online mediums.

Online Learning: Means et al. (2010, p.9) described online learning as the motion of learning through partially or fully online mediums.

Distance Education: Education type in which the instructor and students are sent and receive input from different time zones and locations, not precluding the use of the traditional classroom (Urdan & Weggen, 2000, p. 88)

Computer-Based Training (CBT): Urdan and Weggen (2000) explained CBT as presenting and receiving teaching materials through computers.

Synchronous Online Learning: Urdan and Weggen (2000) describe synchronous online learning (SOL) as the part of online education that occurs with the simultaneous participation of both the students and the teacher.

Asynchronous Online Learning: Urdan and Weggen (2000) summarize Asynchronous online learning (AOL) as an aspect of online education in which the teacher and the students interact within different time zones.

Learner Autonomy: Holec (1981) describes learner autonomy as the learners' ability to guide their learning.

Flexibility: In the context of blended education, "flexibility" refers to the freedom and adaptability that students have in accessing and engaging with course materials and activities. It means they can choose when and where they participate in online learning components, allowing for personalized learning experiences that accommodate their schedules and preferences. Flexibility is a crucial advantage of blended education, offering students the convenience of learning at their own pace while still benefiting from in-person interactions and guidance in a traditional classroom setting.

Assessment: In blended education, assessment refers to the process of evaluating students' learning outcomes, progress, and performance within a course that combines both in-person and online components. It involves measuring students' understanding of the material, their ability to apply knowledge, and their skills development. Assessment methods in blended learning can include traditional in-person exams, quizzes, online assignments, peer assessments, and project evaluations, among others. The key is to ensure that assessment strategies align with the blended learning format, allowing for a comprehensive evaluation of students' abilities in both face-to-face and online contexts.

Effective assessment in blended education supports personalized learning and helps educators adapt instruction to meet students' needs.

Interaction: It refers to the engagement and communication that occurs between students, instructors, and course materials within both the face-to-face and online components of a blended course. It encompasses various forms, such as classroom discussions, group activities, virtual discussions, and online collaboration tools. Effective interaction is vital as it fosters active learning, knowledge sharing, and the development of critical thinking skills, contributing to a well-rounded educational experience.

Personalization: Personalization refers to tailoring the learning experience to meet the individual needs, preferences, and progress of each student. It involves offering choices in how and when students access content, allowing them to work at their own pace, and providing opportunities for them to select activities that align with their learning styles. Personalization can also involve adaptive learning technologies that adjust content and difficulty levels based on individual performance. Ultimately, it aims to enhance student engagement and understanding by making the learning process more relevant and customized to each learner's unique requirements.

Chapter 2
Literature Review

English Language Teaching and Its Evolution

The evolution of English Language teaching has been greatly influenced by a multitude of factors, such as technological advancements, historical shifts, and the evolution of linguistic theories. Starting with the Grammar-Translation method, which focuses mainly on the mental properties of language, English language education has been formulated through decades both in its focus and in materials. The focus has changed throughout the years as a response to the needs and expectations of language learners. To illustrate, as stated by Larsen-Freeman and Anderson (2013), as a response to the rising need for communication, the communicative approach was embarked on language classes. Connectedly, the material used in language teaching has been affected by environmental facilities that are associated with the needs and economic conditions of society. In that, the developed countries introduced computers to the classrooms in the 1950s, which led to a widespread evolution in language teaching. Ahmed et al. (1985) summarized computers' use as tools that can be placed anywhere that makes sense for the student or small group of students to work uninterrupted, including the classroom, a specific laboratory, a designated part of the library, or any other convenient location. It can be used as a course's cornerstone, a backup, for revision, reinforcement, extension, and so forth. It can provide text, graphics, or video pictures on a screen for the student to see, as well as sounds in the form of speech, music, or other auditory output. Moreover, as stated by Mishra and Koehler (2006), critics of technology in education have been predicting more significant changes in how things are taught and learned since the introduction of technology. Since then, the predictions and the evolution of education have gained more tangibility than ever. On a similar note, Egbert (2020) and Oskoz & Smith (2020) suggested that the rapid change in the relationship between education and education technologies provides teachers with a substantial opportunity to develop more current approaches and to improve the existing ones. However, the change in education

comes with its challenges. Gunuc and Babacan (2017) reported that unless implemented with care and planning, technology-enhanced classrooms might have negative effects on language learners. Thus, it can be said that technology enhances language education when adapted and applied meticulously. This research focuses on the analysis of technology-enhanced face-to-face education, online education, and blended education in addition to exploring the improvement suggestions from pre-service English teachers who received the education types.

The Development of Foreign Language Teaching and English Teaching in Türkiye

In 1839, with the declaration of Tanzimat, modernization movements started in the Ottoman Empire (Pehlivan, 2019). It is seen that Westernization movements in Türkiye started with the learning process, and the inclusion of foreign language teaching in school programs was experienced for the first time in this period (Bulut, 2000). Developments over time led to an emphasis on foreign language education. Tekin (2008) noted that during this period, French was taught compulsorily in all schools, and the importance of learning German and English was also emphasized.

Robert College was the first private foreign school opened by foreigners during the Tanzimat period. Founded by American missionaries coming to Türkiye during the Crimean War, this school has the distinction of being the first private foreign school in the history of Türkiye (Endpoint, 2017). Opened largely for the dissemination of American culture, this school focused on teaching English. Similar education programs to contemporary schools in England were created, and English was taught in accordance with these programs. However, in 1909, a report was issued stating that no Turks were allowed to study. With the proclamation of the Republic, these boundaries were abolished (Tanç, 2008).

After the declaration of the Tanzimat, the number of private schools opened by foreigners increased dramatically and primarily French, British, and Americans started to open schools teaching in their own language (Bilgisu, 2017). In 1864, attempts to open

the first private Turkish school were initiated (Demirkan, 2008). Persian and Arabic, which were taught as foreign languages in educational institutions in the Ottoman Empire for a very long time, disappeared in the Republican Era, and Western languages were started to be taught instead. Especially in programs where English, German, and French were included, faster progress was made in the fields of science and technology (Demirel, 2021). In time, though various foreign languages found their way into formal education, the focus of foreign language education has been shifted to English teaching.

The development of English language education has evolved throughout the years in Türkiye. Bayyurt (2012) and Şahin and Aykaç (2019) reported that with the 2012-2013 system in education, the English language is introduced to the students in the second grade of primary school, enabling students to get familiar with the target language from an early age. However, the grades might differ in private schools. Çelik and Başutku (2021) reported that in the teaching process, an action and communication-oriented approach to English is adopted within the scope of the Common European Framework of Reference for Languages (CEFR), and in 2018, the curriculum was partially updated, and the values education dimension was included in English language teaching.

Education had to change drastically when the Covid-19 pandemic took the world into lockdown. Connectedly, Türkiye switched formal education to online and blended education suddenly, causing a mandatory shift in the teaching techniques used in face-to-face education as the majority of them were not of use in online or blended education. Since there are several studies pointing out the issue, this study explores the perceptions of prospective teachers regarding the techniques used in blended education practices.

The Use of Technology in Education

As Karakaya (2010) summarizes, technology is the core that is responsible for the changes in our world, and education is among the plethora of areas that are affected and evolved by technology. The use of technology has been prevalent in education for many years (Larsen-Freeman & Anderson, 2013). Since the introduction of computers into the

classrooms and technology-enhanced education, the prevalence of technology in education has become more tangible. To illustrate, Sun et al. (2017) commented that a vast number of language learners lack sufficient opportunities to improve their speaking skills, yet the new developments in technology and technology-assisted language learning enable students to create opportunities to communicate in the target language. However, Gürleyik (2019) indicated that despite harboring many positive advancements in education, technological advancements bear limitations as well. To illustrate, financial constraints might create a gap between those who can access to related technology and those who cannot. Nogueron-Liu (2017) emphasized the financial constraints of the matter, whilst the EU (2012) reported that due to limitations such as having no access to technological devices, ability to use technology, and technical problems, many problems are likely to arise in both academic and professional fields. On a similar note, Balanskat et al. (2006) reported that teachers need to focus on developing their ICT skills as a prominent part of their professional development to successfully utilize technology to enhance their teaching. Hence, it is logical to say that the aforementioned merits of technological advancements in education do not address the entirety of the classrooms in the world, creating a need for further research in a multitude of environments.

The Use of Technology in Education in Türkiye

Ardıç and Çiftçi (2019) suggested that due to the digitalization of education, information and communication technology (ICT) has become of critical importance in technology-integrated education since it is evidently functional for both the teachers and the learners.

It is stated by Atmacasoy and Aksu (2018) and OECD (2016) that Türkiye fell behind the average scores of the OECD, raising a need to improve the pedagogical and digital qualification of both the teachers and teacher candidates. Ministry of National Education launched two main movements in 1997 and 2012 in an attempt to improve teachers' ICT skills. As referenced by Atmacasoy and Aksu (2018), Gülbahar and Güven

(2008), Delialoğlu and Yıldırım (2007), the first movement revealed that the main problems limiting the use of ICT in classrooms were not the material limitations but the skills and the lack of related in-service programs were. In furtherance of the phenomena, Saglam et al. (2012) emphasized that the impact of technology on students' access to information is related to teachers' pedagogical knowledge and skills. Considering that teachers are the ones who integrate technology into their lessons, it is evident that more attention should be paid to the issue. In an attempt to resolve these, the FATIH project was launched. MEB (2017) reported that the aim of the project was to close the digital achievement gap, promote equality of opportunity, and improve the elementary and secondary educational process' instructional quality. The results of the pilot application of the project presented promising but not ideal outcomes. Keleş et al. (2013) reported that while the teachers were eager to enhance education with technology, especially by using smartboards, they experienced two main setbacks that are technical issues and not having a technologically adaptable course content, limiting the use of technology gravely apart from the linguistic aspect as it enabled language teachers to provide learners with authentic listening resources.

Özkan and Deniz (2014) noted that regardless of the lack of online materials and planning, the Fatih project qualified for the necessary information technology platform in the pilot study. Altın and Kalelioğlu (2015) found that the teachers had different perceptions regarding the project. Namely, whilst some of the teachers regarded the project beneficial and practical, others stated that this project did not contribute to education. Teachers also stated that the stance of the teacher was overlooked in this project and that while the smart board was useful, the tablet PC was an unnecessary device that influenced the students unfavorably. Correlatively, Keleş et al. (2013) emphasized the need to increase teacher qualification of technology adaptation into the curriculum and the problem caused by the misuse of tablet PCs as stated by the teachers, while adding another issue that is the minimalization of eye contact due to technology

integration into teaching. From another aspect, Altın and Kalelioğlu (2015) reflected on the outcome from the students' point of view and came to the conclusion that the students were indecisive on the outcomes of the project; whereas the project bore great potential, students claimed to be distracted by the tablet computers and the smartboards, teachers not being educated enough to use the technological devices optimally, getting de-motivated by Internet blockers on the tablets and the smartboards, not receiving technical support for the broken tablet computers, getting lower grades in some their subjects due to lower motivation. In the end, it can be said that the FATIH project can be considered availed in solving the detected issues of the first attempt at technology integration into education. However, it is reported that the pilot study of the project did not suffice for teachers to adapt technology to education fairly (Altın & Kalelioğlu, 2015; Atmacasoy & Aksu, 2018; Keleş et al., 2013; Özkan & Deniz, 2014). Notwithstanding, Yılmaz (2017) conducted small-scale research that evaluates students' opinions in a blended learning course in alignment with their preferences that projects generally positive results with minor inconveniences such as checking the system, being contingent upon Internet connection, time limit, and so on.

Atmacasoy and Aksu (2018) noted that the integration of technology into education practices also requires a teacher education that educate pre-service teachers to be competent, adaptable, and innovative in using technology as well as in-service ICT trainings for teachers.

From the perspective of the effect and necessity of ICT skills in language teaching, Ardıç and Çiftçi (2019) lay emphasis on the importance of teacher competencies in the effective use of ICT in language classes regarding effective planning and course design.

Distance and Online Education

Distance education is an old phenomenon in education, starting as "correspondence teaching"; it has evolved through generations into its current form. Moore (2023) described correspondence education as the consequent exchange of letters

between the students and the teacher, including the homework materials. Çoban (2013) reported that the beginning of distance education goes back to the 1700s when a newspaper announced “Steno Lessons” through distance education. However, Kaya (1996) states that distance education was used as a term for the first time in 1892 in a catalog of the University of Wisconsin. The next step of distance education included education through the radio. Pittman (1986) noted that education through radios failed to meet the expectations; widening their field from 1910 to 1930 into university-credit lessons accepted by around 13 universities, it lost its popularity by 1940. Moore (2023) commented on the reason leading radio education’s failure as teachers’ unwillingness in receiving technical instruction to generate an efficient course. Moving forward, distance education through television was launched. Gümüşel and Dölen (2022) reported that the beginning of education through televisions started as a military-based education method where military training movies were aired through television. Widening its scope to the universities in the 1930s, distance education started to be conducted as a separate type of education. A well-known example of current distance education practices is Massive Open Online Courses (MOOCs) conducted by universities and for-profit organizations. Carrier and Nye (2017) stated that these low-cost, versatile courses pave the way for individualistic and low-cost learning in higher education.

Singh et al. (2021) noted that online learning became a promising phenomenon that is considered as a candidate to take the place of face-to-face learning in the 1990s, but online learning remained less effective than expected despite the efforts. Online education brings about certain issues that make for an inefficient learning environment. Klimova (2021) stated that online education might lead to an increase in concentration issues of the students. Moreover, Yang and Lin (2020) underlined that students in online classes tend to feel less engaged in the course. In addition, Pokhrel and Chhetri (2021) summarized the issues in online education as the disadvantageous home environment for learning, teachers’ lack of experience in online teaching, a weak online teaching

infrastructure, and so on. Also, the OECD (2021) reported that the technological skills of teachers posed a threat to the efficiency of online education. Peachey (2017, pg. 144) reported that some challenges of online education also include, on behalf of the students, regarding technical literacy, a sense of isolation, and self-discipline. In addition, Moorhouse et al. (2021) stated that synchronous online instruction brings about more difficulties, such as limited transmission of gestures and facial expressions, changing the traditional interaction dynamics in synchronous online lessons.

Notwithstanding, Wong (2020) lists the advantages of online education as being time-saving, flexible, and having easily accessed materials. Additionally, Peachey (2017, pg. 143) commented on the improvements in online learning environments with the developments of technology in education, such as synchronized communication devices, online education is able to suggest a more realistic and valuable substitution to face-to-face learning environments thanks to the live lessons enabling synchronization in the online learning environments.

Research show that the language learners prefer face-to-face instruction rather than online education (Liu, 2019). Blended education, combining the strong aspects of online teaching to traditional and popular face-to-face teaching, promises the best of both education types (Sing et al., 2021). Moreover, Jones (2019) emphasized that connecting online and face-to-face features has the potential to surpass single-type education and that the combination of teaching mediums paves the way for additional learning opportunities.

Blended Education

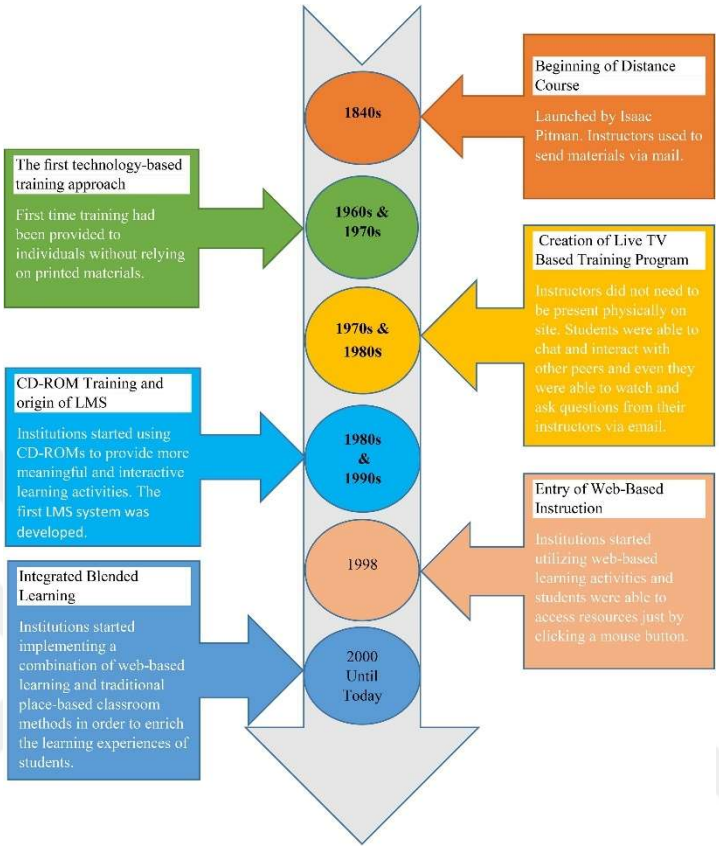
Hockly (2018) phrased blended education as a combination of face-to-face education processes blended with computer technology. Pardede (2012) further explained the logistics between face-to-face and technological components of blended education and stated that face-to-face education is not overshadowed but composed of online facilities. The idea, summarized by Sharma (2017), is that both the online components

under the umbrella of distance education and face-to-face components are used to enhance the learning experience. Blended education is a wide term that embodies multiple combinations of computer technology and education. Under the traditional implementation, it can be a mixture of synchronous or asynchronous courses and face-to-face courses. On the other hand, Dudeney and Hockly (2007) writes that presenting online course material whilst the course is taught face-to-face is also listed as a form of blended teaching. Also, flipped classrooms, where students receive the course materials online and study before the class, and participate in the material-related discussions in the face-to-face classroom environments is a popular approach in blended education. The term blended education can be expanded through the norms of education. Under the wider perspective of blended education, as Sharma and Barrett (2009) and Mishra and Koehler (2006) put it, it can be a combination where a sufficient amount of technology and face-to-face components are combined, including regular classes benefiting from the whiteboards. This perspective, in alignment with the theory of Westbrook (2008), Gruba and Hinkelman (2012), and suggesting that the term “blended” merely states the norm of education and is doomed to disappear, turns “blended education” into a redundant terminology. Under the light of the debates regarding the definition of blended education, it can be said that the best method to keep the perspective and ideology behind blended education is to stick with its most basic and classical definition as “the combination of both online and face-to-face instruction components”, as is the accepted definition for this research.

The history of blended learning can be traced back to the 1840s when Sir Issac Pitman launched the first distance education course (Singh et al., 2021). Pappas (2015) noted that computers were used to educate employees in the 1960s and 1970s and that blended learning formed an unquestionable presence in education in the 1980s. Although blended learning has been considered a promising teaching approach, its application remained limited in formal education until the COVID-19 pandemic.

Figure 2

Timeline of Blended Learning (Singh et al., 2021)



Garrison and Kanuka (2004) wrote that the distribution of online and face-to-face features in blended environments might differ in each blended environment due to the specific needs of the classroom. Therefore, it can be said that each blended environment presents unique data in its own sense. Yet, researchers have listed the features of blended education under broad terms. To illustrate, Dangwal (2017) listed the main ideal features of blended education as students having extensive exposure to modern technology, enabling students with two options to receive the course, teachers being capable of applying both modes of teaching, interaction among the students in two different modes, students receiving instruction in a variety of life skills, the goal of the class being the whole spectrum of personality development, students receiving instruction in face-to-face environment in addition to having online interaction, physical development being implementable within campus, students receiving extensive exposure to novel

perspectives on the course content, having a human component unlike online learning, the teaching and learning process being approached from a multicultural and multifaceted perspective, centering the teaching and learning process on the learner, students creating information rather than merely absorbing it, the instructor having varied responsibilities. Notwithstanding, blended classes are predefined under varied types of criteria in their field. Sharma (2017) identified four elements in an effective blended education environment: attitude, complementarity, appropriateness, and training. Attitude refers to the teachers' approach to the course, expecting positive outcomes and having students believe in that as well. Complementarity stands for the successful and practical integration of online and face-to-face elements in the course. As for appropriateness, the online and face-to-face elements need to be divided appropriately according to the focus of improvement aimed in the classroom. For example, it is better to cover the communicative and practical aspects of the language in face-to-face classroom environments, but reading and memorization-related units can be covered through online mediums. Lastly, training the instructors and the learners holds a great position in the success of blended education. To illustrate, the instructors need to be able to use the online tools they use to teach proficiently and the learners as well as how to use online assessment tools. Furthermore, training students in online classrooms adequately enable the classrooms to be more communicative as it can pave the way for a rather unseamed turn-taking. Carrier and Nye (2021), however, considered the majority of the responsibility in an effective blended classroom falls to the teacher. These responsibilities include the knowledge regarding current digital teaching modes, the ability to use the smartboard and to find adaptable activities to the whiteboard, being able to use digital resources effectively, deciding on the groupings of the activities, and informing students regarding necessary technological materials needed for the activities, and finding extra applications or websites for out-of-class language practice. Sharpe et al. (2006), Alammary et al. (2014), and Ataç (2023) suggested that the discrete lines surrounding blended education enable institutions and teachers to form their own effectiveness criteria relevant to their students, teaching

goals, and amenities. In that, it can be said that one of the qualities that arise from the undefined nature of blended education is being flexible and adaptable according to the classroom environment and amenities whilst imposing the burden of relative decisions onto the teacher for much of the time, making it crucial for them to have the necessary technological and pedagogical competence. Although blended education has been a familiar term in English Language Teaching for decades, due to the sudden appearance of long-term Emergency Remote Teaching during the Covid-19 pandemic in 2019, the online facilities used to enhance or form the classrooms are thought to remain and combine with the formations of face-to-face classrooms, making the familiarized sense of blended education go through a tangible metamorphosis. Pokhrel and Chhetri (2021) suggested that with the output of online education period during the pandemic, it is notably important that all teachers and students are encouraged to combine online tools used during that period to enhance face-to-face education. Taking into consideration the OECD (2021) reports stating the lack of technological competence of the educators, this study compares and analyzes both the technological issues and the efficiency issues of the face-to-face, online, and blended classes as a part of the research. Implementing web-based instruction at schools is really beneficial if the online course is designed appropriately depending on the needs of the students (Deniz, 2016). As it is put by Leboff (2020) that, after the online education period caused by the Covid-19 pandemic, blended education is deemed to become prevalent in the future as educators get familiarized with beneficial education technologies and possibly would not separate them from face-to-face classes after the end of the pandemic. Supporting that, Korucu and Kabak (2020) wrote that the drawbacks of online education conducted during the pandemic promoted the use of blended education. On a similar note, Malasari et al. (2021) propose that the concept of blended education gained popularity during the pandemic since it presents itself as the most favorable option for adapting new teaching with technology. Singh et al. (2021) suggested that blended education, combining the strengths of both online and face-to-face education, was adopted by a plethora of higher education institutes during the

pandemic period and that it can be said that the process has changed the dynamics of higher education permanently. Below is a table representing the research conducted before and after the pandemic and the positive and negative results of researches.

Research on Blended Education

Research before 2019 (2000-2019)	Positive indications	Negative indications
Atmacasoy and Aksu (2018)	Designing a personalized learning environment, accessibility and diversity of resources, diversity of the learning experience	Dependence on technology, technology-related problems, and decreased social interaction.
Hebebci and Usta (2015)	Flexibility in access to information, a more comfortable communication environment, individual and active learning opportunities, flexibility in lesson planning	The disappearance of face-to-face interaction and communication, the increase in technological needs, the need for individual working skills, and the difficulties that will occur in practice
Yapıcı (2019)	Providing students with autonomy, reducing learning anxiety, increasing the speed of learning and feedback	Technical problems to be encountered during the implementation process, increase in copy-paste habits among students, weakening of the effectiveness of the learning environment due to lack of instructors.
Yağcı et al. (2016)	Development of language skills and especially vocabulary, use of multimedia tools	The emergence of technical hardware and software inadequacies need for technical support and training.
Research after 2019 (2019-2024)	Positive indications	Negative indications

Yen et al. (2019)	BL model has the potential to provide an optimal atmosphere for language learning.	Students having trouble using related technology in the course.
Wang et al. (2021)	Integration of technology into the education process, increasing student participation, and flexible learning environment.	Dependence on technology, management challenges, student motivation, and engagement.
Loncar et al. (2023)	Possibility to make use of different technological tools, asynchronous and synchronous learning opportunities, accessibility and relevance.	Lack of theoretical foundations, lack of comprehensive data, dependence on student experience.
Arık (2021)	Ensuring student interaction and collaboration, creating a student-centered learning environment, accessibility and flexibility	Difficulties with communication and collaboration, lack of access to technology, inadequate use of personal contexts
Paker and Balcı (2020)	Diversity of opportunities in education, development of language skills, potential to increase student motivation	Technical problems and software bugs, lack of communication between students and teachers
Basmacı (2021)	Vocabulary development in language education, comfortable use of technology, creation of individualized learning experience	Generalized sampling and limitations, problems arising from technology, student's academic distress

Bulut (2022)	Flexibility in the learning environment, variety of educational materials, time, and cost advantages.	Problems arising from technology, decrease in face-to-face interaction, and inability to maintain student motivation.
Singh et al. (2021)	Encouraging students to think innovatively and creatively, creating meaningful and engaging learning experiences.	Technological challenges and mental health challenges in the long term.

Sharma (2017) mentioned that among the benefits of blended education is its time-saving components. To illustrate, providing theoretical lessons in online mediums and turning to face-to-face environments for practical courses might provide feasible time management for both the learners and the teachers, especially in big cities. Furthermore, Yılmaz (2014) noted that the synchronous aspect of online sessions allows both the learners and the teachers to interact synchronously, surpassing the physical borders. Considering it is not always possible to arrange recurring meetings in a classroom on short notice, it can be said that blended education offers flexibility beyond face-to-face education. Moreover, Du et al. (2022) reported that the online discussion forms created for courses allow participants to interact by helping them to benefit from a variety of discussion and interaction styles. Araç ve Akçadağ (2022) remarked that asynchronous forums provide a more engaging environment for shy learners as they provide a less stressful and more practical environment for learning the target language, encouraging them to actively participate in the learning process. However, blended education brings about some drawbacks as well. Sharma (2017) lists these as not being student-oriented, students being confused about connecting blended and online sessions in the course, some students rendering online sessions less important, and technical issues.

The Use of Technology in English Language Education: CALL

Teaching foreign languages with the assistance of ICT is officially named and abbreviated as “CALL: Computer Assisted Language Learning” since 1983. Warschauer, M., and Healey, D. (1998) remarked that the changes in the practices of CALL are highly affected by socioeconomic developments. Warschauer (1996) chronologically categorized CALL as Behavioristic, Communicative, and Integrative. The first phase, Behavioristic Call, corresponds to the time between the 50s and 70s. The Behavioristic phase in CALL refers to the impact of Behaviorism in that period. Connectedly, the Audio-lingual method emerged in the 1950s, emphasizing repetition and drills, and it was widely used in computer-assisted classrooms. Regarding this Audio-lingual method and the use of computers, Levy (1997) emphasized the effect of Skinner’s behaviorist approach and his keenness toward the use of machines in language education. Later on, as Sharma (2017) stated, due to socio-constructivism rising with the advancement of both technology and educational reforms, Behavioristic CALL has been switched to Communicative CALL. Warschauer (1996) states that Communicative CALL refers to the period between 70s and 80s. Responding to the need of this era, Larsen-Freeman and Anderson (2013) state that the communicative aspect of CALL disregards drills and behaviorism in language learning as they fail to form a basis for authentic communication. The use of computers extends into the role of a tutor instead of focusing on basic listening and repeating activities, engaging the language learners into more interactive and cognitive activities compared to the Behavioristic CALL. However, Warschauer (1996) states that it was highly criticized in pedagogical context that CALL and communicative approach was not used to the combination’s full potential which led to another evolution in its scope. Warschauer and Healey (1998) and Levy (1997) report that the movement in using language in interactional aspects lead to broader evaluations in the use of communicative approaches regarding the theoretical and practical aspects as the trend of education shifted from cognitive to socio-cognitive view entailing more task-based communicative

activities and the integration of diversified language skills. In this mainframe, the switch to Integrative CALL became inevitable. Warschauer, M., and Healey, D. (1998) describe the qualities of the Integrative CALL computers as an indispensable attribute possessing various informational, communicative, and publishing tools enabling language education to be more integrative and skill-based. Levy (1997) connects the widespread use of computers in language classes to the introduction of microcomputers in 1973. Supportingly, Warschauer, M., and Healey, D. (1998) commented that the socioeconomic changes of the era highly affected the developments in CALL. To specify, computers paved the way to process a great amount of data, to reach information in unlimited areas, and to communicate without physical borders. Hence, the focus put on the memorization turned to the communication skills. In this respect, teacher roles have undergone a shift as well. Instead of being the main source of language input and information, teachers have taken on the roles of facilitator, collaborator, mediator, and so on. Henceforth, in order for teachers to adapt to the new dynamics of teaching and learning; Chapelle (2010) emphasized the importance of integrating ICT into Second Language Learning (SLL) since it is a necessity considering that the students grew up with the 21st-century technology. However, Carrier and Nye (2017) underlined a significant issue in digitalization, which is the teachers' confusion in adapting technology into their language classes. A helpful roadmap was launched by Cambridge English (2016) regarding teachers' digital skills.

Blended Education in English Language Teaching

Although the blended English language teaching process constitutes a fairly simple process, it also creates different potentials that do not arise only in the face-to-face teaching process. In this context, Marsh (2012) mentions a number of advantages related to the blended English language teaching process. According to the researcher, blended English education provides an individualized learning experience. At the same time, independent and collaborative learning process is supported, and learning and student

engagement are increased. Recent research shows that technology offers both opportunities (Ja'ashan, 2020) and challenges (Gordon, 2014) to students and institutions. For students, blended learning offers control over when, how, and where the learning process takes place. It also allows for personalization of learning, enabling students to receive support from learning materials in a way that suits their learning style (Sheerah, 2020). In that, it can be said that blended education offers undeniable benefits. However, especially EFL learners face some difficulties in utilizing various materials (Sheerah, 2020). Hamdan et al. (2017) examined second language learners' perceptions of reading materials; the study revealed that the effectiveness of reading materials accessed online should be improved with various illustrations and pictures. In addition, it was also found that word lists created online contributed to reading comprehension.

In a study by Kintu et al. (2017), it is emphasized that matching students with appropriate courses for their specific characteristics and needs is another challenge. There are also some studies that suggest that in order to create a successful blended learning environment, different programs should be maintained for the development of faculty and students. For example, a study conducted by Yang (2012) examined English courses offered through blended learning at a university in Taiwan. In the study, the lack of blended learning skills of teachers revealed serious problems in the process. The data obtained in the research shows that the problems that occur in the blended learning process are parallel to the lack of training of teachers in using the Internet.. In a study conducted by Poon (2013), it is emphasized that with the provision of appropriate human and technical resources, an effective blended learning English education process can be managed. Çobanoğlu et al. (2017) emphasize that a clear policy on the subject should be established, strategic and operational plans should be carefully determined, and both teachers and students should be effectively supported in the process. In this way, it is possible to maximize the success of blended education. In addition, according to the researchers, for the sustainability of blended education implementation, it is necessary to determine the goals, costs, and available human resources in advance.

Chapter 3

Methodology

This chapter is subdivided into four parts that cover the details of the research design of the research. The first part deals with the components of the research that include the design, setting and the participants, followed by data collection and the instruments used to gather the data. Finally, the procedure of data analysis is demonstrated.

Research Design

This study adopted both quantitative and qualitative research methods since it aimed to bring a detailed explanation of the perceptions and attitudes of pre-service teachers. Quantitative data was used to design the qualitative steps. As for the qualitative complementary steps of the research, the semi-structured interviews were used to understand the perceptions and attitudes of pre-service teachers on a deeper level and to further their comments on blended education, as well as adding a comparison of online, face-to-face, and blended education.

Setting and Participants

The study's sampling frame is Hacettepe University English Language Teaching students in 2., 3., and 4. grade. The study was conducted with 147 pre-service teachers who had experienced an online, face-to-face, and blended teaching program in Hacettepe University's English Language Teaching undergraduate program and who were willing to participate in the study voluntarily. Participants are selected according to the convenience sampling method. Considering the frame of the research, it is essential to include every possible participant possible. Hence, the research includes all participants within the frame who are accessible. As for the sampling frame, there are three main reasons for choosing Hacettepe University as the main frame; the first reason is convenience; the university is highly accessible to the researcher due to the educational background of the

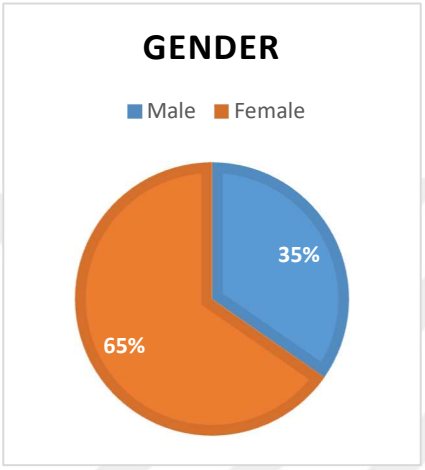
researcher, also making it easier to have access to potential participants. Moreover, Hacettepe University is one of the biggest and one of the most crowded universities, harboring 54.373 students; it sets a good environment when it comes to examining the effects of switching to online or blended environments in crowded education settings. Lastly, Hacettepe University (2021) has distance education programs for a wide audience, including online in-service training for teachers, "Distance Education Pedagogy and Technologies" which responds to OECD reports regarding the need for teacher training in distance and blended education practices: Teachers' need to have pedagogical skills to use technology appropriately which leads to a potentially successful use of blended education practices regarding Hacettepe University teachers. As for the selection criteria of the participants, the research focuses on English Language teaching students for two reasons: English language teaching students are expected to be familiar with pedagogical theories in English language teaching, and they have the necessary education to be able to analyze the current blended education practices and to form suggestions. Moreover, the Hacettepe University Quality Assurance Report (2020) provides a great deal of promising applications, and the research on English Language Teaching(ELT) students is thought to provide a good examination of its practices. In order to ensure all participants have experienced blended education for a decent amount of time, the participants are selected from 2nd, 3rd, and 4th grade ELT students.

Demographic Information of the Participants

Regarding the first step of the study, 147 students took part in the questionnaire consisting of 96 females and 51 males, while their age groups differed in the grades, the majority of the participants are 2nd grade ELT students consisting of 75 participants, next is 3rd grade ELT students consisting of 48 participants, lastly is 24 participants in 4th grade of ELT. The figures below represent the gender of grade percentages of the participants.

Figure 3

Gender statistics of the participants of the Effectiveness of Blended Learning Environment Scale

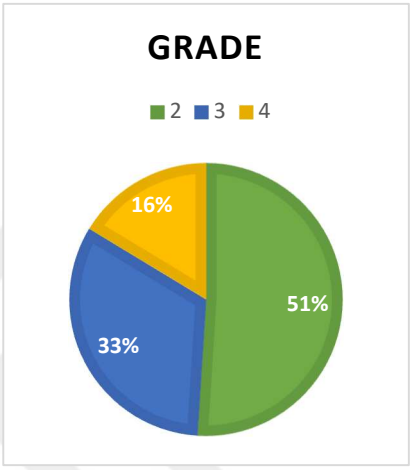


N(f)=96

N(m)= 51

Figure 4

Grade statistics of the participants of the Effectiveness of Blended Learning Environment Scale



N(2)=75

N(3)= 48

N(4)=24

Data Collection

Prior to commencing this study, ethical clearance was obtained from the Hacettepe University Ethical Commission. Next, the permission to use the effectiveness of the blended learning environments scale was obtained from Cabı and Gülbahar (2013). Finally, a consent form was delivered to the participants who answered the scale voluntarily. Following that, the semi-structured interview questions prepared for the second step of the research were updated according to the results of the questionnaire.

Once the semi-structured interview questions were updated, the researcher consulted two expert opinions. Finally, the researcher started the interview process.

This study follows the explanatory sequential mixed method design. In that, the data collection procedure starts with the quantitative part. The survey by Cabı and Gülbahar (2013) is used to analyze the attitudes and perceptions of pre-service teachers under four headings consisting of items (always, often, sometimes, rarely, never) that focus on the perceptions of students in blended learning environments under four categories as; (a) Face-to-face environment (b) Online environment, (c) Blended learning environment, (d) Technical matters.

The data collection procedure lasted eight weeks. The survey was sent to the participants online after the required permissions were obtained from the university's administration. The teacher candidates who volunteered to participate in the study first approved the consent form. Semi-structured interviews were conducted with volunteer participants online via video or audioconferencing on pre-determined times and dates. The interviews were recorded with the participants' permission.

Instruments

The study adopted two instruments to gather data. The first instrument is the scale by Cabı and Gülbahar (2013) named "Effectiveness of Blended Learning Environments Scale." The second instrument is the semi structured interview questions designed to further investigate the perceptions and attitudes of English Language Teaching students towards blended education practices. The following sections explain the details regarding the instruments.

Instrument 1

Effectiveness of Blended Learning Environments Scale by Cabı and Gülbahar (2013) is used to analyze the attitudes and perceptions of pre-service teachers under four headings that are consisting of items (always, often, sometimes, rarely, never) that focus

on the perceptions of students in blended learning environments under four categories as; (a) Face-to-face environment (b) Online environment, (c) Blended learning environment, (d) Technical matters.

Instrument 2

Concerning the qualitative data collection, a semi-structured interview was done in order to provide further details regarding the participants' attitudes and perceptions of blended learning with 15 volunteers from the first stage. Prior to the interviews, the researcher conducted two pilot studies and received two expert opinions regarding validity principles. Participants answered open-ended questions, and the answers were collected via recorded Zoom calls.

Table 1

Data Collection Instruments

Research Questions	Data Collection Instrument
Question 1,2,3,4	Effectiveness of Blended Learning Environments Scale
Question 5,6,7,8	Semi-structured Interview

Data Analysis

This research adopted both quantitative and qualitative methods to analyze the data. The data obtained from the scale was transferred to the computer environment, edited with the Microsoft Excel package program, and then analyzed with the SPSS (Statistical Package for Social Sciences) 29.0 package program. Before starting the analyses, the suitability of the numerical data to normal distribution was examined using Skewness and Kurtosis tests, Histogram, and Q-Q Plot graphics, and it was seen that the data came from a normal distribution. While categorical data are shown with frequency and percentage values, numerical data are shown with mean and standard deviation

values because they meet the assumption of normality. During data analysis, the "Independent Sample T Test" was used for the comparison of two independent groups. "The Pearson Correlation Test" was used to examine the relationship between numerical variables. For all tests, the statistical significance level was accepted as $p<0.05$.

Table 2.

Cronbach Alpha values of the sub-dimensions of the Effectıveness of Blended Learnıng Envıronments Scale

	Cronbach's Alpha
In face-to-face learning environments	0.861
In online learning environments	0.926
In blended learning environments	0.909
In terms of technical issues	0.809

Cronbach's alpha coefficient being over 0.70 indicates that the scale is reliable. Reliability analysis results; It shows that the In face-to-face learning environments, In online learning environments, In blended learning environments and In terms of technical issues scales are reliable.

Table 3

Skewness and Kurtosis values of the sub-dimensions of the Effectıveness of Blended Learnıng Envıronments Scale

	Skewness	Kurtosis
In face-to-face learning environments	0.952	0.680
In online learning environments	0.023	0.282
In blended learning environments	0.681	1.369
In terms of technical issues	-0.347	-0.226

Tabachnick and Fidell (2013) stated that the data come from a normal distribution when the skewness and kurtosis values are between -1.5 and +1.5. In line with this information, it is seen that the scales It shows that the In face-to-face learning environments, In online learning environments, In blended learning environments and In terms of technical issues scales show a normal distribution. In this regard, parametric tests are used in the research.

Content Analysis technique was employed for the analysis of the *Semi-Structured Interview Form* data. Content analysis involves the detailed, thorough, and systematic examination and interpretation of specific material, thereby identifying themes, subthemes, and categories (Creswell, 2003). Content analysis is a research method used for the systematic examination and understanding of a text or dataset. This method aims to identify the characteristics, structures, patterns, and themes of texts or data. The content analysis process involves the following steps (Johnson & Christensen, 2000)**:**

(i) *Data Collection:* In the first step, researchers collect the texts or data samples to be analyzed. These texts should be of sufficient quality to support the research question or hypothesis.

(ii) *Coding:* In the coding step, researchers systematically examine the data sets and label important concepts with codes.

(iii) *Development and Classification of Codes:* Researchers develop and categorize codes around themes and subthemes. This step involves grouping codes around themes and subthemes.

(iv) *Analysis:* In the analysis step, researchers carefully examine the coded data to identify relationships and meanings between themes and subthemes. In this step, researchers interpret the meaning of the codes and draw conclusions.

In the study, initially, the responses of the English pre-service teachers were thoroughly examined through content analysis to create codes based on the most frequently given responses. Subsequently, the participants' responses were categorized.

Through these categories, themes and subthemes were identified, and a systematic classification was carried out. The scope of themes and subthemes was specified, and finally, example direct quotes were provided for the subthemes. Participants were assigned a code each, abbreviated as S1, S2, S3, etc.

Chapter 4

Findings and Discussion

The results of the study are presented under the titles named after the research questions investigated in this research. Considering that the study sets out to explore pre-service English language teachers' perceptions and attitudes about blended education, the research questions are as follows:

1. What are the pre-service English teachers' perceptions of face-to-face learning environments?
2. What are the pre-service English teachers' perceptions of online learning environment?
3. What are the pre-service English teachers' perceptions of blended learning environment?
4. What are the pre-service English teachers' perceptions of technical matters in face-to-face learning practices?
5. What are the pre-service English teachers' perceptions of technical matters in online learning practices?
6. What are the pre-service English teachers' perceptions of technical matters in blended learning practices?
7. According to pre-service English Teachers, what are the differences between online, face-to-face, and blended learning practices in terms of their professional development?
8. What changes do pre-service English teachers suggest to make blended learning more effective?

Aiming to procure the answers to these questions, both quantitative and qualitative data were acquired. Firstly, quantitative data were gathered via the Effectiveness of Blended Learning Environment Scale. Next, the qualitative data was acquired using semi-structured interviews designed under the light of quantitative analysis findings.

Findings of RQ1: What Are the Pre-service English Teachers' Perceptions of Face-to-face Learning Environment?

This research question is designed to analyze the attitude of pre-service English language teachers at Hacettepe University toward a face-to-face education environment. Table 4 identifies the elements of the sub-dimension of the face-to-face environment.

Table 4.

Explanations of the expressions in the Face-to-Face Learning Environment scale

FaceToFace1	I was able to benefit from the instructor more compared to the online environment.
FaceToFace2	I was able to get more help from the instructor compared to the online environment.
FaceToFace3	I think I learned better.
FaceToFace4	I communicated more easily with my friends.
FaceToFace5	It is important for me to achieve the goals I set.
FaceToFace6	Learning under the guidance of the instructor increased my motivation.
FaceToFace7	I was able to communicate more easily with the instructor.
FaceToFace8	I feel more sense of responsibility compared to online environments.
FaceToFace9	The instructor encouraged me to be involved in the course.
FaceToFace10	The homework and research I did were sufficient for me to comprehend the subject.

Table 4 shows the participants' responses to the items in the face-to-face learning environment sub-dimension.

Table 5.

Participants' responses to the statements in the Face-to-face Learning Environment Scale

	Never		Rarely		Sometimes		Frequently		Always		
	Count	N %	Count	N %	Count	N %	Count	N %	Count	N %	**Mode**
FaceToFace1	2	1.4%	6	4.1%	17	11.6%	55	37.4%	67	45.6%	**5**
FaceToFace2	2	1.4%	7	4.8%	20	13.6%	53	36.1%	65	44.2%	**5**
FaceToFace3	2	1.4%	6	4.1%	17	11.6%	38	25.9%	84	57.1%	**5**
FaceToFace4	3	2.0%	3	2.0%	15	10.2%	26	17.7%	100	68.0%	**5**
FaceToFace5	0	0.0%	2	1.4%	11	7.5%	34	23.1%	100	68.0%	**5**
FaceToFace6	3	2.0%	6	4.1%	26	17.7%	47	32.0%	65	44.2%	**5**
FaceToFace7	2	1.4%	5	3.4%	20	13.6%	49	33.3%	71	48.3%	**5**
FaceToFace8	5	3.4%	8	5.4%	20	13.6%	23	15.6%	91	61.9%	**5**
FaceToFace9	1	0.7%	11	7.5%	42	28.6%	41	27.9%	52	35.4%	**5**
FaceToFace10	1	0.7%	3	2.0%	39	26.5%	72	49.0%	32	21.8%	**4**

Table 5 shows the participants' responses to the items in the face-to-face learning environment sub-dimension. 45.6% of the participants gave the highest answer to the statement, "I was able to benefit from the instructor more compared to the online environment." The fact that the mode value is 5 indicates that the most common answer is 'always'. The most frequently answered statement is 'I communicated more easily with my friends.' with a rate of 68%. All in all, the mode value shows that students mostly choose “Always” in the majority of the statements in the face-to-face learning scale, which shows that their perceptions of face-to-face education are frequently on the positive side.

The analysis results regarding the opinions of pre-service teachers on face-to-face learning experiences in these practices, corresponding to the first research question are presented below.

Table 6.

Pre-service Teachers’ Opinions on Face-to-face Learning Experiences

Main Themes	Subthemes
1. Effectiveness	1.a. Interaction

	1. b. Feedback
2. Contribution of Technology	2. a Benefits
	2. b Limitations
3. Learning Environment	3. a Distractions
	3. b. Focus-Enhancers
4. Individual Learning	4. a Learning Styles
	4. b Learning Efficiency

The analysis resulted in the emergence of 4 themes regarding pre-service teachers' experiences with face-to-face learning and technology usage in these practices. The themes are: Effectiveness, Contribution of Technology, Learning Environment, and Individual Learning.

Effectiveness. This theme encompasses the factors used by students to evaluate the effectiveness of their learning experiences. Particularly, elements such as student-teacher interaction and feedback reception are highlighted. It consists of two sub-themes.

Interaction. Under the *Interaction* sub-theme, students found their face-to-face learning experiences effective. Especially emphasized is how student-teacher interaction facilitated eye contact and feedback reception.

> […] I think this is the most effective teaching method because we can make eye contact with our teachers and in the future we will be able to make eye contact with our students, because I believe eye contact is very important because you can't feel if someone is listening to you or not. (S4, Interview Data, 07.03. 2024)
>
> […] In face-to-face classes, I feel more engaged because I can ask questions directly to the teacher and interact with my classmates during discussions. (S17, Interview Data, 12.03.2024)
>
> […] I find that face-to-face interaction is crucial for clarifying complex concepts as I can receive immediate feedback and guidance from the teacher. (S6, Interview Data, 07.03.2024)

> […] The interactive nature of face-to-face learning allows me to actively participate in group activities and collaborative projects, enhancing my understanding of the course material. (S3, Interview Data, 07.03.2024)

Feedback. In the *Feedback* sub-theme, students in face-to-face learning environments received feedback from their teachers through interactive practices, thus fostering the creation of interactive classroom environments.

> […] For example, when we do micro-teaching in class... we can get feedback from our teacher... we can create an interactive classroom environment. (S10, Interview Data, 20.02. 2024)

> […] I appreciate the immediate feedback I receive from my teacher during face-to-face sessions, which helps me track my progress and identify areas for improvement. (S3, Interview Data, 07.03.2024)

> […] Face-to-face learning allows for more personalized feedback tailored to my individual learning style and needs, which motivates me to strive for academic excellence. (S9, Interview Data, 07.03.2024)

Contribution of Technology. This theme addresses the role and impact of technology in face-to-face learning experiences. It consists of two sub-themes such as *Limitations* and *Benefits*.

Limitations. Under this sub-theme, technology usage was generally perceived as inadequate. Students indicated that only basic-level technology was used in the classroom.

> […] For example, when we want to give students something visual and, you know, in terms of writing by using both the board and the projection, we cannot do both at the same time. Therefore, I think that the use of technology in face-to-face learning can be made more effective. Especially for our faculty. (S1, Interview Data, 06.03.2024)

> […] As far as I've seen, technology use is only projector computer use, being able to run Microsoft PowerPoint, that's it, unfortunately, I haven't seen much technology use in class. (S4, Interview Data, 29.02. 2024)
>
> […] But especially when we do micro-teaching, in the teaching young learners course, our computer does not connect to the Internet, we cannot project on the projection, or when we project on the projection, we cannot use the smart board. (S5, Interview Data, 06.03.2024)
>
> […] One limitation of face-to-face learning is the lack of flexibility in scheduling, which can be challenging for students with busy schedules or other commitments. (S16, Interview Data, 06.03.2024)
>
> […] When I was in a preparatory class I was actually worried because I didn't know anything about Blackboard usage, and I struggled to learn and experience this program. (S13, Interview Data, 06.03.2024)

Benefits. In the *Benefits* sub-theme, while face-to-face education can provide students with a more effective learning experience, it was found to be more efficient compared to online education platforms (such as Zoom and Microsoft Teams).

> […] And then, like when we came to school, for example, one week she taught us how to use Canva, and then we made our own presentations at the school, so it was really fun, and then we showed it to each other, and then we learned some other, for example, for example like presentation tools like Prezi and stuff. It was really fun to learn them and use them in- in the school. So I guess because on my field I haven't learned a lot of different things. It's just like the presentation tools and materials. It was fun to use them, and I felt like I was actually doing something instead of just bluntly sitting there. (S2, Interview Data, 20.02.2024)
>
> […] Technology has contributed significantly to our learning experience by providing access to a wide range of educational resources and interactive tools

> that make learning more engaging and accessible. (S9, Interview Data, 07.03.2024)
>
> […] The use of educational apps and online platforms has allowed us to personalize our learning journey, catering to individual learning styles and preferences. (S16, Interview Data, 06.03.2024)

Learning Environment. This sub-theme examines the characteristics of the learning environment and the impact of environmental factors on learning experiences. It includes sub-themes such as *Distractions* and *Focus-enhancers.*

Distractions. Under the *Distractions* sub-theme, it is noted that there are distracting factors within the classroom during face-to-face education, especially when students have different mental states.

> […] In face-to-face education, there are a lot of distractions in the classroom. Especially if you are in a class with students who are not in the same mental condition as you. (S16, Interview Data, 06.03.2024)
>
> […] But in the face-to-face, I need to manage more things I need to manage my life on campus. I'm living in dorms and, I- I have to get to a faculty or, traveling, money or all the other things becomes a problem, and this affects face-to-face learning and this affects the effectiveness of learning. (S4, Interview Data, 29.02.2024)

Focus-enhancers. This sub-theme represents the physical elements of the face-to-face learning environments. Several students stated that the preparation process, as well as being in the physical environment of a classroom served as an enhancer for their focus.

> […] When we're in actual physical classroom, I feel more engaged with the topic with the teacher. (S14, Interview Data, 02.03.2024)
>
> […] I was uh, sitting at the back of the class. And I could- didn't quite hear the teacher and I wasn't interested in any of the classes, but one teacher saw me sleeping and he came to me and asked me a question. And I said, what's in my

> mind, and he said, well, that's great. Thank you for participating. And I was like- full attention for the whole class. (S3, Interview Data, 25.02.24)
>
> […] Being there in person. I think it feels like you are participating in the class much more than online classroom because you are not like in classroom, I can't just sit like this in my dormitory room or in my house- I don't really feel like I'm getting education. (S7, Interview Data, 04.03.2024)

Individual Learning. This theme focuses on how face-to-face learning affects students' individual needs and learning styles. Specifically, it examines the advantages of learning efficiency and the process inherent in learning styles under this theme.

Learning Styles. According to the *Learning Styles* sub-theme, learning styles, and individual needs are better addressed in face-to-face education, while this may be more challenging in online learning platforms.

> […] In face-to-face education, there are advantages and disadvantages according to learning styles, it seems to be more closed to individual learning... (S14, Interview Data, 02.03.2024)

Learning Efficiency. Students believe that face-to-face learning is more efficient and enhances focus.

> […] Yes, what did we have before COVID, actually we were doing face-to-face learning, so far we've come this way, I think it's more efficient to see the other person, I also see focus efficiency face-to-face... (S6, Interview Data, 04.03.2024)

Findings of RQ2: What Are the Pre-service English Teachers' Perceptions of Online Learning Environment?

This research question is designed to analyze the attitude of pre-service English language teachers at Hacettepe University toward an online education environment. Table 7 identifies the elements of the online environment sub-dimension.

Table 7.

Explanations of the expressions in the Online Learning Environment scale

OnlineLearning1	Interactive presentation of the course content increased my interest in the course.
OnlineLearning2	I think that the synchronous (chat) activities organized helped me learn better.
OnlineLearning3	I think that the asynchronous (discussion, etc.) activities organized helped me learn better.
OnlineLearning4	The instructor encouraged me to be involved in the course.
OnlineLearning5	I communicated more easily with my friends.
OnlineLearning6	I enjoyed studying very much.
OnlineLearning7	Using technology increased my interest in the course.
OnlineLearning8	I felt more sense of responsibility compared to the face-to-face environment.
OnlineLearning9	Using communication tools (Internet, e-mail, discussion lists, etc.) made me feel that I am not isolated.
OnlineLearning10	I enjoyed participating in collaborative activities.
OnlineLearning11	I was able to get help from the instructor in any time I requested.
OnlineLearning12	While studying, I tried to find answers to my questions by using communication tools.
OnlineLearning13	I was able to get immediate feedback from the instructor.
OnlineLearning14	I used the time effectively to complete the activities.
OnlineLearning15	I think I learned better.
OnlineLearning16	I generally solved the problems I experienced while studying.
OnlineLearning17	I communicated more easily with the instructor.
OnlineLearning18	I could easily access the teaching materials whenever I wanted.
OnlineLearning19	The included online resources met my expectations.
OnlineLearning20	The course content was prepared taking into account individual differences.

Table 8 shows the participants' responses to the items in the online learning environment sub-dimension.

Table 8.

Participants' responses to the statements in the Online Learning Scale

	Never		Rarely		Sometimes		Frequently		Always		
	Count	N %	Count	N %	Count	N %	Count	N %	Count	N %	**Mode**
OnlineLearning1	12	8.2%	30	20.4%	53	36.1%	34	23.1%	18	12.2%	**3**

OnlineLearning2	20	13.6%	34	23.1%	42	28.6%	35	23.8%	16	10.9%	**3**
OnlineLearning3	16	10.9%	26	17.7%	58	39.5%	33	22.4%	14	9.5%	**3**
OnlineLearning4	15	10.2%	31	21.1%	53	36.1%	34	23.1%	14	9.5%	**3**
OnlineLearning5	39	26.5%	48	32.7%	32	21.8%	16	10.9%	12	8.2%	**2**
OnlineLearning6	56	38.1%	39	26.5%	27	18.4%	20	13.6%	5	3.4%	**1**
OnlineLearning7	36	24.5%	41	27.9%	44	29.9%	18	12.2%	8	5.4%	**3**
OnlineLearning8	82	55.8%	38	25.9%	12	8.2%	7	4.8%	8	5.4%	**1**
OnlineLearning9	42	28.6%	37	25.2%	41	27.9%	20	13.6%	7	4.8%	**1**
OnlineLearning10	46	31.3%	46	31.3%	36	24.5%	14	9.5%	5	3.4%	**1**
OnlineLearning11	17	11.6%	25	17.0%	60	40.8%	36	24.5%	9	6.1%	**3**
OnlineLearning12	11	7.5%	13	8.8%	29	19.7%	63	42.9%	31	21.1%	**4**
OnlineLearning13	18	12.2%	35	23.8%	46	31.3%	37	25.2%	11	7.5%	**3**
OnlineLearning14	20	13.6%	32	21.8%	50	34.0%	32	21.8%	13	8.8%	**3**
OnlineLearning15	65	44.2%	38	25.9%	22	15.0%	15	10.2%	7	4.8%	**1**
OnlineLearning16	14	9.5%	27	18.4%	43	29.3%	51	34.7%	12	8.2%	**4**
OnlineLearning17	25	17.0%	50	34.0%	49	33.3%	17	11.6%	6	4.1%	**2**
OnlineLearning18	7	4.8%	13	8.8%	23	15.6%	56	38.1%	48	32.7%	**4**
OnlineLearning19	11	7.5%	19	12.9%	46	31.3%	51	34.7%	20	13.6%	**4**
OnlineLearning20	33	22.4%	48	32.7%	38	25.9%	20	13.6%	8	5.4%	**2**

Table 8 shows the participants' responses to the items in the online learning environment sub-dimension. 12.2% of the participants answered “always” to the statement 'Interactive presentation of the course content increased my interest in the course.' The fact that the mode value is 3 indicates that the most common answer is 'occasionally'. The most frequently answered statement is 'I could easily access the teaching materials whenever I wanted..' with a rate of 32.7%.

The analysis results regarding the opinions of pre-service English teachers on their online learning experiences and the use of technology in these practices, corresponding to the second research question are presented below.

Table 9.

Pre-service Teachers’ Opinions on Online Learning Experiences

Main Themes	Subthemes
1. Effectiveness	1.a. Efficiency
	1. b. Technology Usage Issues
2. Learning Environment	2. a Lack of Interaction
	2. b Classroom Management

The analysis revealed two themes such as Effectiveness and Learning Environment regarding pre-service teachers' online learning experiences and the use of technology in these practices.

Effectiveness. This theme evaluates the effectiveness of pre-service teachers' online learning experiences and the use of technology in these practices. It consists of two subthemes: *Efficiency* and *Technology Usage Issues.*

Efficiency. This sub-theme demonstrates the effectiveness of pre-service teachers' online learning process, while the *Technology Usage Issues* subtheme reflects the problems encountered by pre-service teachers regarding technology usage during online learning.

> […] When the teaching is online, you are more relaxed and not so serious about the topics. (S2, Interview Data, 20.02.2024)
>
> […] My online learning experiences have generally been negative, and I have used various platforms, but it has not been satisfying. I generally encounter difficulties with Internet connection and technology usage. (S6, Interview Data, 04.03.2024)

Learning Environment. This theme evaluates students' experiences related to the communication process, lack of interaction, and classroom management in online classroom environments. It consists of two subthemes: *Lack of Interaction* and *Classroom Management*.

Lack of Interaction. This sub-theme addresses the advantages and disadvantages of interaction processes in online learning, particularly emphasizing connectivity issues and feedback deficiencies in large class structures.

[…] Interaction is difficult in online classes with large groups, leading to distractions for us. (S14, Interview Data, 29.02. 2024)

[…] Getting in contact with teachers was a lot harder for us. (S11, Interview Data, 04.03.2024)

Classroom Management. This sub-theme examines students' experiences with classroom management in online learning environments. It focuses on the challenges for the facilitating teacher and the constrained nature of the communication process.

[…] The concept of classroom management can be somewhat difficult, I experienced distractions, and I think academics struggle to control students. (S12, Interview Data, 04.03.2024)

Findings of RQ3: What Are the Pre-service English Teachers' Perceptions of Blended Learning Environment?

This research question is designed to analyze the attitude of pre-service English language teachers in Hacettepe University toward the blended education environment. Table 10 identifies the elements of the blended environment sub-dimension.

Table 10.

Explanations of the expressions in the Blended Learning Environment scale

BlendedLearning1	The Instructor was willing to teach.
BlendedLearning2	The instructor used face-to-face and online environments effectively.
BlendedLearning3	The mentoring service I received from the instructor was sufficient.
BlendedLearning4	I think I learned better.
BlendedLearning5	I think the experience is important.
BlendedLearning6	The instructor was successful in moderating face-to-face and online environments.

BlendedLearning7	The time allocated for online and face-to-face environments was appropriate for me.
BlendedLearning8	The course content was appropriate for my level.
BlendedLearning9	The course content was clear and understandable.
BlendedLearning10	The course content was presented in a planned way.
BlendedLearning11	The content we received face-to-face and online was appropriate for the chosen medium.
BlendedLearning12	Highlights of both environments were used.
BlendedLearning13	The learning materials provided were sufficient for me.
BlendedLearning14	The different teaching methods and techniques used were appropriate for transferring the content.
BlendedLearning15	There was a unity in the content conveyed in both environments.
BlendedLearning16	I was told in advance according to which criteria I would be assessed
BlendedLearning17	I would like different evaluation techniques to be used to evaluate my achievement.
BlendedLearning18	I try to interact with my classmates face to face if I need to.
BlendedLearning19	I was able to manage time well while performing educational activities.
BlendedLearning20	I decided for myself about what to learn and how to learn it.

Table11.

Participants' responses to the statements in the Blended Learning Scale

	Never		Rarely		Sometimes		Frequently		Always		
	Count	N %	Count	N %	Count	N %	Count	N %	Count	N %	**Mode**
BlendedLearning1	5	3.4%	25	17.0%	39	26.5%	54	36.7%	24	16.3%	**4**
BlendedLearning2	6	4.1%	20	13.6%	46	31.3%	57	38.8%	18	12.2%	**4**
BlendedLearning3	8	5.4%	23	15.6%	44	29.9%	53	36.1%	19	12.9%	**4**
BlendedLearning4	27	18.4%	34	23.1%	44	29.9%	27	18.4%	15	10.2%	**3**
BlendedLearning5	7	4.8%	12	8.2%	33	22.4%	47	32.0%	48	32.7%	**5**
BlendedLearning6	4	2.7%	31	21.1%	49	33.3%	48	32.7%	15	10.2%	**3**
BlendedLearning7	11	7.5%	25	17.0%	41	27.9%	56	38.1%	14	9.5%	**4**
BlendedLearning8	1	0.7%	3	2.0%	18	12.2%	80	54.4%	45	30.6%	**4**
BlendedLearning9	4	2.7%	7	4.8%	29	19.7%	68	46.3%	39	26.5%	**4**
BlendedLearning10	3	2.0%	7	4.8%	25	17.0%	68	46.3%	44	29.9%	**4**
BlendedLearning11	3	2.0%	19	12.9%	33	22.4%	71	48.3%	21	14.3%	**4**
BlendedLearning12	9	6.1%	28	19.0%	41	27.9%	54	36.7%	15	10.2%	**4**
BlendedLearning13	3	2.0%	17	11.6%	48	32.7%	66	44.9%	13	8.8%	**4**
BlendedLearning14	5	3.4%	21	14.3%	45	30.6%	63	42.9%	13	8.8%	**4**
BlendedLearning15	3	2.0%	16	10.9%	40	27.2%	61	41.5%	27	18.4%	**4**
BlendedLearning16	4	2.7%	11	7.5%	37	25.2%	44	29.9%	51	34.7%	**5**
BlendedLearning17	5	3.4%	9	6.1%	26	17.7%	47	32.0%	60	40.8%	**5**
BlendedLearning18	5	3.4%	8	5.4%	17	11.6%	55	37.4%	62	42.2%	**5**
BlendedLearning19	9	6.1%	22	15.0%	53	36.1%	54	36.7%	9	6.1%	**4**
BlendedLearning20	10	6.8%	21	14.3%	23	15.6%	48	32.7%	45	30.6%	**4**

Table 11 shows the participants' responses to the items in blended learning environment sub-dimension. To the statement 'The Instructor was willing to teach.', 20.4% of the participants answered often, with the highest rate. The fact that the mode value is 3 indicates that the most common answer is 'often'. The most frequently answered statement is 'I try to interact with my classmates face to face if I need to.' with a rate of 42.2%.

The analysis results regarding the opinions of pre-service English teachers on their blended learning experiences corresponding to the third research question are presented below.

Table 12.

Pre-service Teachers' Opinions on Blended Learning Experiences

Main Themes	Subthemes
1. Advantages	1.a Flexibility
	1.b Diversity
2. Key Components	2.a Digital Contents
	2.b Interactive Learning
3. Challenges	3.a Infrastructure and Access Issues
	3.b Motivation

The analysis revealed three themes such as *Advantages*, *Key Components* and *Challenges* regarding pre-service teachers' blended learning experiences and the use of technology in these practices.

Advantages. This theme describes the experiences of teacher candidates regarding blended learning in terms of *flexibility* and *diversity*. According to the theme blended learning provides students with the opportunity to work at their own pace and at convenient times, combining face-to-face classes with online materials, thus giving them the freedom to plan their lessons according to their schedules. It offers various learning materials and methods tailored to different learning styles and needs, providing access to diverse resources and enabling the integration of rich digital content through technology. Moreover, it highlights the advantages such as enhancing student engagement and providing interactive learning experiences by incorporating various tools and platforms.

Flexibility. The sub-theme of flexibility encompasses the advantage of blended learning in providing students with the opportunity to work at their own pace and at convenient times, combining face-to-face classes with online materials, and offering students the freedom to plan their lessons according to their schedules.

> […] Thanks to blended learning, I can take my classes whenever I want. This gives me the chance to progress at my own pace. (S12, Interview Data, 04.03.2024)

Diversity. The sub-theme of diversity encompasses the advantages of blended learning in offering various learning materials and methods tailored to different learning styles and needs, as well as providing access to different resources that will enhance the learning process for students.

> […] Blended learning allows me to receive lessons in a way that suits different learning styles. Thus, everyone has the opportunity to learn according to their needs. (S1, Interview Data, 29.02. 2024)

Key Components. The *Key Components* theme encompasses the fundamental elements of blended learning, including the provision of flexibility for students to work at their own pace and suitable times. According to the theme students can engage with online materials at their own pace and receive more personalized attention and guidance during face-to-face sessions. It involves offering various learning materials and methods tailored to students' different learning styles and needs, utilizing diverse tools and platforms to enhance student engagement and facilitate interactive learning experiences. The theme also suggests that with both face-to-face and online interactions, students may exhibit a tendency to be more active and participatory. It consists of subthemes such as *Digital Contents* and *Interactive Learning.*

Digital Contents. Digital contents refer to online modules or activities provide students with opportunities to interact with course material in meaningful ways and learn interactively. They play a significant role in blended learning environments by providing flexibility, interaction, and accessibility for students to engage with course content outside traditional classroom settings.

> […] The digital contents used in blended learning help me understand the subjects better because I can review them whenever I want... (S4, Interview Data, 07.03. 2024)

> […] Online course materials enable students to study on their own and provide opportunities for learning from different sources. (S14, Interview Data, 29.02. 2024)

Interactive Learning. Interactive Learning preserves face-to-face interaction while integrating online learning opportunities to provide students with a richer and more effective learning experience.

> […] The interactive learning in blended learning allows me to interact with course materials and helps me better understand the subjects." (S10, Interview Data, 07.03.2024)

Challenges. The Challenges theme encompasses students' experiences with technical difficulties accessing online platforms, Internet connectivity issues, or other technology-related problems, as well as low motivation or lack of discipline and interaction deficiencies. This theme consists of the *Infrastructure and Access Issues* and *Motivation* subthemes.

Infrastructure and Access Issues. The challenges of accessing online platforms due to technical difficulties experienced by students living in areas without Internet connection encompass Internet connectivity issues or other technology-related problems.

> […] Sometimes, due to living in an area with no Internet connection, my access to blended learning can be limited. (S2, Interview Data, 20.02.2024)

Motivation*.* According to this subtheme, students may encounter motivation issues when they perceive online components as less engaging or interactive than face-to-face interactions. Additionally, they may experience reluctance to actively participate in online activities due to challenges in self-discipline and time management. From the perspective of teachers, managing both face-to-face and online components simultaneously can be challenging, leading to burnout or decreased motivation.

> […] Working alone in online classes can sometimes lead to a lack of motivation. That's why I try to keep my motivation high in my classes. (S16, Interview Data, 07.03.2024)

Findings of RQ4: What Are the Pre-service English Teachers' Perceptions of Technical Matters in Face-to-face Learning Practices?

The qualitative results of the analysis of the conducted interview regarding the views of Pre-service English Teachers' Opinions upon face-to-face education environment technical issues are presented in Table 13.

Table 13

Pre-service Teachers' Opinions on Technical Issues in Face-to-face Education Practices

Main Themes	Subthemes
1. Technical issues	1.a. Worn-out supplies 1.b Learning Enhancement

When put under microscope, the analysis revealed the theme Technical Issues which is divided into two subthemes that are Worn out Supplies and Learning Enhancement.

Technical Issues. The theme Technical Issues involve the technical dimension of education which provides the analysis regarding technical details' effects upon learning and the issues in technical supplies. According to the theme students find technical supplies too old to be beneficial; however, using applications is said to enhance students' learning experience in face-to-face education. Hence, the theme consists of two subthemes: Learning Enhancement and Worn-out supplies.

Learning Enhancement. This theme focuses on the effects of technology use in students' learning in the classroom.

> […] We used forums after the classes so we can put back our thoughts about some topics in there which learn, and it was good at some point because we had chance to gather up our thoughts and make sense of them. (S3, Interview Data, 25.02.24)

> […] In university, everything I do is about technology, almost in every class, I have to make presentations. to prepare a presentation I make research on Internet using technology, then I create a presentation with this information, using technology again. (S16, Interview Data, 16.03.2024)
>
> […] My teacher taught us how to use Canva, and then we made our own presentations at the school, so it was really fun. (S2, Interview Data 20.02.2024)
>
> […] The more they use technology, the more beneficial it is. (S4, Interview Data, 29.02.2024)

***Worn-out supplies*.** This sub-theme refers to the state of materials used in classrooms.

> […] I realize that our equipment not very effectively working. For example, my teachers always try to show something to us on the computer. But the computer is too slow, and they cannot make the exact use of technology. (S6, Interview Data, 20.02.2024)
>
> […] I think we haven't gotten accustomed to like the new years of technology in our classrooms yet. (S5, Interview Data, 06.03.2024)
>
> […]When the teacher is telling the lecture on the projection device on the whiteboard, sometimes the lighting is not good enough or the font is not readable (S12, Interview Data, 18.04.2024)

Findings of RQ5: What Are the Pre-service English Teachers' Perceptions of Technical Matters in Online Learning Practices?

The theme and the sub-themes regarding the views of pre-service English teachers, in the context of fifth research question are presented in Table 14 below.

Table 14

Pre-service Teachers' Opinions on Technical Issues in Online Education Practices

Main Themes	Subthemes
Technical Dimension	a. Materials
	b. Environment

Upon analysis, it was discovered that the mostly recurring theme is technical dimension in the context of materials and environment to connect to the online courses.

Technical Dimension. This theme refers to the materials used in the online classroom and their sufficiency in procuring an efficient learning environment. The identified subthemes are *Materials* and *Environment*.

Materials. The sub-theme focuses on the inputs of an online classroom, such as technological devices and infrastructure.

[…] I couldn't put myself out there to listen because I didn't even have a proper camera. (S3, Interview Data, 07.03.2024)

[…] Especially on online education when we don't have Internet connection that is strong ait kind of restricts you from participating in the class and also hearing the whole conversation, interaction going on as well because your connection is weak. So you kind of draw away from the whole teaching process that is going on. (S5, Interview Data, 04.03.2024)

[…] Sometimes Internet in Turkey is not very good so it was not very effective. (S9, Interview Data, 07.03.2024)

[…]Online learning was really bad because our teachers were having problems with technology and Internet connection. (S11, Interview Data, 04.03.2024)

[…] Some students don't have access to cameras.(S12, Interview Data, 04.03.2024)

[…] Some teachers' mic was bad, which is a very important aspect in any kind of teaching, not only in the online learning but also in face-to-face learning. Your voice should be audible to everyone. (S15, Interview Data, 06.03.2024)

Environment. This sub-theme involves the background dynamics of online classrooms.

> […] Some students' environment is not available for online education. They are with their family or some people, some students, they live with their sisters or brothers, you know, siblings in the same room, and they don't want to show them on the camera, I think. (S12, Interview Data, 04.03.2024)

> […] We are connecting to an online session and, we are at home and the place is not suitable for the learning environment. (S14, Interview Data, 20.02. 2024)

Findings of RQ6: What Are the Pre-service English Teachers' Perceptions of Technical Matters in Blended Learning Practices?

This research question is designed to analyze the attitude of pre-service English language teachers at Hacettepe University towards technical matters in blended education environments. Table 15 identifies the elements of the Technical Issues dimension.

Table 15.

Explanations of the expressions in the Technical Issues scale

TechnicalIssues1	I felt isolated and unhappy
TechnicalIssues2	I had difficulty in submitting the given assignments on time.
TechnicalIssues3	I had problems because of the technological infrastructure.
TechnicalIssues4	I had technical difficulties
TechnicalIssues5	I had problems with the Internet connection.

Table 15 provides explanations of the items included in the Technical Issues scale.

Table 16

Participants' responses to the statements in the Technical Issues Scale

	Never		Rarely		Sometimes		Frequently		Always		
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	**Mode**
TechnicalIssues1	18	12.2%	35	23.8%	47	32.0%	23	15.6%	24	16.3%	**3**
TechnicalIssues2	19	12.9%	50	34.0%	37	25.2%	21	14.3%	20	13.6%	**2**
TechnicalIssues3	15	10.2%	41	27.9%	50	34.0%	30	20.4%	11	7.5%	**3**
TechnicalIssues4	19	12.9%	44	29.9%	57	38.8%	17	11.6%	10	6.8%	**3**
TechnicalIssues5	11	7.5%	45	30.6%	47	32.0%	27	18.4%	17	11.6%	**3**

Table 16 shows the participants' responses to the items in the technical issues sub-dimension. To the statement, ‘I felt isolated and unhappy.', 32% of the participants answered occasionally, at the highest rate. The fact that the mode value is 3 indicates that the most common answer is 'occasionally'.

The qualitative findings are presented in Table 17.

Table 17

Pre-service English Teachers’ Perceptions of Technical Matters.

Main Themes	Subthemes
Technical Issues	a.Infrastructure
	b.Isolation

Technical Issues. This theme covers the issues arising from the use of technology and is divided into two subthemes: Infrastructure and Isolation.

Infrastructure: Due to lack of appropriate devices or Internet connection, a number of students mention the setbacks of online parts in blended courses.

> […] Because of technical difficulties, other students cannot hear you, cannot hear your question and teacher will never be able to focus on you as much as they do on the face-to-face students because teacher has no way of seeing you. (S4, Interview Data, 29.02.2024)

> […] I think they never really learned something. Because there were some really little issues that kept coming up like “teacher we couldn’t hear you” and “we couldn’t see you” some things like that. (S7, Interview Data, 04.03.2024)

Isolation. Due to the difficulties in interacting with the teacher, several students indicated that they felt they did not receive enough attention from the teacher.

> […] Teachers were not as effective as they were in online or face-to-face learning. Teachers had to take care of two different environments at the same time, and this restrained them from giving attention to both environments. (S6, Interview Data, 20.02.2024)

> […] I believe the teachers focus on mostly the students who are in the classroom, so we who connected throughout Zoom- will not be like, you know, the teacher focused on us, totally forgot us, and mostly spoke to the classroom. It's also not effective for those who are connected through Zoom. (S10, Interview Data, 20.02. 2024)

Findings of RQ7: According to Pre-service English Teachers, What are the Differences Between Online, Face-to-face, and Blended Learning Practices in Terms of Their Professional Development?

This research question is designed to analyze the attitude and evaluation of pre-service English language teachers in Hacettepe University towards online, face-to-face, and blended learning practices. The views of pre-service English teachers, in the context of fifth research question, on the differences and preferences between online, blended, and face-to-face learning in terms of professional development are presented in Table 18.

Table 18.

Pre-service Teachers’ Opinions on the Differences Between Online, Blended, and Face-to-Face Education Practices.

Main Themes	Subthemes
1. Differences	1. a Learning Environment
	1. b Interaction

		1. c Control
2.	Career Preparation	2. a Knowledge
		2. b Skills
		2. c Experience
3.	Preference	3. a Prefer Face to Face Learning
		3. b Prefer Online Learning
		3. c Prefer Blended Learning

When looking at the views of teacher candidates on online, blended, and face-to-face learning, and their effects on their careers, it is observed that they are gathered under the themes of *Differences*, *Career Preparation,* and *Preference.*

Differences. The *Differences* theme highlights the variations between the models, focusing on differences in the learning process, interaction between students and teachers, and control over the management of classes. In this regard, three sub-themes were identified such as *Learning Environment, Interaction,* and *Control.*

The Learning Environment. This sub-theme brings forth perspectives on instructional planning, interface during the process, student materials, and flexibility.

> […] But when it's blended learning the student can choose which class to attend, so she can, she or he can attend just face to face or online part, or just do both of them. (S2, Interview Data, 20.02.2024)

> […] In blended teaching it can be a problem. The teacher says I am going to do the classroom, not face-to-face. I'm going to do it online and it's going to be at 10 o’clock so It can be a problem. (S8, Interview Data, 07.03.2024)

> […] In my opinion, when you have a screen in front of you, you don't really pay attention because the teacher can't see you. (S12, Interview Data, 04.03.2024)

Interaction. In this subtheme, it was emphasized that in face-to-face learning environments, interaction between students and teachers is generally more direct and intense, with students being able to perceive their teachers' body language, tone of voice, and facial expressions more clearly, which enhances participation and understanding in

the class. Additionally, it was noted that group work, discussions, and other interactive activities can enrich the learning experience. In online learning environments, it was highlighted that student-teacher interaction is often more limited, requiring specific strategies in the context of interaction, but learning materials provided through online platforms generally offer flexibility and accessibility. As for blended learning, it was pointed out that since it combines these two models, it can be considered as a middle ground in terms of interaction. It was also mentioned that in blended learning, students can access materials through online platforms while engaging in face-to-face interaction and collaboration using various online interactive tools.

> […] In face to face, you can feell the teacher I think you can make eye contact you can read her body movements and you can see the classroom environments. (S10, Interview Data, 07.03.2024)
>
> […] But in blended education, when we make it the way it should be, I mean some of the classes should be taken in classes, some of the lessons should be taken online. (S11, Interview Data, 04.03.2024)
>
> […]...blended learning is a mix, so you can do both of the things I mentioned. (S17, Interview Data, 07.03.2024)

Control. The Control sub-theme encompasses the management and organization aspects of online, blended, and face-to-face learning models. This theme explores the extent of control that students and teachers have in these different learning environments and examines how this control affects the learning process.

> […] For example, when the subject is hard and needs more time and focus, it can be done face to face. In contrast; when the subject is easy and enjoyable, it can be done online. (S12, Interview Data, 04.03.2024)
>
> […] In face to face learning it can’t be a problem because, the program would be premade and it cannot be changed according to teacher. (S8, Interview Data, 04.03.2024)

> […] Everyone was discussing whether it was mandatory for students to turn their cameras on and off. (S10, Interview Data, 07.03.2024)

Career Preparation. The *Career Preparation* theme encompasses the evaluation of online, blended, and face-to-face learning models in terms of their readiness for prospective teachers' careers. This theme examines how each learning environment contributes to the professional development, teaching skills, and career goals of prospective teachers. Additionally, it focuses on how these different learning experiences may provide an advantage or disadvantage in the recruitment and professional advancement processes for prospective teachers. This theme consists of the subthemes *Knowledge, Skills,* and *Experience.*

Knowledge. The Knowledge sub-theme examines the quantity and quality of knowledge acquired during the learning process about professional job. This theme is concerned with students' ability to comprehend course materials, achieve learning objectives, and grasp subjects. Additionally, it evaluates the depth, breadth, and accuracy of information acquired by students during the learning process.

> […] Because the difference being the teacher can focus on the class and what they're going to teach about much more in face to face learning. (S10, Interview Data, 07.03.2024)

> […] And teachers would be able to deliver their message more efficiently in face-to-face classes. (S11, Interview Data, 04.03.2024)

> […]..in online education i got more chance to research and learn theoric things about my profession better. (S17, Interview Data, 07.03.2024)

Skills. This sub-theme focuses on the development and application of specific abilities or competencies that students acquire through the learning models.

> […]But when it's blended learning the student can choose which class to attend, so she can, she or he can attend just face to face or online part, or just do both of them. (S2, Interview Data, 07.03.2024)

> […]So I use technology also in that class, but not as much as other classes, I would say. (S12, Interview Data, 07.03.2024)

Experience. The Experience sub-theme can be described as experiences that enhance students' skills and practices in their professional careers. It is the sub-theme where they specify which of the online, blended, or face-to-face environments they can utilize and their reasons for doing so throughout their educational journey.

> […] In online learning, I couldn't establish a connection or say anything, I might leave the system open, and it's difficult to control exams. Because we experienced these, I have question marks in my mind. (S6, Interview Data, 07.03.2024)

> […] But when you have a screen in front of you, you can't pay much attention because the teacher can't see you. I experienced this kind of situation. (S17, Interview Data, 12.03.2024)

> […] Regarding this, I can say that I saw a broader framework of blended learning implementation in classes. I think I will also use this in my professional life. (S3, Interview Data, 07.03.2024)

> […] Face-to-face learning is the most important as it enables me to practice my teaching ability. (S17, Interview Data, 07.03.2024)

Preference. The *Preference* theme examines the preferences of teacher candidates for different learning environments and the reasons behind these preferences. Under this theme, the reasons why participants prefer online, blended, or face-to-face learning models, how these preferences are associated with personal characteristics or learning styles, and the impact of preferences on learning experiences are explored. Differences in preferences among students and teachers can also be examined under this theme, highlighting the importance of differentiated strategies in education.

Prefer Face to Face Learning. The 'Prefer Face to Face Learning' sub-theme encompasses the reasons why participants prefer in-person learning and the motivations behind this preference. Under this sub-theme, reasons why students and teachers prefer face-to-face learning, such as its potential impact on personal or professional

development, its contributions to the learning experience, and its effect on student motivation, can be articulated.

> […] In face to face, you can feel the teacher I think you can make eye contact you can read her body movements and you can see the classroom environments. (S10, Interview Data, 07.03.2024)

> […] Still, face-to-face is the king, but I believe that if done and if controlled properly, online classes could also be as efficient as face-to-face classes. (S16, Interview Data, 07.03.2024)

> […] On the other hand, online learning does not provide such things. Students have to watch and try to learn by looking at the screen for hours. İt makes an artificial learning environment not as effective as face-to-face learning. İt is true that online learning also has some advantages like time saving but still more prone to be distracted in online teaching. (S17, Interview Data, 07.03.2024)

Prefer Online Learning. Within this sub-theme, participants may express reasons such as the flexibility and convenience offered by online learning, the ability to access resources remotely, the opportunity to learn at one's own pace, and the potential for a comfortable learning environment free from distractions. Additionally, participants highlighted the advantages of online learning in terms of accommodating busy schedules, enabling access to a wide range of courses or materials, and fostering independence and self-discipline in learning.

> […] I prefer online learning because it provides flexibility and convenience. I can access classes anytime and work at my own pace. Additionally, having fewer distractions in the online environment makes it easier for me to focus. (S14, Interview Data, 29.02. 2024)

> […] Online learning is ideal for me as someone with a busy schedule. I can attend classes from anywhere and at any time. Moreover, working with a wide range of courses and materials nriches my learning experience and allows me to focus more on my personal interests. (S10, Interview Data, 07.03.2024)

> […] Online learning helps me develop my independence and discipline in the learning process. I can manage my class attendance myself, take notes, and complete assignments, which leads me to take more responsibility. This makes me more prepared for the workforce. (S6, Interview Data, 07.03.2024)

Prefer Blended Learning. In this subtheme, participants stated that blended learning combines the advantages of face-to-face and online learning models. Reasons behind this preference include providing online flexibility and accessibility alongside face-to-face interaction, offering experiences suitable for different learning styles, and encouraging students to effectively utilize technology. Participants emphasized that blended learning diversifies the learning experience by providing access to learning materials from different platforms, enriching the learning process.

> […] Finally, in blended learning, we can use positive aspects of both teaching methods depending on the situation. (S10, Interview Data, 07.03.2024)

> […] Face-to-face education is too tiring. Online education is not effective. But blended education, when we make it the way it should be, I mean some of the classes should be taken in classes, some of the lessons should be taken online. When we make this the way we should, I mean. If we take the lessons correctly to the online part. It's the best. (S1, Interview Data, 07.03.2024)

> […] Blended learning provides students with flexibility according to their needs and combines the advantages of different learning environments. (S3, Interview Data, 07.03.2024)

Findings of RQ8: What Changes Do Pre-service English Teachers Suggest to Make Blended Learning More Effective?

This research question is designed to define the pre-service English language teachers in Hacettepe University in order to improve blended education's effectiveness. The views of pre-service English on developing blended learning practices are presented in Table 19.

Table 19.

Main Themes		Subthemes
1.	Rich Experience	1. a Interactive Materials
		1. b Personalized Learning
2.	Strong Interaction	2. a Interactive Environments
		2. b Supportive Systems

Rich Experience. The 'Rich Experience' theme encompasses the use of interactive materials and personalized learning approaches to enrich the learning experience. Under this theme, pre-service teachers indicated that they could make lessons more enjoyable and engaging for students by using various media types, games, and interactive exercises. They expressed their intention to enhance learning effectiveness by providing customized content tailored to students' levels and interests. Additionally, teachers can utilize adaptive learning software that offers personalized content based on individual student needs and skills.

Interactive Materials. The sub-theme of 'Interactive Materials' involves the use of interactive materials to enhance the learning experience. Under this theme, teachers aim to capture students' attention and increase engagement by utilizing various types of media, such as music videos, films, games, and interactive exercises in their lessons.

[…] I incorporate interactive materials like educational games and multimedia presentations to create a dynamic learning environment where students actively participate and engage with the content. (S6, Interview Data, 07.03.2024)

[…] By integrating interactive materials such as online quizzes and virtual simulations into my lessons, I aim to foster a more immersive learning experience that caters to different learning styles and keeps students motivated. (S8, Interview Data, 07.03.2024)

[…] I make learning English more enjoyable and engaging by using various types of media such as music videos, movies, games, and interactive exercises in classes. I enhance learning effectiveness by providing content tailored to each student's level and interests. I can increase student motivation and participation by using gamification techniques like points, badges, and leaderboards. (S12, Interview Data, 04.03.2024)

Personalized Learning. This sub-theme aims to customize the learning experience according to individual needs and skills, providing each student with an approach tailored to their learning process. Under this theme, teachers seek to understand students' strengths and weaknesses, offering personalized content, support, and feedback to make learning more effective.

[…] I can adapt adaptive learning software that offers tailored content based on each student's individual needs and skills. (S2, Interview Data, 20.02.2024)

[…] Maybe use data analysis and monitoring tools to track student progress and provide additional support or challenges when needed. (S7, Interview Data, 04.03.2024)

[…] I can encourage students to create digital portfolios where they can track their work and progress. (S7, Interview Data, 07.03.2024)

Strong Interaction. The theme of 'Strong Interaction' aims to strengthen both student-teacher and student-student interactions. Under this theme, teachers encourage communication among students and support active participation by utilizing interactive activities, discussions, group work, and project-based learning methods during classes. It consists of two sub-themes: 'Interactive Environments' and 'Supportive Systems'.

Interactive Environments. This sub-theme focuses on designing learning environments to encourage student engagement and enhance interaction. Under this theme, teachers emphasize factors such as classroom arrangement, material selection, and technology integration to foster greater student participation and activity.

[…] I facilitate interaction among students by using tools such as online discussion forums, chat rooms, and virtual classrooms that cater to different learning styles, enabling students to engage with each other and exchange ideas. (S8, Interview Data, 07.03.2024)

[…].. may organize group projects and presentations to help students improve their language skills and reinforce teamwork abilities. (S2, Interview Data, 20.02.2024)

[…] I would include guest speakers and virtual tours in the program to enable students to gain insights into different cultures and perspectives. (S4, Interview Data, 07.03.2024)

Supportive Systems. This sub-theme involves the utilization of various systems and resources to support students throughout the learning process. Under this theme, educators mentioned that they can assist students more effectively by utilizing systems such as providing access to learning materials and resources, monitoring student progress, providing feedback, and offering additional support and guidance to students.

[…] I think that the dynamic between the teacher and the student should be built on communication, in terms of lessons that we can contact in an emergency, in terms of learning. Because I think communication is the most important factor in creating a positive learning environment. So by creating a positive learning environment, we can make learning more permanent and more beautiful. (S1, Interview Data, 07.03.2024)

[…] I probably would suggest they should only be done with students that have access to a decent Internet connection. And especially for blended classrooms like ours, they should teach the teacher the necessary technology skills to manage both online and face-to-face students. If I was teaching a blended class, and why… I would for sure upload the content and the recording of the class into the moodle or Google Classroom. Because students sometimes cannot see or hear the content clearly due to Internet connection or other issues. (S15, Interview Data, 06.03.2024)

[…] I organize online office hours and chat rooms where students can ask questions and receive additional support, actively participating in these environments. (S2, Interview Data, 20.02.2024)

[…] I use various methods such as self-assessment, peer assessment, and teacher assessment to provide regular and comprehensive feedback on students' work and evaluate their progress. (S7, Interview Data, 07.03.2024)

Discussion

The following research questions were the focus of the inquiry of the study: What are the pre-service English teachers' perceptions of face-to-face learning environment, what are the pre-service English teachers' perceptions of online learning environment, what are the pre-service English teachers' perceptions of blended learning environment, what are the pre-service English teachers' perceptions of technical matters in face-to-face learning practices, what are the pre-service English teachers' perceptions of technical matters in online learning practices, what are the pre-service English teachers' perceptions of technical matters in blended learning practices, according to pre-service English Teachers, what are the differences between online, face-to-face and blended learning practices in terms of their professional development, what changes do pre-service English teachers suggest to make blended learning more effective. The thesis was conducted with 147 English language teaching students at Hacettepe University ELT Program. First, a questionnaire was administered to the students. Next, a semi-structured interview was carried out with 16 volunteer students to further define their perceptions, attitudes, and suggestions regarding their experiences with blended learning, along with the comparison with other means of teaching.

Pre-service English Teachers' Perceptions of Face-to-face Learning Environment

The results of the quantitative analysis report that pre-service English teachers mostly perceive face-to-face education environment elements positively. To illustrate, nearly all of the pre-service teachers reported often or always in the section stating they benefited from the teacher more in comparison to the online environment. The most common answer being 'always' indicates the favoritism of the environment. Moreover, 49.07%. of the students stated that they were able to interact with the teacher at the

highest point, nearly half of the students stated that they received more help from their teacher in face-to-face learning environments, and 70.1% of the learners indicated that they interacted with their peers easily in face-to-face learning environments. The results of the research fall in alignment with those of Singh et al. (2021), who emphasize the benefits of face-to-face learning environments' interaction, which can lead to a more innovative classroom.

The qualitative analysis revealed four themes: Effectiveness, Contribution of Technology, Learning Environment, and Individual Learning. Provided by the qualitative results, revealing interaction sub-theme under the theme of effectiveness, it can be said that face-to-face learning environments are more effective concerning interaction. Also, students stated that they received immediate, individualized feedback in face-to-face learning environments, which adds to the interactive nature of the classroom. As for the Limitations sub-theme, some students stated that the high amount of interaction might lead to distractions in face-to-face learning environments. Furthermore, the qualitative results indicate that the expenses of traveling and accommodation are considered a setback by the students. Another setback is stated to be the state of technological materials in the classroom, students commented that the old materials made it difficult to project their presentations when it came to practice-based teaching activities. All in all, despite the setbacks stated by the students, both quantitative and qualitative data provide similar results to Blau et al. (2017), reporting that the learners experiencing all three mediums of teaching favor face-to-face classroom environments.

Pre-service English teachers' perceptions of online learning environmentThe quantitative results show tangibly more negative results compared to face-to-face learning environments but for students' being fond of studying in online environments and the positive effects of technology use in the courses. As for qualitative results, the themes revealed are Effectiveness and Learning Environment. According to the first theme, technological tools are highly beneficial in improving the efficiency of the course. As stated by one student, 'The more they use technology, the better'. However, some students

reported connection issues hindering the efficiency of the course. In addition, in connection to what Peachey has suggested (2017), students tend to feel a sense of isolation in online classroom environments, in vein with the quantitative results, students commented that interaction in online classrooms is difficult to maintain. Furthermore, several students stated that they find it hard to focus in an online class and that they experience immense difficulties in focusing on the course. Overall, the findings support the suggestion of Klimmova (2021) in reporting the concentration issues. Moreover, the qualitative results suggest that, as suggested by Graham et al. (2005), the online components mostly rely on the discipline of the learners, unlike face-to-face environments, which provide their own enhancement of student focus.

Pre-service English teachers' perceptions of blended learning environment

The quantitative data indicates that many of the pre-service English teachers think that the teachers of the blended courses frequently and sometimes used face-to-face and online teaching mediums effectively. Furthermore, the percentage of the students who selected the "I think I learned better" cumulated into the "sometimes" option of the scale. The fact that positive results lay on the lowest side of the scale aligns with the qualitative results as the results show the majority of the students prefer face-to-face learning environments concerning an efficient learning experience. Moreover, qualitative data acquired from semi-structured interviews revealed that one of the areas of backlash is evaluation in blended education. As mentioned by Koç (2016), assessment systems in blended education are prone to be problematic. Also, Students mentioned that face-to-face assessment was either too difficult compared to the online aspect of blended education or that online assessments paved the way for cheating. Yet, qualitative data acquired from semi-structured interviews revealed one recurring positive subtheme that is the flexibility it offers, in vein with Bulut's (2022) reports.

Pre-service English Teachers' Perceptions of Technical Matters in Face-to-face Learning Practices

This research question investigated the perceptions of EFL students regarding the technical matters of the learning practices utilized in face-to-face environments. The analysis demonstrates that the main theme of Technical Issues is divided into two subthemes that are Worn-out Supplies and Learning Enhancement. The first theme encompasses the utilities used in face-to-face classrooms, their sufficiency, and their effects on the efficiency of the face-to-face learning environments. The students stated that the equipment used in face-to-face classes is quite old and inefficient, thereof the efficacy of the courses is lacking. To illustrate, slow computers and low-quality projection devices negatively affected the management of the face-to-face course. In the end, these issues negatively affected the accessibility of sufficient materials in the course and the effective technology use skills for both the teachers and the students.

On the other hand, the sufficient and efficient use of technology is emphasized to enhance the learning experience on a big scale. In other words, students expressed that thanks to the presentations prepared by the use of technology and the online discussions conducted in forums, they were able to profoundly enhance their learning experiences in face-to-face education. Moreover, teachers who benefit from technology and who utilize technology well are seen to enhance students' participation and interaction within the course. To specify, some students mentioned that teachers using technology well or teaching students about course-related apps, such as Canva makes the course more intriguing and interactive. The operative and prevalent use of technology in the classroom increases the motivation to learn in EFL students whilst making the course material more comprehensible. The findings emphasize the importance of the institutes keeping their technological infrastructure up-to-date and providing their teachers with related training to utilize technology effectively in the classroom. Improvements of this kind are suggested to reduce the technical issues, making the course more efficient for both students and teachers.

Pre-service English Teachers' Perceptions of Technical Matters in Online Learning Practices

This research question aims to analyze the perceptions of EFL students concerning technical phenomena in online classrooms. The findings show that with the main theme being Technical Dimension, the most recurring subthemes are Materials and Environment. English teacher candidates emphasized the issues in infrastructure and the problems in Internet connection, making an issue of classroom participation. Furthermore, the issues in cameras and low-quality microphones affect the efficacy of learning negatively.

On another point, it is revealed that the environments where students log in to the online classrooms are not always appropriate to provide a sufficient learning environment. Hence, several ELT students stated that they were neither able to participate nor listen to the online course. The fact that students share a living space with either their family or their friends and not having an appropriate area to join the online course lowers the efficiency of the overall experience. Overall, the findings document that the infrastructure of online education needs improvement, and the students should be provided with an appropriate environment to participate in online classrooms.

Pre-service English Teachers' Perceptions of Technical Matters in Blended Learning Practices

This research question explained the perceptions of technical matters in blended learning practices of pre-service English teachers. The quantitative results present a midlevel table. The results show that the learners tend to feel moderately isolated in blended education as 'sometimes' is the mostly selected answer. Also, most students rarely have difficulty delivering assignments. The mostly selected answer regarding infrastructure issues is 'sometimes'. Finally, 62.06% of the students 'rarely' or 'sometimes' have problems with the Internet connection. Overall, the findings prove the existence of technical issues, although not often, they still matter in affecting the learning experience.

The qualitative findings suggest two subthemes regarding technical issues: Infrastructure and isolation. Firstly, as for the infrastructure subtheme, students mention the lack of necessary devices and the Internet connection issues. To exemplify, students mentioned they sometimes could not hear the teacher and that it affected their experience negatively. Next, the subtheme ‘isolation’ focuses on the difficulty in interaction. Students felt they did not receive enough attention from the teacher as the teacher was trying to focus on two different mediums to teach at the same time. On a similar note to Mali and Lim (2021), students tend to consider blended education limited in interaction opportunities with the teacher and their peers. The situation creates an imbalance that leads online students to feel neglected. For example, Students who connected through Zoom reported that the teachers mostly focused on face-to-face medium and that they did not pay attention to the online participants in the classroom in the equal amount. The findings reveal the need to improve technical infrastructure and the need to form healthy interaction strategies for both mediums in blended classrooms.

The Differences Between Online, Face-to-face, and Blended Learning Practices in Terms of Pre-service Teachers’ Professional Development

This research question explored the opinions and evaluations of pre-service English teachers regarding online, face-to-face, and blended learning practices. Findings show that teacher candidates' opinions are collected under three main themes (Differences, Career Preparation, and Preference). The theme of differences emphasizes differences in course management, student-teacher interaction, and learning processes. The Learning Environment subtheme stated that although blended learning provides flexibility and freedom of choice, there is distraction in online learning. The interaction subtheme emphasized that face-to-face education increases student-teacher interaction and enables teachers to better understand body language and tone of voice. Online learning provides flexibility and accessibility despite limited interaction. Blended learning is seen as an alternative method that increases interaction by combining the benefits of these two models. The control subtheme examined teachers' and students' control over

organization and management in various learning environments. In face-to-face learning, programs are standard, but in online and blended learning, originality and flexibility are important.

The career preparation theme includes the evaluation of online, blended, and face-to-face learning models in terms of preparing prospective teachers for their careers. Knowledge, skills, and experience were determined as three main themes. The knowledge sub-theme focuses on how much knowledge prospective teachers acquire during the learning process and the quality of their learning. Students suggest that face-to-face learning environments made for a more effective environment to convey the input whilst online education is only appropriate for theoretical input. The subtheme of skills explores the students' process of improving their skills and competencies. To illustrate, it is revealed that blended learning supports skill development by encouraging the use of technology. From another view, experiences that students can use in their careers fall under the experience sub-theme. Face-to-face education was seen as the most important experience because it allowed prospective teachers to practice their teaching skills. Pre-service teachers' preferences for different learning environments and the reasons behind these preferences are discussed within the scope of the preference theme. The EFL students who prefer face-to-face learning environments compared to the other two learning environments stated that face-to-face learning environments enhance personal and professional development in addition to increasing interaction in the classroom. The students reporting the positive sides of online education stated that it provides flexibility and accessibility in resources and the classroom environment while improving their autonomy in studying. Finally, the students who emphasized the positive sides of blended learning regard that it combines the advantages of both face-to-face and online learning environments and that it suits a variety of learning styles, also enabling the effective use of technology. The findings of the research question reveal that learning environments should be changed in line with the needs of students and teachers.

Changes Pre-service English Teachers Suggest to Make Blended Learning More Effective

This research question is designed to define the pre-service English language teachers at Hacettepe University to improve blended education's effectiveness. The suggestions of teacher candidates are gathered under two themes: Rich Experience and strong interaction. The theme 'rich experience' covers interactive materials and personalized learning techniques. Teacher candidates suggest using videos including music, films, games, and online quizzes to engage students in the course and to increase participation rates in the classroom. Furthermore, they emphasize the efficiency of personalized teaching regarding the individual interests of the learners, which are enlisted under the personalized learning subtheme, stating the importance of personalized classroom content.

The theme 'strong interaction' focuses on the strategies to reinforce student-student and teacher-student interaction. Pre-service English teachers propose adding interactive activities, group work, and task-based learning techniques to increase the active participation rates of the students. The subtheme interactive environments lays emphasis on classroom design, the selection of the materials, and the integration of technology to heighten the student's participation in the course. The supportive systems sub-theme incorporates enabling students to access the course-related materials that they need, watching their progress, and providing feedback. Pre-service teachers bring up the benefits of using online tools such as online discussion forums, chatrooms, and virtual classrooms to facilitate interaction between students and to instigate the exchange of ideas. These findings provide suggestions for practical applications to increase the effectiveness of blended learning and have the potential to make important contributions to the literature on blended education.

Chapter 5

Conclusion and Suggestions

Throughout this chapter, the findings are concluded, and recommendations for further research on blended learning are presented.

Conclusion

This study investigated pre-service English teachers' perceptions and attitudes toward blended education and presented valuable indications to enhance the effectiveness of the teaching model. Hacettepe University ELT students stated that interactive materials and personalized learning techniques supplemented their learning experiences. Similarly, the use of various media tools is reported to make the learning process more enjoyable. Nonetheless, technical issues are reported to affect the students' education experiences on the negative side of the spectrum. On a side note, infrastructure issues hinder the students' participation in the classroom due to a lack of appropriate tools or the inconsistency of Internet connection. Also, teachers having issues in forming a balance between their interaction with online or face-to-face classrooms leads to a sense of isolation in students. The findings demonstrate the necessity for better technical equipment and the formation of interaction strategies in blended environments. Moreover, improving teachers' technical competencies and establishing systems to provide students with more interactive video communication software pose a critical importance in increasing the effectiveness of blended education. In a similar vein, the accurate and effective use of technology in education is crucial in ensuring the students' participation and motivation.

Consequently, the study highlights the importance of adaptation of the teachers in their teaching strategies in blended environments and the need to better the technical equipment in order to apply blended education effectively. The findings can provide crucial hints for the future applications in blended education practices.

Suggestions

Considering this study aims to analyze pre-service English teachers' perceptions. and attitudes of blended education, it is practical to say that similar studies can be conducted in different universities with students to increase generalizability. Considering Hacettepe University is a state university, conducting a similar research with students from a similar educational background has the potential to provide a rich data regarding comparability and adding more dimensions into the findings. Next, as mentioned by the

students in the interviews, the effect of the pandemic is intertwined with the students' perception of online and blended education. A study focusing on and separating the effects of the pandemic and blended education can be conducted. Moreover, as revealed by the study, students' environment poses great effect on the efficacy of online and blended courses. Hence, the connection between students' living conditions and their attitudes towards blended education practices can be examined. Another side point revealed by the study is that pre-service teachers tend to start working as teachers while they continue their formal education to be teachers. Connectedly, it would be ideal to conduct research to explore the connection between students who also work as teacher and their attitude towards blended education practices. Finally, despite the rich literature describing blended education, blended education still lacks a specific methodology and falls under the name of technology-enhanced education. However, considering the promising future of blended education, it would be beneficial to conduct several studies to put in a framework and form a methodology focusing on optimizing blended education's benefits.

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APPENDIX-A: VOLUNTEER PARTICIPATION FORM FOR THE SCALE

Dear participant,

As prospective teachers, we would like to thank you very much in advance for your support for our study. You are kindly requested to participate in this thesis study, which will be conducted by Aylin Çakallı, a graduate student in Foreign Language Education at Hacettepe University under the supervision of Dr. Hatice Ergül. The aim of this study is to contribute to the literature by describing the evaluations of pre-service teachers who have experienced blended, online, and face-to-face education practices. Permission was obtained from Hacettepe University Ethics Commission for this research. Your responses will be analyzed anonymously for this research. We ask you to mark the option that fits you the most on the scale given in the questionnaire. These records will not be shared with any third party and will only be used for research purposes. Please note that your participation is entirely voluntary, and you may be excluded if you engage in behavior that could compromise the research. We would also like to assure you that your responses will be anonymized and used for research purposes only. There is no risk in participating in this study. Your participation will remain strictly confidential. Your name will not be used in the study in any way. For all your questions, you can contact me at a[redacted]during the study. You will be contacted within two days.

After reading this information, I kindly ask you to sign this form declaring your voluntary participation in the study. You can contact me about any questions you want to ask about the study before or after you give your consent. If you wish, you can also contact me at my contact number to get information about the results of the study. Thank you very much for reading and signing the form.

Participant:

Name Surname:

Signature:

Supervisor	Researcher
Asst. Prof. Hatice ERGÜL	Aylin Çakallı
HU Faculty of Education,	Hacettepe University Beytepe Campus
Department of English Language Teaching	Signature:
Signature	

APPENDIX-B: VOLUNTEER PARTICIPATION FORM FOR THE INTERVIEW

Semi-structured interview volunteer participation form

Dear participant,

Thank you very much in advance for the support you provide to our work as teacher candidates. Hacettepe University Foreign Languages Education master's thesis student Aylin Çakallı, Dr. You are kindly requested to participate in this thesis study, which will be carried out under the supervision of Hatice Ergül. The aim of this study is to contribute to the literature by describing the evaluations of prospective teachers who have experienced blended, online and face-to-face education about these educational practices. Permission was received from Hacettepe University Ethics Commission for this research. For this research, an online interview will be held with you about your online, face-to-face and blended education experiences, this interview will be recorded audio and video, and your answers will be written down and analyzed anonymously. We ask that you answer the questions asked to you as clearly as possible during our interview. These records will not be shared with any third party and will be used for research purposes only. Your participation is entirely voluntary. We would also like to assure you that your responses will be found anonymously in the research and will be used for research purposes only.

There is no risk in participating in this study. Your participation will remain strictly confidential. Your name will not be used in any way in the study. For all your questions, you can contact me at aylindemirelt@gmail.com during the study period. You will be contacted within two days.

After reading this information, I ask you to sign this form declaring your voluntary participation in the research. You can contact me about any situation you would like to ask before or after you approve the study. If you want, you can contact me via my contact information to get information about the research results. Thank you very much for reading and filling out the form.

Name surname *

This information will not be used in research

Your answer

Email *

This information will not be used in research.

Your answer

I agree to participate in the research *

- [ ] Yes
- [ ] No

APPENDIX-C: EFFECTIVENESS OF BLENDED LEARNING ENVIRONMENTS SCALE

In face-to-face learning environments.. Always Frequently Sometimes Rarely Never

F1. I was able to benefit from the instructor more than I was in the online environment.

F2. I was able to get more help from the instructor compared to the online environment.

F3. I think I learned better.

F4. I communicated more easily with my friends.

F5. It is important for me to reach the goals I have set.

F6. Learning under the guidance of an instructor increased my motivation.

F7. I was able to communicate more easily with the instructor.

F8. I feel a greater sense of responsibility compared to online environments.

F9. The instructor encouraged me to attend the class.

F10. The homework and research I did was enough for me to understand the subject.

In online learning environments Always Frequently Sometimes Rarely Never

O1. The interactive presentation of the course content increased my interest in the course.

O2. I think that the simultaneous speaking activities enable me to learn better.

O3. I think that the different timed (discussion, etc.) events organized helped me learn better.

O4. The instructor encouraged me to attend the lesson.

O5. I communicated more easily with my friends.

O6. I enjoyed studying very much.

O7. Using technology increased my interest in the course.

O9. I felt a greater sense of responsibility than in the face-to-face environment.

O10. Using communication tools (Internet, e-mail, discussion lists, etc.) made me feel thaT I was not alone.

O11. I enjoyed participating in collaborative activities.

O12. I was able to get help from the instructor whenever I wanted.

O13. While studying, I tried to find answers to my questions using communication tools.

O14. I was able to get immediate feedback from the instructor.

O15. I made good use of the time to carry out activities.

O17. I think I learned better.

O18. I usually solved the problems I had while studying.

O19. I communicated more easily with the instructor.

O20. I could easily access the teaching materials whenever I wanted.

O21. The online resources included met my expectations.

O22. The course content was prepared taking into account individual differences.

In blended learning environments Always Frequently Sometimes Rarely Never

B1. The instructor was willing to teach.

B2. The instructor used face-to-face and online environments effectively.

B3. The advisory support I received from the instructor was sufficient.

B4. I think I learned better.

B5. I think this experience is important.

B6. The instructor was successful in managing face-to-face and online environments.

B7. The time devoted to online and face-to-face environments was convenient for me.

B8. The content of the course was suitable for my level.

B9. The course content was clear and understandable.

B10. The course content was presented in a planned manner.

B11. The content we saw face-to-face and online was appropriate for the chosen medium.

B12. The superior properties of both environments were used.

B13. The learning materials presented were sufficient for me.

B14. Different teaching methods and techniques used were suitable for transferring the content.

B15. There was integrity in the content transmitted in both environments.

B16. The criteria by which I will be evaluated have been specified in advance.

B17. I would like different evaluation techniques to be used to evaluate my performance in blended environments.

B18. If I need to, I try to meet my classmates face to face.

B19. I was able to manage time well while performing teaching activities.

B20. I decided what to learn and how.

In terms of technical aspects Always Frequently Sometimes Rarely Never

O8. I felt lonely and unhappy.

O16. I had difficulty in submitting the given assignments on time.

O23. I had problems because of the technological infrastructure.

O24. I had technical difficulties.

O25. I had problems with the Internet connection

APPENDIX-D: Semi-Structured Interview Questions

1. Can you describe your experiences of face-to-face learning when you consider the effectiveness of learning/teaching? How would you evaluate the effects of experiencing technical problems and digital infrastructure problems on the blended education process?

2. Can you describe your experiences of online learning when you consider the effectiveness of learning/teaching?

3. Can you describe your experiences of blended learning when you consider the effectiveness of learning/teaching?

4. Can you describe your experiences of technology use in face-to-face learning practices?

5. Can you describe your experiences of technology use in online learning practices?

6. Can you describe your experiences of technology use in blended learning practices?

7. Regarding your professional development, how would you portray the differences of online, blended, and face-to-face learning practices?

7.a. Do these differences impact your educational experience and professional preparation?

7.b. How do these differences impact your educational experience and professional preparation?

8. Did you feel that you improved more as a pre-service teacher in online, face-to-face or blended environments? If yes, can you define the reasons?

9. Would you suggest any alterations to improve the blended learning practices?

9.a.What changes would you apply to your teaching if you were teaching in a blended class?

9.b. Why would you apply those changes?

APPENDIX-E: Ethics Committee Approval

Tarih: 18/12/2023 11:40
Sayı: E-66777842-300-00003258096

00003258096

T.C.
HACETTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sosyal ve Beşeri Bilimler Araştırma Etik Kurulu

Sayı : E-66777842-300-00003258096 18/12/2023
Konu : Etik Kurulu İzni (Aylin DEMİR)

EĞİTİM BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 27.11.2023 tarihli ve E-51944218-300-00003218358 sayılı yazınız.

Enstitünüz Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Yüksek Lisans Programı öğrencilerinden **Aylin DEMİR**'in, **Dr. Öğr. Üyesi Hatice ERGÜL** danışmanlığında yürüttüğü ***"İngilizce Öğretmen Adaylarının Harmanlanmış Eğitim Uygulamalarına İlişkin Algı ve Tutumları"*** başlıklı tez çalışması Üniversitemiz Sosyal ve Beşeri Bilimler Araştırma Etik Kurulunun **12 Aralık 2023** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini rica ederim.

Prof. Dr. İsmet KOÇ
Kurul Başkanı

Bu belge güvenli elektronik imza ile imzalanmıştır.

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Bilgisayar İşletmeni
Telefon: 03123051082

APPENDIX-F: Declaration of Ethical Conduct

I hereby declare that…

- I have prepared this thesis in accordance with the thesis writing guidelines of the Graduate School of Educational Sciences of Hacettepe University;
- all information and documents in the thesis/dissertation have been obtained in accordance with academic regulations;
- all audio visual and written information and results have been presented in compliance with scientific and ethical standards;
- in case of using other people's work, related studies have been cited in accordance with scientific and ethical standards;
- all cited studies have been fully and decently referenced and included in the list of References;
- I did not do any distortion and/or manipulation on the data set,
- and **NO** part of this work was presented as a part of any other thesis study at this or any other university.

31 /05/2024

Aylin ÇAKALLI

APPENDIX-G: Thesis/Dissertation Originality Report

……/……./……

HACETTEPE UNIVERSITY

Graduate School of Educational Sciences

To The Department of Foreign Languages Education

Thesis Title: Perceptions and Attitudes of Pre-service English Teachers on Blended Education Practices

The whole thesis that includes the *title page, introduction, main chapters, conclusions and bibliography section* is checked by using **Turnitin** plagiarism detection software take into the consideration requested filtering options. According to the originality report obtained data are as below.

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Name Lastname: Aylin ÇAKALLI

Student No.: N21136016

Department: Foreign Languages Education

Program: English Language Teaching

Status: ☒ Masters ☐ Ph.D. ☐ Integrated Ph.D.

Signature

ADVISOR APPROVAL

APPROVED
(Title, Name Lastname, Signature)

APPENDIX-H: Yayımlama ve Fikrî Mülkiyet Hakları Beyanı

Enstitü tarafından onaylanan lisansüstü tezimin/raporumun tamamını veya herhangi bir kısmını, basılı (kâğıt) ve elektronik formatta arşivleme ve aşağıda verilen koşullarla kullanıma açma iznini Hacettepe Üniversitesine verdiğimi bildiririm. Bu izinle Üniversiteye verilen kullanım hakları dışındaki tüm fikri mülkiyet haklarım bende kalacak, tezimin tamamının ya da bir bölümünün gelecekteki çalışmalarda (makale, kitap, lisans ve patent vb.) kullanım hakları bana ait olacaktır.

Tezin kendi orijinal çalışmam olduğunu, başkalarının haklarını ihlal etmediğimi ve tezimin tek yetkili sahibi olduğumu beyan ve taahhüt ederim. Tezimde yer alan telif hakkı bulunan ve sahiplerinden yazılı izin alınarak kullanılması zorunlu metinlerin yazılı izin alınarak kullandığımı ve istenildiğinde suretlerini Üniversiteye teslim etmeyi taahhüt ederim.

Yükseköğretim Kurulu tarafından yayınlanan **"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına ilişkin Yönerge"** kapsamında tezim aşağıda belirtilen koşullar haricince YÖK Ulusal Tez Merkezi / H.Ü. Kütüphaneleri Açık Erişim Sisteminde erişime açılır.

- Enstitü/Fakülte yönetim kurulu kararı ile tezimin erişime açılması mezuniyet tarihinden itibaren 2 yıl ertelenmiştir. (1)
- Enstitü/Fakülte yönetim kurulunun gerekçeli kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren … ay ertelenmiştir. (2)
- Tezimle ilgili gizlilik kararı verilmiştir. (3)

..... /..... /.....

Aylin ÇAKALLI

"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"

(1) Madde 6. 1. Lisansüstü tezle ilgili patent başvurusu yapılması veya patent alma *sürecinin devam etmesi durumunda, tez danışmanının önerisi ve enstitü anabilim dalının uygun görüşü Üzerine enstitü veya fakülte yönetim kurulu iki yıl süre ile tezin erişime açılmasının ertelenmesine karar verebilir.*

(2) Madde 6.2. Yeni teknik, materyal ve metotların kullanıldığı, henüz makaleye dönüşmemiş veya patent gibi yöntemlerle korunmamış ve Internetten paylaşılması durumunda 3. şahıslara veya kurumlara haksız kazanç; imkânı oluşturabilecek bilgi ve bulguları içeren tezler hakkında tez danışmanın önerisi ve enstitü anabilim dalının uygun görüşü üzerine enstitü veya fakülte yönetim kurulunun gerekçeli kararı ile altı ayı aşmamak üzere tezin erişime açılması engellenebilir.

(3) Madde 7. 1. Ulusal çıkarları veya güvenliği ilgilendiren, emniyet, istihbarat, savunma ve güvenlik, sağlık vb. konulara ilişkin lisansüstü tezlerle ilgili gizlilik kararı, tezin yapıldığı kurum tarafından verilir. Kurum ve kuruluşlarla yapılan işbirliği protokolü çerçevesinde hazırlanan lisansüstü tezlere ilişkin gizlilik kararı ise, ilgili kurum ve kuruluşun önerisi ile enstitü veya fakültenin uygun görüşü Üzerine üniversite yönetim kurulu tarafından verilir. Gizlilik kararı verilen tezler Yükseköğretim Kuruluna bildirilir.*
Madde 7.2. Gizlilik kararı verilen tezler gizlilik süresince enstitü veya fakülte tarafından gizlilik kuralları çerçevesinde muhafaza edilir, gizlilik kararının kaldırılması halinde Tez Otomasyon Sistemine yüklenir

** Tez danışmanının önerisi ve enstitü anabilim dalının uygun görüşü üzerine enstitü veya fakülte yönetim kurulu tarafından karar verilir.*