TEACHING DURING THE PANDEMIC: THE EFFECTS OF THE COVID-19 PANDEMIC ON THE TEACHERS' PERCEPTIONS OF TECHNOLOGY INTEGRATION IN EFL CLASSROOMS

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submitted by **GÖKÇE ÖZER** in partial fulfillment of the requirements for the degree of **Master of Arts in English Language Teaching, the Graduate School of Social Sciences of Middle East Technical University** by,

Prof. Dr. Sadettin KİRAZCI
Dean
Graduate School of Social Sciences

Prof. Dr. Nurten BİRLİK
Head of Department
Department of Foreign Language Education

Assist. Prof. Dr. Müge GÜNDÜZ
Supervisor
Department of Foreign Language Education

Examining Committee Members:

Prof. Dr. Paşa Tevfik CEPHE (Head of the Examining Committee)
Gazi University
Department of English Language Teaching

Assist. Prof. Dr. Müge GÜNDÜZ (Supervisor)
Middle East Technical University
Department of Foreign Language Education

Assoc. Prof. Dr. Perihan SAVAŞ
Middle East Technical University
Department of Foreign Language Education

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last Name: Gökçe ÖZER

Signature:

ABSTRACT

TEACHING DURING THE PANDEMIC: THE EFFECTS OF THE COVID-19
PANDEMIC ON THE TEACHERS' PERCEPTIONS OF TECHNOLOGY
INTEGRATION IN EFL CLASSROOMS

ÖZER, Gökçe

M.A., The Department of English Language Teaching
Supervisor: Assist. Prof. Dr. Müge GÜNDÜZ

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It is undeniable that COVID-19 pandemic changed our lives in so many ways. Education is one of the areas that was greatly affected by this pandemic. Teachers had to shift their lessons from physical classrooms which were designed to meet the students' needs in any way possible to virtual classrooms which were an unfamiliar territory for most teachers. This study aims to explore not only the challenges teachers faced in utilizing technology while teaching students at a distance but also to shed a light on the perceptions of teachers on technology integration and technology use in their classrooms before, during, and after the pandemic. For this aim, 12 teachers working in a private primary school in Ankara were interviewed and the data was analyzed through content analysis method. The findings showed different perceptions of the teachers' technology integration into their classrooms before, during, and after the pandemic. Also, findings are presented on how these teachers adjusted their teaching during the pandemic. Lastly, the present study provides some suggestions for novice teachers and for improving the curriculum in terms of technology integration. **Keywords**: technology, technology integration, pandemic, EFL Classrooms, teacher perceptions

ÖZ

PANDEMİDE EĞİTİM: COVID-19 PANDEMİSİNİN ÖĞRETMENLERİN
İNGİLİZCE DERSLERİNE TEKNOLOJİ ENTEGRASYONU HAKKINDA
DÜŞÜNCELERİ ÜZERİNE ETKİLERİ

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Tez Yöneticisi: Dr. Öğr. Üyesi Müge GÜNDÜZ

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COVID-19 salgınının hayatımızı pek çok yönden değiştirdiği inkar edilemez. Bu salgından en çok etkilenen alanlardan biri de eğitim. Öğretmenler, öğrencilerin ihtiyaçlarını mümkün olan her şekilde karşılamak için tasarlanmış fiziksel sınıflardan derslerini, çoğu öğretmen için yabancı bir alan olan sanal sınıflara kaydırmak zorunda kaldılar. Bu çalışma, öğretmenlerin yalnızca öğrencilere uzaktan eğitim verirken teknoloji kullanımı konusunda karşılaştıkları zorlukları araştırmayı değil, aynı zamanda öğretmenlerin pandemi öncesi, sırası ve sonrasında sınıflarında teknoloji entegrasyonu ve teknoloji kullanımına ilişkin algılarına ışık tutmayı amaçlamaktadır. Bu amaçla Ankara'da özel bir ilköğretim okulunda görev yapan 12 öğretmenle görüşülerek veriler içerik analizi yöntemiyle çözümlenmiştir. Sonuçlar, öğretmenlerin pandemi öncesinde, sırasında ve sonrasında sınıflarına teknoloji entegrasyonuna ilişkin farklı algıları gösterdi. Ayrıca sonuçlar, bu öğretmenlerin pandemi sırasında öğretimlerini nasıl ayarladıklarını gösterdi. Son olarak, bu çalışma, yeni öğretmenler için ve müfredatın teknoloji entegrasyonu açısından iyileştirilmesi için bazı önerilerde bulunmuştur.

Anahtar Kelimeler: teknoloji, teknoloji entegrasyonu, pandemi, yabancı dil olarak İngilizce sınıfları, öğretmen algıları

To my beloved family

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LIST OF ABBREVIATIONS

AECT - Association for Educational Communications and Technology

CALL - Computer Assisted Language Learning

LMS - Learning Management System

OER - Open Educational Resources

MOOC - Massive Open Online Course

EFL - English as a Foreign Language

ELL - English Language Learner

CAI - Computer Assisted Instruction

EIN - Education Information Network

ERT - Emergency Remote Teaching

ICT - Information and Communication Technologies

MoE - Ministry of Education

UN - United Nations

CHAPTER 1

INTRODUCTION

This chapter presents a background to the current study, the research problem, significance of the study and definition of terms.

1.1. Background to the Study

Getting support from technological advancements to enhance teaching and learning is a longstanding tradition. After the invention of audio and video recordings and playback devices back in the 1920s, these medias made their way into education in different forms like educational films and records as well as the photos in textbooks. Of course, in time, with vast technological developments, technology use also progressed into different and more complex forms (Carliner et al. 2008). Integrating computers into education might be one of the most profound examples of these advancements. Computer assisted learning opened many doors in education, but it is important to remember that "computer is not a substitution for the teacher but rather it is an enabler to help both teachers and learners have more chances to experience various innovative methods in teaching and learning" (Qassemzadeh & Soleimani, 2016, p. 1884).

Admiraal et.al., (2017) states that schools must change their teaching and learning procedures to better fit the society's growing use of technology. Alenezi (2017) suggests that teachers play a critical role in classroom technology integration, and he states that there might be some obstacles to technology integration. Researchers (Carver, 2016; Hsu, 2016; Tondeur et al., 2017) pointed out that educators' perspectives have an influence on how effective technology integration in the classrooms is. For instance, a study conducted by Mueller et.al., (2008) with 185 elementary and 204 secondary teachers revealed that factors such as positive teaching experiences with computers, teacher's comfort with computers, beliefs supporting the use of computers as an instructional tool, training, motivation, support, and teaching efficacy impact the teachers' technology integration rate in the classroom. Similarly, Hutchison and Reinking (2011) found a significant gap between how important teachers perceive integrating technology and their use of these skills in their classrooms upon surveying 1,441 United States educators.

After a meta-analysis of the relevant literature Bingimlas (2009) found that despite their strong desire to integrate information and communication technologies into education, educators encountered many obstacles such as "lack of confidence, lack of competence, and lack of access to resources" (p.235). Ertmer (1999) put the obstacles educators face while integrating technology into two categories as first-order (extrinsic) and second-order (intrinsic). First-order obstacles were listed to be external factors affecting educators such as access, time, support, resources and training while second-order obstacles were presented to be internal factors about teachers' practices, attitudes and beliefs. She also stated no matter how these obstacles are branded;

teachers would experience some level of hindrance during technology integration into their classrooms.

Researching teachers' experiences about integrating technology has unfortunately gained even more popularity recently due to the global pandemic, COVID 19. During the onset of this pandemic many countries had to impose lockdowns to make sure of the safety of their citizens. Of course, these lockdowns had severe consequences in education as well as any other fields in society. Teachers, like everyone else in the world, were not prepared for transitioning to 'work-from-home' since teaching remotely required more than just a computer and a working internet connection. As a result, many studies focused on this phenomenon to understand its effects on education from different perspectives such as its effectiveness (Zou, Huang, Ma, & Qiu, 2021), its comparison to face-to-face education (Stevens, Bienz, WaliCondie, & Schismenos, 2021), teachers' perspectives (Alolaywi, 2021) and perceptions (Nakhriyah, & Muzakky, 2021) regarding remote teaching, their experiences (Özdoğan, & Berkant, 2020), emotions (Kemaloğlu, 2022) and the challenges (Badrkhani, 2021) and coping strategies (Ghanbari, & Nowroozi, 2022).

1.2. Statement of Purpose

This study aims to shed a light on primary school EFL teachers' perceptions about integrating technology in their lessons before, during and after the pandemic. For this purpose, the researcher is aiming to get a grasp of these teachers' perceptions before,

during and after the pandemic to find out if in any way this pandemic changed their perceptions of integrating technology in their classrooms.

1.3. Research Questions

For this purpose, this research study tries to answer the following questions:

1. What are primary school EFL teachers' perspectives on integrating technology in their classrooms before the pandemic?

2. What are primary school EFL teachers' perspectives on integrating technology in their classrooms during the pandemic?

3. What are primary school EFL teachers' challenges they face when integrating technology in their classrooms during the pandemic?

4. What are primary school EFL teachers' perspectives on integrating technology in their classrooms after the pandemic?

5. What are the suggestions of teachers on integrating technology in EFL classrooms?

1.4. Significance of the Study

These studies have provided valuable insight into the experiences of teachers while teaching during the pandemic. However, it is always important to add more research to the literature, especially during such a life-changing event, considering the constant changes teachers experience. Also, these times of a public health crisis i.e., the pandemic opened a door for more research on technology integration in education.

Studying what kind of challenges are faced while integrating technology in education might be helpful for teachers to be familiar with these obstacles and might even help them overcome these challenges to be more successful while adapting technology in the future. This study will help teachers by sharing other teachers' experiences so that they are aware of the challenges they might face in case of moving back to online teaching. It might also show them how these teachers adapted their teaching practices which can help other teachers with their own experiences.

Also, while most studies (Clarke, 2022; Johnson, 2022; Kenny, 2022; Moretto, 2022; O'Donnell, 2022) focus on the perceptions and challenges educators faced while integrating technology during the pandemic, this study aims to find out about teachers' perceptions on technology integration in their classrooms before and after the pandemic as well. To the knowledge of the researcher, no other research focused on the teachers' perceptions on integrating technology before, during, and after the pandemic which is why this current study can be a valuable addition to the literature.

CHAPTER 2

LITERATURE REVIEW

This chapter aims to provide a review of literature related to the variables of the present study. It includes different studies conducted about technology and technology-use in the classrooms both in Turkey and abroad.

2.1. Technology as a Learning Tool

Technology has been used throughout human history to improve people's lives. It is widely known that technology has also been used to facilitate education for a long time. Association for Educational Communications and Technology (AECT) defines educational technology as 'the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources' (Januszewski & Molenda, 2008 cited in Thompson, 2017). According to Davies, Sprague, & New (2008) "educational technology includes any tool, piece of equipment or device, electronic or mechanical, which can be used to help students accomplish specified learning goals" (p. 214). For this study, technology integration is defined as the successful application of these educational technology tools to achieve desired learning outcomes.

For this analysis we define technology integration as the effective implementation of educational technology to accomplish intended learning outcomes. We consider educational technology to be any tool, piece of equipment, or device—electronic or mechanical—that can be used to help students accomplish specified learning goals (Davies, Sprague, & New, 2008). Educational technology includes both instructional technologies, which focus on technologies teachers employ to provide instruction, and learning technologies, which focus on technologies learners use to accomplish specific learning objectives. For this analysis we define technology integration as the effective implementation of educational technology to accomplish intended learning outcomes. We consider educational technology to be any tool, piece of equipment, or device— electronic or mechanical—that can be used to help students accomplish specified learning goals (Davies, Sprague, & New, 2008). Educational technology includes both instructional technologies, which focus on technologies teachers employ to provide instruction, and learning technologies, which focus on technologies learners use to accomplish specific learning objectives. Fulton (2022) suggests that to make the transition to incorporating more technology into education in the future, it is crucial to be aware of how technology and education have developed over time. Since 1920s educators have been integrating different types of educational technologies in their teaching from audio and video recordings to more modern hardware-based (computers, projectors etc.) and software-based (CALL, LMS etc.) technologies (Alenezi, 2017).

In his book "25 Years of Ed Tech" Weller (2020) has listed the most prominent technologies used in education every year between the years of 1994 starting with

bulletin board systems and 2017 ending with blockchain. He suggested that the use of web for educational purposes in 1995 created the groundwork for almost all of the technologies like the development of LMS, OER, and MOOC, and its effects are still quite apparent today.

CALL (computer assisted language learning) has been defined by Chapelle (2010) as "a variety of technology uses for language learning including CD-ROMs containing interactive multimedia and other language exercises, electronic reference materials such as online dictionaries and grammar checkers, and electronic communication in the target language through email, blogs, and wikis" (p. 66). Al-Jarf (2005) suggested that CALL is used "as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element" (p. 3). CALL studies have shown that integration of these technologies into language education has increased learner autonomy (Azmi, 2017), supported various teaching and learning styles (Kuo, Chu & Huang, 2015), developed cultural awareness (Angelova & Zhao, 2016), increased motivation (Connolly, Stansfield, & Hainey, 2011), created interactive (Ahn & Lee, 2015) and authentic (Shadiev et al., 2018) learning environments, and enhanced second language acquisition (Zhang, 2021).

2.2. Technology Integration in EFL Classrooms

Technology has been gaining popularity in the twenty-first century. Algarawi (2022) stated that use of technology to enhance foreign language learning is preferable because it provides tools that make the learning process easier. Since technology has

been a great tool to convey language skills and has provided assistance to learners who have been trying to learn English as a foreign language, many studies have been conducted to see if technology in any way improves the language learning processes of English language learners (ELLs). These studies focused on the experiences of ELLs with technology integration during learning English language skills or their perceptions of technology use in EFL classrooms. As it will be further discussed in Chapter 3, teachers working in the institution which this research study was conducted are expected to focus on language skills (grammar, vocabulary and four skills i.e., reading, writing, listening, and speaking) separately. For this reason, the researcher found it fitting to mention the literature on technology integration in EFL classrooms under different titles focusing on each skill individually.

2.2.1. Technology and Grammar Instruction

Today's actual grammar instruction is mainly concentrated on conventional tasks designed to help students learn the correct grammatical structures and rules (Purgina et al., 2019). In their study focusing on the high school students and teachers' perceptions about grammar teaching, Jean and Simard (2011) found out that grammar teaching is regarded as essential and effective by both students and teachers; however, Nunan (1998) states that "in textbooks, grammar is very often presented out of context. Learners are given isolated sentences, which they are expected to internalize through exercises involving repetition, manipulation, and grammatical transformation" (p. 102) which makes it difficult for learners to be able use their knowledge

communicatively. This means grammar teaching is an important aspect of L2 learning that we cannot disregard and it's vital to find ways to teach it more effectively.

Grammar instruction has been one of the L2 areas that greatly benefited from CALL (computer assisted language learning). Upon reviewing the grammar scores of learners in a preparatory school in Turkey, Kılıçkaya (2015) found out that among the learners who got computer-based instruction, teacher-driven instruction, and teacher-driven grammar supported by computer-based instruction, teacher-driven instruction group scored significantly lower than the other groups.

Qassemzadeh and Soleimani (2016) stated that students become more independent as a result of teachers using technological applications more regularly to enhance their instructional methods. Teaching English grammar through various technology assistance proved that to be true. It was found that integrating blended learning to grammar teaching/learning process resulted in improvement in grammar learning and outperformance of experimental groups (Bataineh et al., 2019; Bataineh & Mayyas, 2017; Isti'anah, 2017; Pumjarean, Muangnakin, & Tuntinakhongul, 2017; Aslani & Tabrizi, 2015).

A more recent study conducted by Abdelaziz and Al Zehmi (2021) studied the effects of implementing e-activities based on cognitive scaffolding and evaluated how well they affected underachieving middle school students' grammar proficiency. Comparison of the experimental and control groups' results yielded significant differences and showed that using these activities had a positive effect.

2.2.2. Technology and Vocabulary Instruction

Ardasheva, Hao, and Zhang (2019) emphasize the importance of vocabulary education by stating that "vocabulary knowledge is strongly associated with a range of language skills; it is essential for oral communication, and accounts for a substantial variation in reading comprehension" (p. 1).

The development of new technologies has had a substantial impact on vocabulary learning which is an essential component of L2 acquisition. Technology-based activities can engage L2 learners and give them additional possibilities to interact with the target language using various technological tools as well as exposing learners to the target language more verbally and visually (Hao et al., 2021).

A meta-analysis study conducted by Hao, Wang and Ardasheva (2021) reviewing 45 studies between 2012-2018 concluded that the overall effect of technology-assisted L2 vocabulary learning was significant (g =.845) when compared to conventional instructional strategies, indicating that it was more beneficial than non-technology-assisted instruction. A similar study by Lin and Lin (2019) synthesizing results of 33 studies examining the effect of mobile-assisted technologies revealed a positive and large effect of implementing mobile-assisted L2 vocabulary learning interventions.

Vocabulary being more visual than other skills in a language can greatly benefit from multimedia. Studies showed that learners benefited greatly from multimedia integrated grammar instruction (Bunmak, 2021; Ahmad, 2019; Kabooha & Elyas, 2018;

Ramezanali & Faez 2019). In Turkey, Saran, Seferoglu and Cagiltay (2012) investigated the effects of multimedia messages to see if they helped learners in the English Preparatory School in a university consolidate vocabulary. Pre and post-tests showed a positive impact on vocabulary acquisition as well as providing learners "supplementary opportunities to recontextualize, recycle, and consolidate vocabulary" (p. 181).

2.2.3. Technology and Skills Instruction

Numerous studies investigating various strategies to be used to enhance the speaking abilities of EFL learners are available in the literature (Yüzlü and Atay, 2020; Ebadi & Asakereh, 2017; Hassani et al., 2016; Parveen, 2016; Cepik & Yastıbaş, 2013). The correlation between technology integration and ELLs improvement in their speaking abilities have also been investigated by researchers. Integration of social media has been proven to have a positive impact on learners' speaking skills at university level (Nilayon & Brahmakasikara, 2018) and even among young learners (Sun et al., 2017).

In both every day and academic contexts, listening, one of the language's fundamental skills, plays a key role in communication. Bulletin (1952, as cited in Saricoban, 1999) states the importance of listening by saying that "it's a medium through which children, young people and adults gain a large portion of their education--their information, their understanding of the world and of human affairs, their ideals, sense of values, and their appreciation (para. 2). So, it is crucial that we teach our students how to listen carefully and effectively. Mobile devices (Cavus and Ibrahim, 2017)**,** Web 2.0 tools **(**Demir and

Tavil, 2021), podcasts (Abdulrahman, Basalama, & Widodo, 2018), videos (Silviyanti 2014), and movie clips (Damronglaohapan & Stevenson, 2013) have been found useful for improving listening skills. Also, in their study, Kılıçkaya, Kic-Drgas and Krawiec (2022) concluded that EFL lecturers mostly make use of internet resources for their students to practice listening outside the classroom.

Huang and Hong (2016) investigated the effects of flipped classroom on reading comprehension skills in a Taiwanese high school and the intervention revealed a significant improvement. In another study, working with elementary level students, Parrilla (2016) found that students learning with implementation of multimedia technologies developed greater reading comprehension than those who didn't. Other technologies used to improve learners' reading skills include but not limited to WebQuests (Alshumaimeri and Almasri, 2012), mobile technology (Hazaea & Alzubi, 2016), Computer Assisted Instruction (CAI) (Yaghoobi & Razmjoo, 2016) and computer-based reading assistance programs (Lan, Sung, & Chang, 2009; Chen, Wang, & Chen, 2014).

In his study, Bakla (2019) made use of animated cartoons to teach punctuation which was proven to be more beneficial for the learners. In another study, Chuo (2007) concluded that integration of WebQuests in writing instruction improved learners writing performances more than traditional instruction. Studies showed that some other tools that could be used to improve writing skills were Google Docs (Seyyedrezaie, Ghonsooly, Shahriari, & Fatemi, 2016) and Edmodo (Shams-Abadi, Ahmadi, & Mehrdad, 2015).

Education Information Network (EIN) is a learning platform used in Turkey which includes rich content such as visuals, videos, lectures, books, documents, animations, simulations, individual learning materials, classroom learning materials, applications, and games. In addition to hosting such materials, it is also a social network site with features like document, audio, video sharing and let's discuss sections. Kuloğlu and Erdal (2019) reached out to 105 EFL teachers in 50 different schools to gather information about their use of this platform. The results showed that these teachers rarely make use of EIN in their lessons mostly because they find the material inefficient. Teachers also indicated that they want the contents prepared to be used in the technological environment to be visual, auditory, compatible with the curriculum and authentic.

Research has shown that computer assisted learning can have great benefits for learners, but this form of teaching still relies on the support of the teacher, including explanation, assessment, and feedback (Zou, 2013). Similarly, in their study, Wiebe and Kabata (2010) discovered proof that well timed reminders and encouragement from the instructor are essential for improving student performance and participation while using CALL technologies.

2.3. Teacher Perceptions of Technology Integration in Education during the Pandemic

It is an indisputable fact that Covid-19 pandemic has adversely affected people's lives since its beginning in December 2019. Unfortunately, education was one of the fields

which was profoundly affected by the spread of this pandemic. Many researchers have focused on the impacts this major phenomenon caused in different fields of education all around the world to provide insight into the tribulations of the teachers (Rahayu et al. 2022; Flynn & Noonan, 2020; Bidwell et.al., 2020; Johnson et al., 2020).

It cannot be denied that one of the biggest challenges teachers had to face during the pandemic is that they had to shift their teaching practices from traditional face-to-face classrooms to emergency remote teaching (Hollander et al., 2020; Korkmaz & Toraman, 2020; Kaden, 2020; Colclasure et al., 2021). The reason why this cannot be referred as online education is because an effective online education requires "appropriate planning, teacher training, curriculum adaptation, among other conditions" (Seabra et.al., 2022, p.2); whereas emergency remote teaching (ERT) can be defined as "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Hodges et.al., 2020, para. 13). The aim of ERT is to find quick and temporary remedies to keep providing access to instruction.

Since this sudden change in the way teachers conducted their lessons was unpredicted and unplanned it has caused a demanding environment for the teachers and without doubt implementing ERT has been challenging for most of the professionals. One of the main reasons why this process has been so difficult to adapt for teachers is mostly because they didn't have prior training to handle the unpredicted circumstances ERT has created (Colclasure et al., 2021; Hollander et al., 2020).

With the schools closing down and teachers shifting their teaching practices from classrooms to online settings, technology integration into education has become inevitable. This literature review aims to demonstrate how teachers around the world experienced this phenomenon in more detail.

Turnbull, Chugh, and Luck (2021) reviewed the literature with the aim of determining the contribution of educational technologies to the shift from in-person to online teaching and learning during the pandemic. They came up with 5 main challenges of the transition: reconciling synchronous/asynchronous delivery, technology access, online competence, academic dishonesty, and privacy and confidentiality. In her qualitative study, Clarke (2022) interviewed 28 instructors of undergraduate mathematics from colleges and universities across the United States. Purpose of the study was to reveal the experiences of these instructors teaching during the pandemic and to see how they adjusted their practices for teaching online during the pandemic. After analyzing the data to see how these educators adjusted their practices for teaching online, she found out that they had to make serious changes to the way they presented their instruction, the way they monitored their students, and the way they assessed them. The results showed that educators chose the tools they would employ based on "their facilities, the training available to them, the equipment they had access to, or their overall beliefs about how technology can enhance or diminish the learner's experience and teaching practice" (p. 183).

Upon interviewing 8 biology teachers from five Bahamian public high schools to report the challenges they experienced while integrating information and

communication technologies (ICT) into their virtual classes, Johnson (2022) reported that the teachers mostly faced problems related to "infrastructural/technical issues, such as technology or internet not working, and pedagogical challenges such as not enough time to finish the required curriculum, and difficulty assessing students" (p. 92). She also concluded that these teachers overcame obstacles by using their own internet connection, computers and devices, teaching students how to utilize technology, and, in certain cases, using team-teaching strategies to share their knowledge.

Kenny (2022) interviewed eight teachers who taught second or third grade during the pandemic to get a grasp of their perceptions toward technology integration in their literacy lessons and to see how technology integration would affect literacy outcomes. Results indicated that teachers integrated technology into their teaching practice based on their own perspectives and also their students' needs. Technology is seen by these teachers as a useful instrument that, when used by properly qualified educators, can help produce great results. They also stated that since they find their training inadequate and ineffective, they lack confidence while using new technologies.

In Hall's study (2021), 10 classroom teachers in Texas shared their experiences about teaching during the pandemic. Teachers shared their negative experiences about remote teaching like "high workloads, low support, technology challenges and even working while sick with the COVID-19 virus" (p. 118). They also talked about what support they needed while teaching remotely. They indicated that they needed "teacher

technology training, changes in pedagogy for online learning, support for teachers working during a crisis" (p. 120).

Moretto (2022) conducted semi-structured interviews with 10 early childhood teachers with experience teaching remotely during the pandemic. Her study aimed to investigate the perceptions of early childhood educators regarding instructing students remotely during a pandemic and what they required from the school administration to be able to do it. The lack of appropriate tools, materials, and abilities for the shift, as well as difficulties keeping students' interest in an online environment, were some challenges mentioned by participants. They also shared that they did not have "the technology, training, or skills to feel adequately prepared to transition to remote teaching during such challenging and uncertain times" (pp. 114-115).

2.4. Teacher Perceptions of Technology Integration in Education during the Pandemic in Turkish Context

Upon the detection of the first COVID-19 case in Turkey on 11 March 2020, the Ministry of Education (MoE) announced a two-week break for schools between 16-30 March 2020. After the first week, on 23 March 2020 lectures started to be broadcast on Education Information Network (EIN) on TV for students all around Turkey. The lectures were being carried out asynchronously which decreased students' motivation, so MoE declared a shift to online education which continued until 19 June 2020. In their Seta report Emin and Altunel (2021) voiced some concerns about the effects of this sudden shift to online education such as an exacerbation of disparities in learning

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opportunities, learning loss, and anticipation of increased dropout and decreased attendance which were parallel to UN's report (2020) on education during COVID-19.

Remote instruction during the COVID-19 pandemic in Turkey has been studied from a number of perspectives. For instance, distance education activities at higher education institutions (Yavuz, Kayalı, Balat, & Karaman, 2020), classroom management challenges (Arslan & Şumuer, 2020), communication overload experiences of teachers (Dilekçi, & Limon, 2020), teacher perceptions about assessment (Adigüzel, 2020), teacher perceptions (Türker, & Dündar, 2020) and parent perceptions about EIN (İnci Kuzu, 2020), and teaching 21st century skills (Arslan, 2020).

Many researchers in Turkey made an in-depth analysis of the remote teaching process in Turkey as well as around the world explaining how the distance education process was handled by the government step by step (Gençoğlu & Çiftçi, 2020; Eken, Tosun & Tuzcu Eken; Yaman, 2021). Durak, Çankaya and Izmirli (2020) examined the distance education systems implemented by Turkish Universities during the pandemic. They examined which LMS systems and online education tools were utilized and why as well as some demographic information about the personnel.

The shift from traditional education to emergency remote teaching encouraged researchers in Turkey to study this event to share the experiences of stakeholders. For instance, Özdoğan and Berkant (2020) interviewed 137 participants including Provincial Directorate of National Education officials, school administrators, teachers, school psychological counselors, faculty members, students, and parents to get an in-depth understanding of the challenges they faced during remote education and their suggestions for improvement. The results indicated some advantages of remote education like being able to join lessons regardless of time and place, being able to rewatch the lessons, protection against the pandemic, increased awareness of the importance of technology in education. Some disadvantages were reported as lack of assessment and evaluation, loss of motivation, lack of computers and internet connection, inequality, lack of interaction, technical problems, lack of socialization and unpreparedness for the process. Lastly, the suggestions of the stakeholders were to improve assessment and evaluation, to provide access to distance education tools like the internet or computers to create equal opportunities for learning, to increase active participation and interaction in the classroom, to provide a better infrastructure, and to reduce the number of lessons.

How teachers in different fields of education have experienced the effects of the pandemic is one of the well-researched topics. For instance, Bostan Sarıoğlan, Altaş and Şen (2020) conducted a research study with 34 science teachers to understand their perception toward conducting experiments in science lessons during the pandemic. In another study, Özgül, Ceran, and Yildiz (2020) investigated the perceptions of 10

Turkish language teachers toward remote education. Other studies on special needs education (Mengi, & Alpdoğan, 2020; Şenol, & Can Yaşar, 2020), physical education (Özcan, & Saraç, 2020; Kaya, 2021), social sciences education (Kırıkçı, Arıkan & Çetin, 2021; Korkut, & Memişoğlu, 2021), religious studies education (Kurttekin, 2022), and fine arts education (Ergin, Gurbuz, & Sakarya, 2021) also investigated teachers' perceptions about remote instruction.

Studies were conducted with classroom teachers to have an understanding of their perceptions towards emergency remote teaching and reveal the problems and challenges they were encountered with during the process (Saygı, 2020; Fidan, 2020; Demir & Özdaş, 2020). They showed that teachers have a positive attitude toward integrating technology to make use of it in their remote lessons and staying up to date in terms of technological developments, but they find being involved in technology too much of a negative aspect of remote education. Teachers also reported problems they had with technological infrastructure, lack of attendance, and administration of assessment and evaluation.

In his study, Karaçolak (2021) aimed to investigate the classroom teachers' perceptions toward their competence in technology integration. The results showed that these 303 classroom teachers participated in the study were very competent in using e-mails, competent in using the internet, and not so competent in integrating technology in their teaching. A similar study was conducted by Can and Kerkez (2022) to see the levels of Web 2.0 technologies integration of physical education teachers during emergency remote teaching. The results were compared based on many criteria

such as gender, age, level of education, and prior training but the study concluded that teachers needed more in-service training activities and educational technology courses to improve themselves. Another study also investigating the teachers' perceptions of their technological competence by Ocak and Karafil (2021) revealed that the majority of teachers feel inadequate to use technology in the classroom even though they had a positive stance towards technology since they thought online solutions utilized during the pandemic enabled education to continue, gave teachers a chance to improve themselves, boosted family support, and provided flexibility.

2.5. Teacher Perceptions of Technology Integration in EFL during the Pandemic

Levy and Hubbard (2006) voiced their concern in the introduction part of their book by stating that "both language teachers in training and practicing teachers will find themselves at a disadvantage if they are not adequately proficient in computer-assisted language learning (CALL)". This statement has been proven to be a pertinent remark with the spread of COVID-19 pandemic. EFL teachers around the world were forced to teach online and integrate various technologies in their teaching practice without prior notice. Without doubt some faced many challenges along the way while others found the transition easier. In these unique times, integrating technology into the classroom may be the most effective and practical way to improve learning for EFL students and many studies' results aligned with this statement since they concluded a positive attitude of teachers toward online teaching (Ghanbari, & Nowroozi, 2022; Zou, Huang, Ma, & Qiu, 2021; Karataş, & Tuncer, 2020; Hakim, 2020). In their study with 30 EFL teachers in Iran, Khatoony and Nezhadmehr (2020) aimed to report the

problems they encountered with when integrating technology in their remote teaching. Results showed that teachers didn't have problems accessing computer devices and they utilized technology for different aims like recreational, communicative, and instructional purposes. They also reported that online classes help them advance their technological proficiency.

Al-Jarf (2021) interviewed 25 Saudi EFL instructors to see how they integrated technology into their remote lessons to assess their learners' speaking skills. The results showed that the students had issues with the platform and internet access, they were inefficient platform users, and lacked any prior distance learning experience. Instructors, on the other hand, since they had the opportunity to practice, they improved their proficiency using the various tools in Zoom, WebEx, Microsoft Teams, and/or Blackboard as they became more accustomed to the platform features. They also picked up knowledge from peers who are more experienced with digital learning environments and online instruction.

On the other hand, some instructors reported the problems they faced while carrying out their speaking lessons online. In his paper, Forrester (2020) talked about some practical (students' equipment and internet connection, students' living environment, students not turning on cameras), pedagogical (Assessment Rubrics, matching input and practice to assessment, differences between online and face-to-face discussions), technical (LMS limitations, synchronous assessment issues) and administrative (fulfilling the learning objectives of the subject) problems he faced while delivering a speaking lesson online.

Some frequent challenges experienced by EFL teachers during remote teaching have been reported as assessment problems (Forrester, 2020; Ghanbari & Nowroozi, 2021; Daraghmeh, Mead, & Copeland, 2021; Alimorad, & Saleki, 2022), internet connection problems (Hakim, 2020; Al-Samiri, 2021; Atmojo, & Nugroho, 2020), lack of technological training (Civelek, Toplu, & Uzun, 2021; Bailey, & Lee, 2020; Abou Shaaban, 2020; Nugroho, & Mutiaraningrum, 2020), and student motivation (Al-Samiri, 2021; ur Rahman, 2020; Hakim, 2020).

Teachers also found remote teaching advantageous as it offered flexibility (Todd, 2020). They indicated that being able to teach anytime and anywhere was convenient both for teachers and students since they did not have to commute, and they could save time. Zou, Kong, and Lee (2021) also reported that integrating ICT into remote writing assessments made it more flexible and created a favorable learning atmosphere for the students.

2.6. Teacher Perceptions of Technology Integration in EFL during the Pandemic in Turkish Context

Studies conducted in Turkey on technology integration during the pandemic yielded parallel results to studies conducted around the world. Teachers reported both advantages and disadvantages of remote teaching. For example, in their study Erkan and Balbay (2021) surveyed 110 instructors working at the school of foreign languages and interviewed 24 of them and found out that many regarded this period as "a time for self-investment" (p. 1207). Teachers now possessed a new set of skills thanks to

the technical knowledge they had acquired. They became more flexible and better time-managers. They also shared that this experience helped to fortify relationships among coworkers and eventually foster a stronger sense of community and collaboration. Even though this period allowed teachers to gain new skills for professional and personal development, they also encountered some obstacles such as personal and professional life balance, technical problems and inefficient infrastructure, lack of professional training about technology and technical assistance, and not being able to physically face their students.

Another study administered by Tümen Akyıldız (2020) with the participation of 6 EFL teachers working in a secondary school also revealed the impediments to remote teaching. The problems were grouped into 4 categories as student-related, technology-related, teacher-related, and parent-related problems. Technology-related problems were listed as internet connection and inadequate resources while teacher-related problems revealed themselves as not being familiar with remote education, lack of technological training, and personal problems. Study also presented some suggestions to improve remote education processes such as training and technological support for distance education and technology use both for teachers and students, adaptation of different approaches to remote education such as communicative approach and motivational support for students and raising parents' awareness.

Similar difficulties experienced by EFL teachers were presented in the study conducted by Şevik and Yücedağ (2021). All 40 teachers had no prior remote education experience, and they didn't receive any training on the subject. Results also

concluded that teachers had major problems with the technology during this process mostly being related to internet connection and lack of technological devices and technical knowledge. Teachers also shared their concerns about the quality of remote education indicating that reduced communication among the students and teachers, lack of technological assets and no prior experience with remote education would cause this type of education not fulfill its purpose.

In their comprehensive research study, Erdoğan and Yazıcı (2022) reached out to 155 EFL teachers working in different education levels from kindergarten to university to see their perceived competence during synchronous and asynchronous online education. The results showed that they felt competent in lesson planning and teaching grammar and vocabulary while they felt less competent when teaching students with disabilities and retaining student interaction and motivation. The technological problems encountered by the teachers were reported to be "developing or adapting materials, sharing them with learners, monitoring their progress, or giving assignments, implementing quizzes or exams etc." (p. 74).

Kazu, Kurtoğlu Yalçın, and Yalçın (2020) conducted semi-structured interviews with 92 EFL teachers and got similar results to previous literature. Teachers indicated that they had some technological problems with the EIN platform, internet connectivity issues, some technical issues such as audio and video quality and freezing. Teachers also expressed that they experienced some student-related problems such as lack of attendance, motivation, and technological devices as well as assessment and feedback problems. They also reported that it is not possible to properly teach language skills

through remote education since learners require listening, imitating, and sharing their ideas whereas it was very difficult for these students due to the technical problems. They suggested that immediate action should be taken to provide equal learning opportunities for the learners, the infrastructure should be improved, interactive materials specific to language teaching should be provided, and more teaching hours should be dedicated to language teaching and learning.

CHAPTER 3

METHODOLOGY

This chapter gives a thorough overview of the research design, including the research questions, participant demographics, data collection tools, and data gathering process.

3.1. Design of the Research

The current study is designed as a qualitative research study. According to Creswell (2007) one reason why qualitative research is conducted is because "a problem or issue needs to be explored" (p. 39). Another reason to utilize qualitative inquiry methods mentioned by Creswell (2007) is because "we need a complex, detailed understanding of the issue" (p. 40). Denzin and Lincoln (2005) mention that "qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (p. 3).

This research study was conducted as a case study. The aim of researchers in using case study research is to gather a comprehensive and in-depth examination of a chosen place, group, or process (Hardwick, 2017). According to Lapan et.al., (2012) the

research approach known as case study is used to fully describe complex phenomena, such as current events and significant topics, in order to develop a deep understanding of these phenomena. Researchers can conduct any study to explore different phenomena "from program evaluations to exploratory resource examinations to even people's perceptions of their needs in specific situations" adapting case study approach (Dawidowicz, 2011, p.4). Yin (2014) simply defines case study as "an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context" (p. 16). According to Zaidah (2007) "through case study methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioral conditions through the actor's perspective" (p. 1).

Researchers have suggested different categorizations for this research study method. Merriam (1988) distinguishes case studies to be descriptive, interpretive, or evaluative. Yin (1994), one of key advocates of case study, states that case studies can be conducted as descriptive, explorative, and explanatory research. McDonough and McDonough (1997) add other categories such as interpretive and evaluative case studies. Stake (1995) mentions three types of case study namely the intrinsic, the instrumental and the collective.

Taking Yin's (1994) categorization of case studies into consideration, the current research study is designed as an explanatory case study. Explanatory case studies aim to "examine the data closely both at a surface and deep level in order to explain the phenomena in the data" (Zaidah, 2007, p. 3). According to Yin (2003) an explanatory

case study is suitable when trying to explain the causal relationships in real-world interventions where surveys or experimental procedures would be limited to explain the complexity of the situation. Yin (2009) further explains that this type of case study can also be used to uncover the way events occur and to describe the effects of them to the results related to the case study. Lastly, the implementation of explanatory case study entails the investigation of a contemporary phenomenon and no control of the researcher over the phenomenon under study (Yin, 2014).

Merriam (2009) states that "the decision to focus on qualitative case studies stems from the fact that this design is chosen precisely because researchers are interested in insight, discovery, and interpretation rather than hypothesis testing" (p. 42). Since this research aims to discover the *case* of teachers who work in a private primary school and their perceptions on an important recent event i.e., teaching during the pandemic and tries to find out how the pandemic affected their perceptions on technology use; explanatory case study approach was considered to be fitting to understand this phenomenon.

3.2. Research Questions

As mentioned above, this study investigates the perceptions of the primary school EFL teachers in terms of technology integration into their lessons before, during, and after the pandemic.

Considering this aim, this research study tries to answer the following questions:

1. What are primary school EFL teachers' perspectives on integrating technology in their classrooms before the pandemic?

2. What are primary school EFL teachers' perspectives on integrating technology in their classrooms during the pandemic?

3. What are primary school EFL teachers' challenges they face when integrating technology in their classrooms during the pandemic?

4. What are primary school EFL teachers' perspectives on integrating technology in their classrooms after the pandemic?

5. What are the suggestions of teachers on integrating technology in EFL classrooms?

3.3. Setting

Participants for this study were selected among 31 EFL teachers working in a private primary school in Ankara. In Turkey, primary schools educate the students starting from grade 1 until grade 4. Learners at this institution receive a total of 10 hours in first and second grades while in third and fourth grades they receive 12 hours of English lessons in a week. Both Turkish and foreign teachers are employed at the school and foreign teachers deliver 6 hours of the total teaching in first and second grades as main course teachers while in third and fourth grades they teach 4 hours as skills teachers. On the other hand, Turkish teachers in first and second grades teach a total of 4 hours in a week as skills teachers while in third and fourth grades they teach 8 hours as main course teachers. The reason for this divide where Turkish teachers

have more hours to teach in third and fourth grade is because their curriculum mostly focuses on grammar and vocabulary teaching and students are mostly expected to perform on their grammar and vocabulary competence in their exams.

The classrooms were equipped with a desktop computer with internet connection, a projector, and a sound system before the pandemic. Each desktop computer contained the Microsoft Office programs and courseware of each English book being taught. During the pandemic, for the purpose of carrying out the online and/or blended lessons, a microphone and a camera were installed in the classrooms. There are no interactive whiteboards in the primary school. Teachers mostly use the computers to project the courseware of the books they use in their classes and play the audio/video components of the courseware as well as making use of some websites on the internet. With the pandemic, the classrooms were equipped with a camera and a microphone so that the teachers could carry out their remote or blended lessons in the classrooms through Zoom.

It is also important to mention how education was carried out during the pandemic. After the onset of the pandemic, schools were closed, and remote education practices started on 23 March 2020 for the students to be able to continue their learning. During this period, students and teachers were at home. Teachers were asked to record 30-minute-long video lessons based on the books they were teaching. These videos then would be uploaded to the school's portal system and would be made available for the students to watch during the day according to their timetables. Lessons continued

asynchronously during this period. Then starting from 7 April 2020, live chats started to be held biweekly. During these live chats the teachers and all their classrooms would come together on Zoom and chat about a predetermined topic for 15 minutes before the students moved on with their video lessons. Lastly, starting from the beginning of June, all the lessons started to be held online on Zoom until the schools closed on 19 June 2020 during which lessons continued synchronously.

The 2020-2021 education year started on 17 August 2020 with a two-week-long 'preparation course' for students to revise the topics they were supposed to learn during remote education and to prepare them for the upcoming school year. The lessons were held online throughout this course. After the course, education continued online until 12 October when blended learning started. During this period the students who would prefer to come to school were divided into two groups. Group 1 came to school for face-to-face education on Mondays and Tuesdays while Group 2 joined the lessons in the classrooms through Zoom. On Wednesdays, education continued online for all students for the purpose of disinfecting the physical learning environments at school. On Thursdays and Fridays, Group 2 came to school for face-to-face education and Group 1 joined the lessons in the classrooms through Zoom. Blended learning continued until 16 November 2020, the fall break. After the fall break, the schools switched to online education again until the winter break starting on 22 January 2021. The winter break was extended until 15 February 2021 and the education continued online after the winter break until 2 March 2021. Starting from this date students who preferred to, came to school for face-to-face education for four days. This time the

classes weren't divided into two groups but all the students who wished to attend face-to-face lessons came at once. The lessons were held as blended learning until the afternoon and all the students joined their lessons in the afternoon from their homes for online education. Online lessons were carried on Wednesdays from home both for teachers and students. This implementation continued until 29 March 2021. After this date, online lessons continued until 3 June 2021. Starting from this date, education continued in the form of blended learning until 21 June 2021 when the 'make-up courses' were held to revise the topics covered throughout the year until 2 July 2021. This time education continued just face to face and only with voluntary students.

For the sake of this study, any type of learning carried out online where the teachers and the students were at their homes and didn't come to school will be referred to as 'remote education'. This type of education was defined by Sibirskaya et.al. (2019) as a type of education "at which there is no direct (personal, face to face) contact between the teachers and the students" (p. 534). The type of education where half of the students attended the lessons face-to-face and half of them attended through Zoom simultaneously will be referred as 'blended education' since it is the "integration of classroom face-to-face learning experiences with online learning experiences" (Garrison & Kanuka, 2004, p. 96). Also, in this study, *before the pandemic* refers to the period before 23 March 2020, *during the pandemic* refers to the dates between 23 March 2020 and 2 July 2021, and *after the pandemic* refers to the education period started on 6 September 2021 and continued until the time this study was conducted. This research study aims to shed light on EFL teachers' experiences integrating

technology in their lessons in general as well as during the pandemic and tries to see how teachers' experiences integrating technology in their lessons changed with the pandemic in addition to the frequency and aim of technology use in the lessons.

3.3.1. Teaching Materials

As mentioned above, before the pandemic teachers mostly made use of the courseware of the books they were using. Grammar topics used to be practiced and revised on worksheets. Students used to be given paper-based homework once a week for skills lessons and twice a week for main course lessons. Figure 1 below shows a vocabulary page from the courseware used for 3rd grade main course English lessons.

During the pandemic, teachers started making use of different digital tools while presenting or practicing a topic. Figures 2, 3, 4 and 5 below show how the same vocabulary items were taught by using Prezi during the pandemic.

Figure 1

3rd grade courseware example page

Figure 2

Vocabulary introduction with Prezi

Figure 3

Vocabulary introduction with Prezi

Figure 4

Vocabulary introduction with Prezi
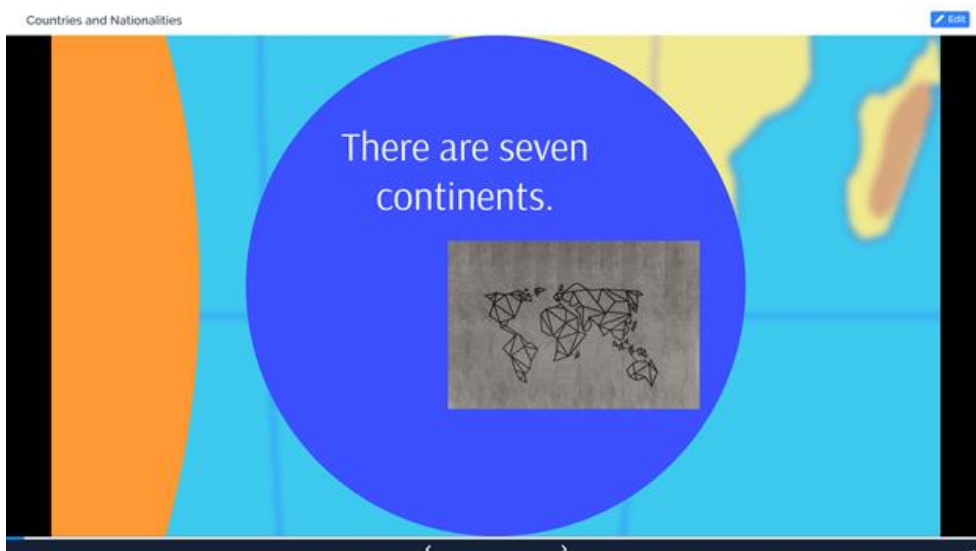
Figure 5

Vocabulary introduction with Prezi

Similarly, some other technological tools were used to teach grammar during the pandemic. Teachers mostly made use of PowerPoint presentations to introduce the grammar topics. Figure 6 below shows how the grammar topic 'countable and uncountable nouns' were introduced in the book while Figures 7 and 8 show how the same topic was introduced through a PowerPoint presentation.

Figure 6

Grammar topic introduction on the courseware

Figure 7

Grammar topic introduction through PowerPoint

Figure 8

Grammar topic introduction through PowerPoint

During the pandemic, the worksheets which were normally used to practice and revise the grammar topic before, were replaced by some digital platforms such as Nearpod and Wordwall. These gaming platforms allowed students to practice the topics while allowing the teachers to see the students' performances for assessment. Figures 9 and 10 below show screenshots of an activity about the same grammar topic which was completed by the students during the pandemic.

Figure 9

Nearpod activity about countable and uncountable nouns

Figure 10

Nearpod activity about countable and uncountable nouns
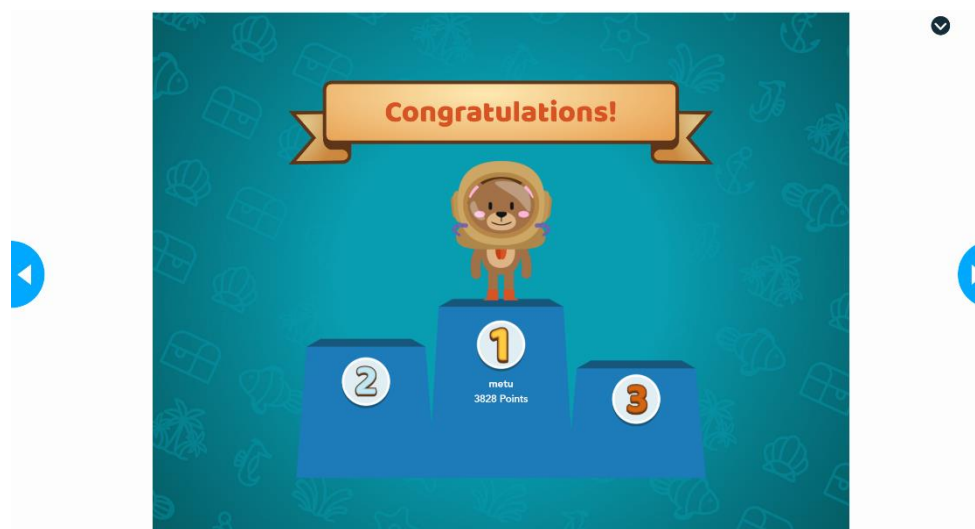
As it can be seen in Figure 10, this gaming platform is designed as a competition and the students performing best are presented at the end of the game.

Another gaming platform, as mentioned above, was Wordwall. This platform consisted of many different types of games as Figure 11 illustrates.

Figure 11

Different wordwall games
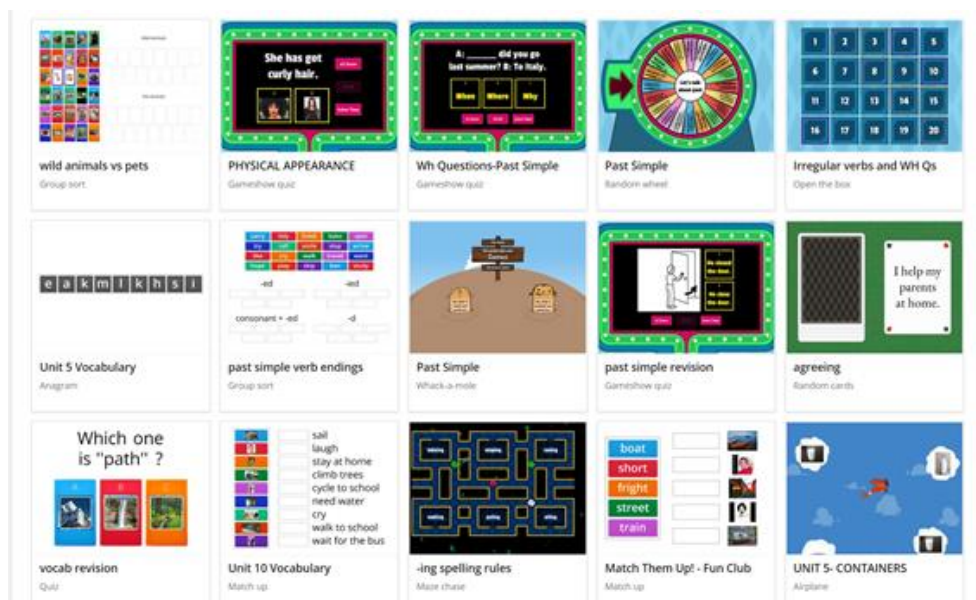
During the pandemic, teachers continued to give homework to the students. During remote education, this process was done through the school's portal system. Students were expected to download the homework uploaded to the school's portal, answer the questions, and upload it back in different forms such as pictures, PDF or word documents until the due date. After the students uploaded their homework, teachers would download each homework and write individual feedback to each student

pointing out their mistakes. Since the researcher couldn't access the files that were uploaded more than 8 months ago, a photo taken by another teacher showing the homework upload system is shared as Figure 12.

Figure 12

Homework upload and feedback system
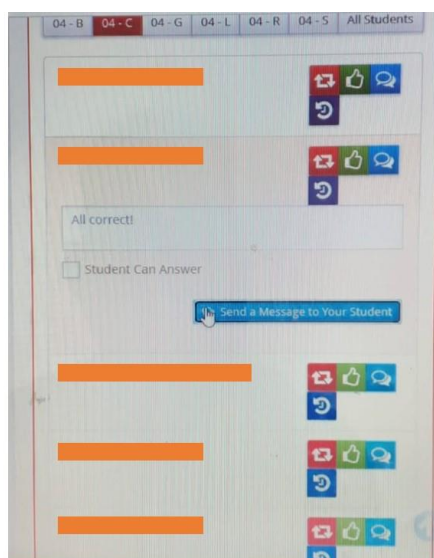
During the pandemic, Zoom meetings' links where the teachers used to conduct their online and blended lessons were also integrated into the school portal to provide easy access for both teachers and the students. Students could see which lesson they needed to attend when they opened their portal page. Similarly, teachers could see which class they were teaching and when. Teachers were also expected to take attendance of the students on the portal after each lesson.

After the pandemic, since the effects of the pandemic still lingered, technology use and integration continued somehow similarly to during the pandemic period. When some classes were in quarantine, the lessons were conducted through remote education. Similarly, if there were some students who wouldn't be able to attend face-to-face instruction, the lessons in those classrooms would be carried out as blended education. That is why, the traces of the pandemic could still be seen after returning to classrooms. In terms of technology use and technology integration, teachers still depended on it under the aforementioned circumstances. In these cases, online homework upload systems continued to be used. Use of technological tools mentioned above was up to the teachers. Since these platforms were suited to individual use, some teachers abandoned using them in their face-to-face lessons while some teachers continued to integrate them into their teaching as a whole-class activity where the students answered the questions all together or one by one and the teacher clicked the answer on the screen. Other than the online games, PowerPoints, that were created during the pandemic, continued to be used during the lessons for different purposes like homework checking, introducing a topic, or playing games.

3.4. Participants

Participants were identified using purposeful sampling which means that "the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study" (Creswell & Creswell, 2017, p.125). Patton (1987) states that this kind of sampling allows the researcher to collect data from "information-rich" sources (p.58). To be

more specific, criterion based purposive sampling was used to choose the participants. Criterion sampling is "a kind of purposeful sampling of cases on preconceived criteria" (Sandelowski, 2000, p. 248). According to (Palinkas et al., 2013) participants "who meet a specific criterion or criteria possess intimate (or, at the very least, greater) knowledge of the phenomenon of interest by virtue of their experience" become information-rich cases (p. 539). Lastly, Creswell (2007) suggests that "criterion sampling works well when all individuals studied represent people who have experienced the phenomenon" (p.128). This sampling technique was used since the participants who would take part in this study were selected based on predetermined criteria.

Since this study focuses on primary school English language teachers' perspectives on integrating technology into EFL classrooms before, during and after remote teaching, one of the criteria for determining the participants was to be currently teaching in this private institution and have taught before, during and after the pandemic. there were 21 teachers remaining to fit this criterion. Another criterion was decided to be teaching experience. These participants were divided into four categories according to their teaching experiences in years (1-5 years; 6-10 years; 11-15 years; 16+ years of teaching). The reason why the participants were divided as such was to include different participant groups with different teaching experiences to be able to get comprehensive data from different teachers.

The participation was on voluntary basis. Three teachers volunteered from each category which made up a total of 12 participants to take part in this study. The chart below illustrates how the participants were selected and named for the sake of anonymity. The first number in a participant's name represents which group that participant belongs to in terms of teaching experience while the second number represents which one of the three participants in that group he/she is. Additionally, the participants were ordered according to their experiences in each group; number 1 being the least experienced in the group and number 3 being the most experienced in the same group. Figure 13 below shows how participants were grouped.

Figure 13

Grouping of the Participants
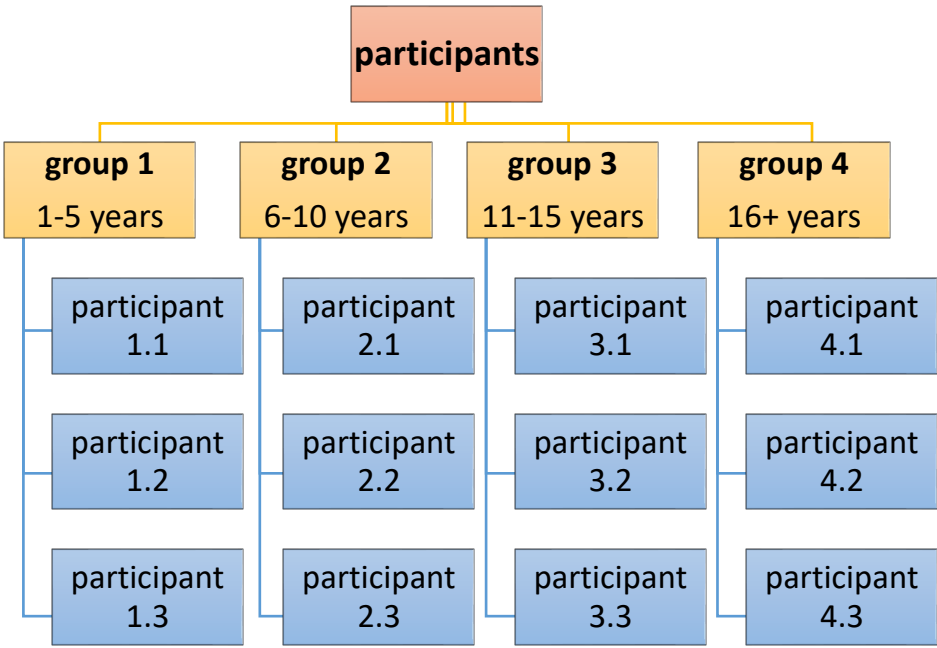
Table 1 below shows the demographic information of the participants who took part in this study.

Table 1

Demographic Data of the Participants

		f
age	25-30	**4**
	31-35	**2**
	36-40	**3**
	41-45	**2**
	45-50	
	50+	**1**
	total	**12**
nationality	Turkish	**9**
	British	**1**
	American	**1**
	Mongolian	**1**
	total	**12**
gender	male	3
	female	9
	total	**12**

Table 1 (cont'd)

department of	English Language Teaching	**3**
graduation	Linguistics	**1**
	English Language and Literature	**4**
	American Culture and Literature	**1**
	other (universities abroad)	**3**
	total	**12**
educational	BA	7
background	MA	5
	total	**12**

As mentioned before, three teachers from each teaching experience category participated in the study. Majority of the participants were citizens of Turkey while a British, an American and a Mongolian teacher also agreed to be interviewed. These foreign teachers were the only male participants while all the Turkish participants were females. These teachers graduated from different departments such as English Language Teaching, Linguistics, English Language and Literature, and American Culture and Literature. Foreign teachers graduated from universities abroad (London Metropolitan University, La Trobe University, and University of Missouri) which were indicated as *other* in the table. Lastly, seven of these participants have a bachelor's degree and five of them hold a master's degree while none of them has a PhD degree.

Since this study was designed to offer an insight into the perceptions of the teachers on integrating technology into their lessons, it was essential to have an understanding of how competent they were about integrating technology before, during, and after the pandemic as well as to know how often they used technology as assistance in their lessons before, during, and after the pandemic. The participants were given a short questionnaire before the interviews where they were asked to choose the best option which reflects their perceived competence in integrating technology into their lessons among four options: novice, competent, proficient, and expert. They were also asked to choose how often they integrated technology into their lessons among five options: never, rarely, sometimes, often, and always. Table 2 and 3 below was designed to shed light on this information for each participant as well as other demographic information such as their ages and how many years of experience they have in teaching English.

Table 2

Demographic Data of the Participants regarding Technology Integration Competence Before, During, and After the Pandemic

Participants	Age	Teaching experience in years	Technology integration competence		
			Before pandemic	**During pandemic**	**After pandemic**
Participant 1.1	25	3	Proficient	Competent	Proficient
Participant 1.2	32	4	Expert	Expert	Expert
Participant 1.3	30	4	Proficient	Proficient	Proficient
Participant 2.1	30	8	Proficient	Proficient	Proficient

Table 2 (cont'd)

Participant 2.2	**32**	**9**	**Competent**	**Proficient**	**Proficient**
Participant 2.3	34	10	Expert	Expert	Expert
Participant 3.1	41	12	Proficient	Proficient	Proficient
Participant 3.2	36	12	Competent	Proficient	Proficient
Participant 3.3	36	15	Proficient	Proficient	Proficient
Participant 4.1	40	17	Competent	Competent	Proficient
Participant 4.2	43	20	Novice	Novice	Competent
Participant 4.3	55	34	Novice	Competent	Competent

Table 3

Demographic Data of the Participants regarding Technology Use as Assistance

Before, During, and After the Pandemic

Participants	Age	Teaching experience in years	Technology use as assistance		
			Before pandemic	**During pandemic**	**After pandemic**
Participant 1.1	25	3	Sometimes	Always	Often
Participant 1.2	32	4	Sometimes	Always	Often
Participant 1.3	30	4	Sometimes	Always	Often
Participant 2.1	30	8	Sometimes	Always	Always
Participant 2.2	32	9	Often	Often	Often
Participant 2.3	34	10	Often	Always	Often

Table 3 (cont'd)

Participant 3.1	**41**	**12**	**Always**	**Always**	**Always**
Participant 3.2	36	12	Sometimes	Often	Often
Participant 3.3	36	15	Often	Always	Often
Participant 4.1	40	17	Often	Always	Often
Participant 4.2	43	20	Rarely	Always	Often
Participant 4.3	55	34	Never	Always	Sometimes

3.5. Data Collection

Data was collected through interviews since the aim of the study was to shed a light on the participants' perceptions. Interview questions 10, 11, and 13 were adapted from Clarke (2022) and questions 2, 10, 12, and 17 were adapted from Kenny (2022). Permission mail obtained from Clarke is shared in Appendix C. Other questions were generated by the researcher in line with the purpose of the study.

According to Lodico et al., (2010), interviews are a type of qualitative data collection tool that can be used to reveal participants' given perceptions of their views, feelings, or experiences. Cresswell (2003) states that interview "allows researcher control over the line of questioning (p.186). Moreover, semi-structured format allows researchers to respond to each situation as it arises (Merriam & Tisdell, 2015). In this study, semi-structured, open-ended interview questions were asked to the participants to get a grasp of their opinions and experiences with integrating technology into their teaching.

The first step of data collection was to ask the participants to fill in the participation form (Appendix A) and the background information questionnaire (Appendix B). This questionnaire was used to determine the participants who could take part in the interviews as a part of this study.

Before the interviews, the interview questions were shared with a colleague to check for coherence and for the parts which could be confusing for the participants. According to his feedback, some questions that were found to be too long or complicated by this colleague were divided into different parts or asked separately during the interviews.

After the feedback, a pilot study was conducted with a teacher. According to Mackey and Gass (2005) a study should be piloted to determine whether the data collection techniques and tools are practical and effective as well as enabling the researchers to address any issues before the study is actually carried out. The teacher was chosen according to the criterion of working in this institution before, during and after the pandemic. The aim was to get feedback from the teacher about the clarity of the questions and to observe any problems which might have occurred during the actual data collection process. The pilot study was conducted in English. During the pilot study, the researcher observed that the participant wasn't comfortable answering the questions in English. As a result, the interview questions were translated into Turkish, and an expert opinion was obtained to see if the translated questions conveyed the same meaning as their English counterparts. During the interviews, the participants

were given the chance to conduct the interviews either in Turkish or in English. 5 participants agreed to do the interviews in English while 7 participants preferred to do it in Turkish.

After the research and ethics committee's approval on 5 August 2022, the participants were contacted, and the interviews were arranged to be carried out online through Zoom. Interview process was completed on 17 August 2022. Audio recording ensures that details are accurately preserved for analysis (Merriam & Tisdell, 2015). For this reason, the interviews were recorded on Zoom however, only the audio recordings were kept.

3.6. Data Analysis

Creswell (2013) states that the data analysis process involves "organizing the data, conducting a preliminary read-through of the database, coding and organizing themes, representing the data, and forming an interpretation of them" (p. 179).

Content analysis method was utilized to analyze the data retrieved from the interviews. Coffey and Atkinson (1996) divide the process into three steps: immersion, reduction, and interpretation.

Immersion allows the researcher to interact with the data and gather a prior understanding to make sense of the entire dataset before dividing it into distinct components for analysis. For this step, the recordings were listened after the interviews and transcriptions of the interviews were compared with the recordings.

Next step, reduction, requires a systematic approach to analyze the data. The aims of this step are to:

1. reduce the amount of raw data to that which is relevant to answering the research questions,

2. break the data (both transcripts and memos) into more manageable themes and thematic segments, and

3. reorganize the data into categories in a way that addresses the research questions. (Forman and Damschroder, 2007, p. 48).

During this step, the transcriptions of the interviews were read several times and relevant data and recurring patterns were identified. Next, the data is uploaded to the MAXQDA program to be further analyzed and coded. Coding is used to identify specific parts of the data that describe related phenomena or experience and label those parts using broad category names (Lodico et al., 2010).

Teachers' perceptions about different aspects of technology use such as its purpose, its amount and teachers' experiences were gathered by specific questions during the interviews. Themes about the pre-pandemic and post-pandemic perceptions of the teachers were generated according to these answers. For instance, teachers' responses to the questions about the amount of technology use were gathered under the theme 'amount of technology use'.

Using this program, specific parts were highlighted and grouped under relevant titles. Since this research study explores the perceptions of teachers focusing on three different periods i.e., pre-pandemic, pandemic, and post-pandemic, themes were organized as "experiences before the pandemic" or "amount of technology use during the pandemic". Later, after analyzing the data again, different categories emerged. Table 4 illustrates an example of the process of emergence of different categories.

Table 4

Example Process of Finding Categories

Themes	Categories	Codes
Experiences before the pandemic	Purposes of technology integration before the pandemic	making lessons colorful, engaging students, being technologically dependent, 21st century requirement, making things easier and simpler, time saving, improving teaching, less paperwork

Table 4 (cont'd)

		sudden changes, time limitations, familiarity with technology, negative feelings, lack of knowledge of the audience
Experiences during the pandemic	Adjusting to the new normal	sudden changes, time limitations, familiarity with technology, negative feelings, lack of knowledge of the audience
Challenges	Challenges related to language skills	limitations on giving feedback, limitations on keeping track, waiting for their turn to speak
Experiences after the pandemic	Changed opinions	Updating technological skills, improving their knowledge, feeling more confident

Last step, interpretation, requires researchers to synthesize the data and draw conclusions to reflect the results. Here, the aim is "to produce a finished product that communicates what the data mean" (Forman & Damschroder, 2007, p.56).

In the next chapter, findings regarding each research question are presented under the research questions themselves. While the quantitative data is presented, frequencies of the instances are shared as f. In this study, f refers to the number of times these instances were mentioned by the participants during all interviews.

CHAPTER 4

FINDINGS AND DISCUSSION

This chapter presents the findings of the study which were categorized under each research question and discussion of the findings.

4.1. Findings regarding Research Question 1

RQ1: What are primary school EFL teachers' perceptions on integrating technology in their classrooms before the pandemic?

As explained above, the themes for this research question emerged as purposes of technology integration, necessity of technology integration, and technology training.

Before moving on to the findings of RQ1, it's important to see the participants' technology integration competence and frequency of technology use as assistance before the pandemic. Table 5 below shows this information about the participants.

Table 5

Participants' Technology Integration Competence and Frequency of Technology Use as Assistance Before the Pandemic

Participants	Age	Teaching experience in years	Technology integration competence	Technology use as assistance
			before pandemic	before pandemic
Participant 1.1	25	3	Proficient	Sometimes
Participant 1.2	32	4	Expert	Sometimes
Participant 1.3	30	4	Proficient	Sometimes
Participant 2.1	30	8	Proficient	Sometimes
Participant 2.2	32	9	Competent	Often
Participant 2.3	34	10	Expert	Often
Participant 3.1	41	12	Proficient	Always
Participant 3.2	36	12	Competent	Sometimes
Participant 3.3	36	15	Proficient	Often
Participant 4.1	40	17	Competent	Often
Participant 4.2	43	20	Novice	Rarely
Participant 4.3	55	34	Novice	Never

Table 5 illustrates the demographic information of the participants related to their perceived technology integration competence and frequency of technology use as assistance before the pandemic. As it can be seen from the table, Participant 4.2, and Participant 4.3, who are the most experienced teachers, perceived themselves to be

novice users of technology; Participant 2.2, Participant 3.2, and Participant 4.1 reported that they are competent at integrating technology; Participant 1.1, Participant 1.3, Participant 2.1, Participant 3.1, and Participant 3.3 stated that they are proficient at integrating technology into their teaching while Participant 1.2 and Participant 2.3 referred themselves as expert users of technology. Also, the table shows that Participant 4.3 never used technology as assistance before the pandemic; Participant 4.2 rarely used it in the classroom; most of the participants, namely Participant 1.1, Participant 1.2, Participant 1.3, Participant 2.1, and Participant 3.2 sometimes made use of technology to assist their teaching; Participant 2.2, Participant 2.3, Participant 3.3, and Participant 4.1 often used technology in their classroom while Participant 3.1 was the only one who always used technology as assistance before the pandemic.

Participants were asked about what type of technologies they used in their classrooms before the pandemic. The answers included the computer and the projector, the courseware of the books, PowerPoint presentations, e-books, videos, audios, Google Slides, and YouTube.

This research question aimed to see how primary school EFL teachers perceived integration and use of technology in their lessons before the pandemic. Most of the participants stated that they used technology in a more limited way before the pandemic. Since, as it was stated earlier, the infrastructure was limited to a desktop computer and a projector, the participants reported that they mostly used these technologies for the purpose of projecting the courseware of their books. Especially

teachers who would perceive their technological competence to be more limited only made use of these equipment. For example, Participant 4.2 (age: 43, experience: 20, Female) stated that "there wasn't any special technology I used apart from the courseware on our computers." Participant 4.3 (age: 55, experience: 34, Female), who is the most experienced teacher among the participants, also reported that "I only knew how to turn on and turn off the computer. And we showed the thing, the online thing [the courseware] to the kids. Other than that, I didn't do much."

More proficient participants such as Participant 1.1, Participant 2.1, and Participant 2.2 reported that they made use of some other digital technologies in their lessons such as some websites to play games or YouTube, mostly for playing songs and videos related to the topic they were teaching. Participant 1.1 also shared that she even had a blog about technology integration into EFL lessons.

4.1.1. Purposes of Technology Integration

These teachers integrated technology into their EFL classrooms for a number of purposes. The most frequently mentioned purpose was to draw students' attention to the lesson. For example, Participant 4.1 mentioned that it was necessary to integrate technology by saying that:

> Of course, it was necessary in order to draw the attention in the classroom. It is always good to use technology because kids want to see something of colorful, some things in the class so that they just listen to you more they just get engaged more, that's why I've seen that it's essential. (age: 40, experience: 17, Female)

Participant 4.3 who's been teaching for 34 years with the help of different technologies also supported this by saying:

> A very long time ago, I have been here for 34 years, long ago, when we were teaching English, of course, we were not dealing with such technologies or something. We were just using the book. The kids were opening the book, we were opening our own book and teaching when engaging in a mutual dialogue. But using the software on the board made our job much easier. At least, I think we were successful in attracting the attention of children to the board. So, it was necessary. Yes. It made the lesson more vivid because otherwise we could not see which child was doing what. We couldn't see where he was looking in his book, but I think that with the computer and technology, we attracted the attention of more children. (age: 55, experience: 34, Female)

Another reason why the participants regarded technology use as necessary was because they thought that their students' generation required such advancements while learning. For instance, Participant 1.2 (age: 32, experience: 4, Male) stated that "Technology is necessary because that's just how the generation and times are moving. People are becoming more technologically dependent, and it's more appealing."

Participant 2.3 (age: 34, experience: 10, Male) also mentioned that it is important for children to be exposed to technology in the classroom from an early age because "we are living in the 21st century and technology has become an essential part of it."

The words of Participant 3.3 (age: 36, experience: 15, Female) also supported this thought since she also mentioned that "when you think about the era we live in, and all the technological developments technology use is important."

The last reason why teachers integrated technology into their classrooms was because they believed that technology use made their jobs easier. For instance, Participant 1.3 (age: 30, experience: 4, Female) said that "when we used technology assistance in the classroom, it made things easier and made it much simpler."

Participant 3.1 (age: 41, experience: 12, Male) mentioned that he was one of the very last teachers to stop using CD players in the lessons and he used to keep a record of everything on paper. However, he also stated that integrating technology was an improvement for him because "being able to take a USB stick with me from classroom to classroom, being able to edit materials in the class even or between lessons became much easier." And Participant 2.3 (age: 34, experience: 10, Male) also stated that "in classrooms specifically it saved me time."

4.1.2. Necessity of Technology Integration

Majority of the participants reported that technology integration was necessary due to the reasons mentioned above; however, some teachers believed that it wasn't a dire necessity before the pandemic. For example, Participant 3.2 (age: 36, experience: 12, Female) stated that "sometimes it was very boring to run the lesson through technology, you know, always showing something on PowerPoint or a computer. Playing games with the flash cards we had was more active. Sometimes children enjoyed it more."

Participant 3.3 also said that:

> There was no need to support students too much in terms of technology because it was face-to-face education, it was more like classroom games where we could touch students, or activities that students could do on their own or together. (age: 36, experience: 15, Female)

However, Participant 1.1 stated that it was necessary to use technology in the classrooms because:

> Since the students were born, they have grown up with videos or tablets and phones and all their focus is on them. And now we get all the information from books, not from somewhere, but more with the help of technology. (age: 25, experience: 3, Female)

4.1.3. Technology Training

Teachers also reported that they didn't receive much training (in-service training or seminars) about technology integration before. Participant 2.2 mentioned that she got some trainings on interactive whiteboard use and how to prepare PowerPoint presentations. Participant 2.1 (age: 30, experience: 8, Female) stated that the seminars she participated in included some ideas about technology integration in a limited way by saying "let's say if there is a seminar about motivation, they'd say Class Dojo can be used in the lesson. You know, it was mentioned as a subtext."

But almost all of the participants stated that none of these training sessions were enough to prepare them for what was coming.

4.2. Findings regarding Research Question 2

RQ2: What are primary school EFL teachers' perceptions on integrating technology in their classrooms during the pandemic?

In light of the answers gathered from the interview questions, the themes for this research question emerged as adjusting to the new normal, making use of technology, amount of technology use, tinkering around technology, first time experiences, and becoming a new teacher.

Before moving on to the findings of RQ2, it's important to see the participants' technology integration competence and frequency of technology use as assistance before the pandemic and during the pandemic. Table 6 and 7 below shows this information about the participants.

Table 6

Participants' Technology Integration Competence Before and During the Pandemic

Participants	Age	Teaching experience in years	Technology integration competence	
			Before pandemic	**During pandemic**
Participant 1.1	25	3	Proficient	Competent
Participant 1.2	32	4	Expert	Expert
Participant 1.3	30	4	Proficient	Proficient
Participant 2.1	30	8	Proficient	Proficient
Participant 2.2	32	9	Competent	Proficient
Participant 2.3	34	10	Expert	Expert
Participant 3.1	41	12	Proficient	Proficient
Participant 3.2	36	12	Competent	Proficient
Participant 3.3	36	15	Proficient	Proficient
Participant 4.1	40	17	Competent	Competent
Participant 4.2	43	20	Novice	Novice
Participant 4.3	55	34	Novice	Competent

Table 7

Participants' Technology Use as Assistance Before and During the Pandemic

Participants	Age	Teaching experience in years	Technology use as assistance	
			Before pandemic	**During pandemic**
Participant 1.1	25	3	Sometimes	Always
Participant 1.2	32	4	Sometimes	Always
Participant 1.3	30	4	Sometimes	Always
Participant 2.1	30	8	Sometimes	Always
Participant 2.2	32	9	Often	Often
Participant 2.3	34	10	Often	Always
Participant 3.1	41	12	Always	Always
Participant 3.2	36	12	Sometimes	Often
Participant 3.3	36	15	Often	Always
Participant 4.1	40	17	Often	Always
Participant 4.2	43	20	Rarely	Always
Participant 4.3	55	34	Never	Always

As it can be seen in Table 6 and 7, Participant 2.2, Participant 3.2, and Participant 4.3 believe that they improved themselves in terms of technology integration into their lessons. Apart from Participant 1.1 who stated that her competence deteriorated, other participants seem to have the same amount of competence in technology use and

integration during the pandemic as they did before the pandemic. Also, except Participant 2.2 who has used technology often both before and during the pandemic, other participants started using technology as assistance more often.

When participants were asked about what type of technologies they used in their classrooms during the pandemic, they stated that in addition to the technologies they used before the pandemic some new digital platforms were introduced to them for them to make use of in their remote teaching. So, they continued to use the computer and the projector, the courseware of the books, PowerPoint presentations, e-books, videos, audios, and YouTube but additionally they used new digital tools such as Zoom, Nearpod, Wordwall, Padlet, Canva, Prezi, Kahoot, and Quizzez in their lessons during the pandemic.

4.2.1. Adjusting to the New Normal

This research question aimed to see how primary school EFL teachers perceived integration and use of technology in their lessons during the pandemic. Most participants reported that they had a difficult time adjusting to the developments in these uncertain times. Participant 4.1 mentioned that she felt unconfident and anxious. Participant 2.3 (age: 34, experience: 10, Male) stated that "I didn't have a very good experience in the beginning." Participant 1.3 (age: 30, experience: 4, Female) also mentioned that "it was a little challenging and a little frustrating because there was a lot of expectation."

Participant 3.1 also said that at first this experience was not enjoyable. Participant 4.2 stated that she was stressed because the change was so sudden, and she felt the pressure to learn and adapt things in a short amount of time. The teacher who was affected greatly from this experience was Participant 4.3 (age: 55, experience: 34, Female) because she said that she had panic attacks just by thinking about teaching remotely. She stated that "as someone who doesn't use technology a lot and obviously doesn't care about how it is used, I was very nervous, my heart was literally pounding. It was death to me to invite those students to online lessons."

Participant 1.1 (age: 25, experience: 3, Female) reported that even though she had experience using Zoom before she also had a hard time at the beginning because "the audience in front of me did not know this. Trying to teach them made it hard for me."

Similarly, Participant 2.2 (age: 32, experience: 9, Female) also stated that it was scary at first because "trying to communicate with the younger age group like this in front of the screen, trying to connect with them without looking into their eyes, I think it was scary at the beginning."

On the other hand, some participants stated that they didn't have a difficult time adjusting to remote learning and integrating technology. Participants 2.1, 3.2, and 3.3 reported that they adjusted teaching remotely with ease.

Participant 1.2 (age: 32, experience: 4, Male), who was one of the most tech-savvy teachers, stated that "for me it was very easy because I was familiar with how to maneuver my way around things like zoom, recording videos or sharing screen. These were all things I've done before. So, technology was an easy transition."

4.2.2. Making Use of Technology

All the teachers said that they prepared some activities to use in their online lessons. They prepared PowerPoints to teach a topic as well as online games and games on PowerPoint. The participants prepared and used these digital tools for different purposes. The main reason mentioned by the teachers was to attract students' attention. Participant 1.3 stated that the aim was to make it more fun for the students to engage. Participant 1.1 (age: 25, experience: 3, Female) said that she prepared these activities "especially to get the students' attention, to make them learn better."

Participant 3.2 used these tools to create a more active learning environment. Similarly Participant 2.1 (age: 30, experience: 8, Female) aimed to "ensure the active participation of the children at home in the lesson, to attract their attention, and to make the lesson feasible."

Other participants mentioned some other reasons why they created and used some digital technologies. For instance, Participant 2.3 prepared such activities to

differentiate himself from other teachers since the students had to do the same activities repeatedly for all lessons throughout the day. Participant 4.3 perceived these technologies as a way of assessment because she mentioned that to the students it was just playing a game, so they weren't worried about their achievements. Participant 3.3 also mentioned that one reason why she used these online tools was to make the learning more permanent. Another reason mentioned by Participant 2.2 was to increase the motivation to learn. Teaching remotely was a territory which was unfamiliar to all the participants. That is why Participant 3.1 (age: 41, experience: 12, Male) mentioned that the reason to create his own materials was to "try and replicate what would have been possible in the classroom but on zoom."

4.2.3. Amount of Technology Use

When they were asked if all these technologies used were enough, teachers voiced different opinions. Half of the participants found the technologies they used while teaching during the pandemic sufficient while the other half stated that it wasn't enough, and it should've been more. Participants 1.2, 2.1, 3.2, 3.3, and 4.2 stated that all the technologies they used during the pandemic were enough on the accounts that they had a very limited time to integrate these technologies, they were motivating and student-centered, they did the best they could, for this age group these technologies were enough, and they could achieve their learning aims by using these technologies. On the other hand, Participants 1.1, 2.2, 2.3, 4.1 and 4.3 didn't find these technologies they used during the pandemic enough. Participant 4.3 (age: 55, experience: 34,

Female) stated that "I'm sure it would be enough if we could do it fully, that is, if I could get all the students to participate."

Participant 4.1 (age: 40, experience: 17, Female) stated that they weren't enough because "I always believe that there is something more to do."

Participant 2.3 (age: 34, experience: 10, Male) compared remote teaching to face-to-face teaching by saying "in my personal opinion, nothing replaces face to face teaching. It's very difficult, you know to really teach someone online. You're very limited."

Participant 2.2 based her reasoning on the students' performance after returning to classrooms by saying:

> We understood that it was not enough, when the children came here, that is, when we switched to face-to-face education. It wasn't enough, but we did what can be done to fill the gap at that moment. It was perhaps necessary to increase productivity, but it was not enough. (age: 32, experience: 9, Female)

Lastly, Participant 1.1 (age: 25, experience: 3, Female) stated that their hands were tied by saying "could we do more? Yes, I think we could, but of course financial means come into play."

4.2.4. Tinkering around Technology

The participants were also asked to share their experiences using these technologies they used while teaching during the pandemic. Many of them reported that they had a difficult time using these technologies at the beginning. For example, Participant 4.3 was pretty nervous at first because she wasn't sure about how to use these materials yet. Similarly, Participant 2.1 thought that this sudden switch to teaching through screens after being actively teaching in the classroom was very stressful and exhausting. Participant 4.1 also stated that she didn't have fun at the beginning because she felt stressed. Participant 3.2 (age: 36, experience: 12, Female) mentioned another reason why this period was difficult by saying that "I forced myself to be a little more creative while preparing it so that it would be more fun."

After spending some time using and learning more about these technologies, teachers reported that the transition has become much easier and manageable. For example, Participant 4.1 (age: 40, experience: 17, Female) said that "in time we started learning things more and then I started feeling more confident and it has become kind of a routine actually. So, it wasn't that stressful."

Similarly, Participant 1.1 found researching and discovering the application for a while to be always easy to turn it into a teaching material and use it. Some participants also shared that using these materials made them feel good about themselves. For instance, Participant 1.3 (age: 30, experience: 4, Female) said that "I enjoyed a lot preparing

online stuff, digital stuff because it was more like, 'oh, I can do this'. So, I kept on using this. So, that made me feel good."

Participant 2.3 pointed out another way creating and using his own materials helped him during this experience by saying that:

> I had fun. I really did. During the pandemic, during the whole lockdown, not being able to leave my house, I think psychologically it has helped a lot of people, especially teachers. When you were, you know uhm, hands on with your own materials you're able to edit things around and move things around, so I had a pretty good experience. (age: 34, experience: 10, Male)

Some participants mentioned that getting help from others made the transition easier for them. For example, Participant 4.3 reported that after asking her colleagues some questions about how to do certain things while using these technologies and getting their help she was more comfortable. Similarly, Participant 4.2 (age: 43, experience: 20, Female) mentioned that the students used these materials with ease and stated that "as a teacher myself, when I had problems even about zoom, you know, screen sharing, sound, with a lot of issues, I often got help from the students."

Participant 3.3 said that she wasn't sure if they could reach out to all the kids, but she observed that these technologies attract the attention of many students and motivates them. Similarly, Participant 1.2 mentioned that these technologies piqued the interest of the students at first, but after some time they realized that the teacher cannot keep track of all of them, so they were reluctant to pay attention or to participate. Lastly, Participant 3.1 reported that it was a good experience since creating their own

materials gave them a chance to modify things that weren't working as they experienced using them and not rely on things prepared for them.

4.2.5. First Time Experiences

The participants also shared the things they experienced for the first time while teaching during the pandemic. On the onset of the pandemic, after the schools closed, teachers were asked to make video lessons for students to watch during the day or later on. Participant 3.2 (age: 36, experience: 12, Female) mentioned that "it was very difficult at the beginning. For example, we used to re-record from the beginning. We didn't know how to cut and paste."

Participant 4.3 stated that it was a big challenge for her to make video lessons by saying that:

> Video making was very troublesome. We got bored doing that. I remember shooting 17-18 videos in a day. The beginning is not right, the end is not right. Here I looked like this, here I said this wrong. I mean, I remember getting up at four o'clock at night and doing it, but that's all I could do. It was very difficult. Especially during video shooting, it was hard to start over for a half hour video and do it over and over again. It was a difficult experience for me. (age: 55, experience: 34, Female)

For most of them getting used to an online education environment i.e., Zoom where all the students could participate via one unity was a challenge because as Participant 3.1 (age: 41, experience: 12, Male) stated that "you were never quite sure whose attention you had or for how long."

But there were other things teachers experienced for the first time during the pandemic other than remote education. For example, Participant 3.2 stated that upon trying to get so many things done, trying to contact the parents all the time about the students' absence or problems was very challenging. She said that:

> Reaching all the parents, calling the parents of all the children we could not reach, etc. Even if we were at home, trying to reach all the parents after such an intense work, you know, communicating with the students who could not join. It's the first time this has been done this intensely. It's the first time we've been together [with the parents] like this. (age: 36, experience: 12, Female)

On the other hand, some experiences affected the teachers positively. For example, Participant 1.1 (age: 25, experience: 3, Female) mentioned that they started having their parent meetings online and it made a big difference since "we are not stealing anyone's time. Parents do not spend hours to come to school, they do not stay in traffic."

Another experience that affected the students positively according to Participant 1.1 (age: 25, experience: 3, Female) was that "videos are uploaded for students who missed the school or could not come. They can also be used for revision. It can also be supportive for students who missed it."

4.2.6. Becoming a New Teacher

The participants were also asked to reflect on how this experience i.e., teaching during the pandemic changed them as a teacher. Many teachers reported that they started appreciating face-to-face education more. For instance, Participant 1.3 (age: 30, experience: 4, Female) reported the importance of interaction by saying that "it made me realize the importance of face-to-face teaching. I mean how, it actually made me understand how social we as human beings and how important it is to have that interaction between people." Similarly, Participant 3.1 (age: 41, experience: 12, Male) also stated how important it is to have an effective teaching environment by saying that "it's made me appreciate being able to have control over the space and being able to just interact with students in a way that motivates them."

On a more affective note, Participant 4.3 also reported that:I think it's very important to at least see the eyes of the children. That's how I learned that face-to-face education is very important. And I learned that touching the children is very important. I learned that having an eye contact with children is very important. (age: 55, experience: 34, Female)

Some participants mentioned how this experience changed them not only as a teacher, but also as a human being. For example, Participant 2.3 revealed that he has become more patient and more understanding. Similarly, Participant 4.1 mentioned that she has learned to be more flexible because of the constant changes she had to keep up

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with during the pandemic. Participant 2.1 said that she became more hybrid since the pandemic made her realize that she had to keep up with the times. Participant 3.2 mentioned that this situation brought upon more responsibility to her since she felt obligated to make sure every student had the chance to get the best from remote learning by contacting the students and their parents. Also, Participant 3.3 said that she had to adjust to different situations.

Some participants realized that school and education have a very different meaning than they thought. Participant 2.2 (age: 32, experience: 9, Female) stated that education has no boundaries by saying that "we always thought that education is something that can be done in a classroom where the student and the teacher are alone, but we saw that it can be done from miles away."

Participant 4.3 appreciated the social aspect of the school by saying that:

> I learned that school is actually a place for socializing. You know, we always thought of it as a place where we teach, but no, even those 5 minutes there were very important. 10-minute breaks are very important. I learned that. (age: 55, experience: 34, Female)

For Participant 1.2 teaching during the pandemic made him even more aware of the fact that even a smallest change like using simple virtual or digital technology and platforms requires training. For Participant 1.1 it was a positive experience which helped to use technology more and made things easier. Lastly, for Participant 4.2, this experience provided her with a different point of view from which she could realize the gap between her and the students.

4.3. Findings regarding Research Question 3

RQ3: What are primary school EFL teachers' challenges they face when integrating technology in their classrooms during the pandemic? Certain themes emerged from the coding of the interview transcripts. The themes related to the challenges experienced by the participants were identified as: teacher-related challenges, institution-related challenges, student related challenges, challenges about parent assistance, challenges about language skills, financial challenges, affective challenges, pedagogical challenges, and technological challenges. Figure 14 shows the frequency of these themes i.e., how many times they occurred in all the interviews.

Figure 14

Themes Related to the Challenges Experienced by the Teachers and Their Frequencies
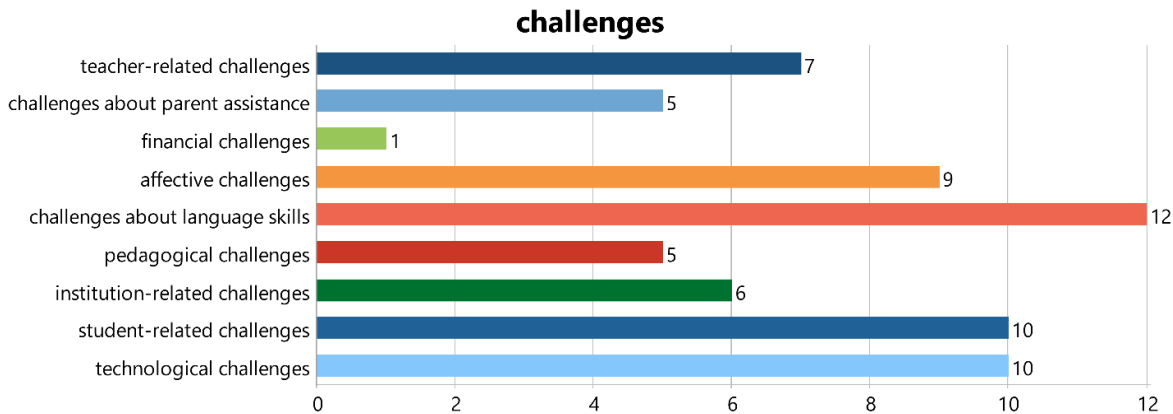
Table 8 below illustrates the themes, sub-themes, codes, and frequencies of the codes obtained from the interviews.

Table 8

Themes, Sub-Themes, Codes and Frequencies Obtained from the Interviews

Themes	Sub-themes	Codes	*f*
Teacher-related		limitations of online environment, limitations in time and support, technological readiness, creativity	9
Institution-related		in-service trainings, technological devices, IT support, support to use different technologies, unrealistic expectations, teaching time	13
Student-related	learning environment	unfit learning environment, technological issues	6
	age	technological readiness, cognition	10
	motivation	interest, attention, visuals	8
Parent assistance		lack of availability and support, finding excuses, unnecessary reactions	5
Language skills		limitations on giving feedback, limitations on keeping track, waiting for their turn to speak	14
Financial		purchasing applications	2
Affective		negative feelings, challenging experiences, frustrating expectations, tiring	13
Pedagogical		participation, focus, feedback, observation, tracking	7
Technological	technology related	internet connection, quality of technological devices, IT support	15
	teacher related	digital capacity, technology training, distance caused by technology	7

As Table 8 shows, student-related and technological challenges were split into sub-themes because analysis of the interviews showed that these challenges emerged from distinct causes which was thought to be important to report separately.

The challenges faced by the participants while teaching during the pandemic are reported in detail.

4.3.1. Teacher-related Challenges

The participants reported that some of the challenges they faced during the pandemic were caused by their own selves. These challenges were reported to be learning and utilizing technologies in such a short time span for Participant 2.3, being able to integrate the children into the digital tools and using technology as effectively and efficiently as possible for Participant 1.3, not knowing how to adapt all this technology and how to integrate all of it into learning Participant 1.3, forcing creativity to produce more interactive tools to prevent boredom for Participant 3.2, trying to teach with masks for Participant 4.3, sitting and trying to teach the kids through screens after actively standing and teaching in the classrooms for Participant 2.1, ability of the teacher like being open-minded and being able to utilize technology for Participant 2.1, and having no eye-contact, no-contact at all, while trying to teach outside the classroom environment for Participant 4.2.

4.3.2. Institution-related Challenges

The mostly mentioned challenge which was caused by the institution that the teachers faced was *technology training*. Participant 4.1 (age: 40, experience: 17, Female) reported that "if my school or my institution would have provided some more technology training, I would do I would have done some more activities to improve

myself I guess." She also added that "if teachers are provided with all of these things, like technological devices, applications, some educational applications, and some training I think we can reach our full potential in that way. However, we weren't provided with such kind of things."

Similarly, Participant 1.3 stated that tinkering around technology helped the younger teachers but some of them needed face to face or very physically being there to learn to see where you click where you have to go to be able to learn how to use a technological tool. Participant 3.2 said that:

> As far as I remember from school, nothing was done in practice. I think it could have been done in small groups. Maybe it could be done as a refreshment for us too. I mean, after all, we all forgot. The school could have provided support in this way. (age: 36, experience: 12, Female)

Some participants mentioned other problems caused by the institution such as technological support. Participant 2.1 stated that lack of technological support in terms of the computers' memory or providing supplies like cables created problems for them. She stated that they also faced some other technology-related challenges while teaching remotely at school were IT support, internet connection, computer crashing, projection, and audio problems.

Another limitation was perceived to be the time limitation. Participants reported that their lesson time was limited for them to carry out their lessons effectively since this limitation prevented them from giving feedback to each child for Participant 2.1 and giving each student a chance to share their work.

Other challenges were related to supporting using different technologies, inspecting material use, and not adapting to changes quickly. In terms of supporting using different technologies, Participant 1.1 shared that even though she was willing to purchase and use different technologies in her remote lessons using a different material from everyone else wasn't allowed or it was frowned upon by the institution. The institution's inspection of material use was a problem for Participant 3.2 since she had difficulties in finding appropriate materials on YouTube that would be approved by the institution which was challenging. She also reported that the institution was late to adapt changes when the pandemic first started. She said that:

> Many schools had already switched to online education when we did. For us, first, it was video lessons, then it was decided it would be online teaching one day a week, then it was decided it would be one hour a day etc. and none of these were enough. (age: 36, experience: 12, Female)

4.3.3. Student-related Challenges

The participants reported that they also faced some challenges while teaching during the pandemic which were caused by the students. These challenges were categorized under three categories: *challenges about the learning environment, challenges about age,* and *challenges about motivation*. These challenges are further explained under separate headings.

4.3.3.1. Challenges About the Learning Environment

The problems caused by the learning environment of the students reflected on the teaching practice of the teachers. The physical learning environment created some challenges both for the students' learning and the teachers' teaching practices. For instance, Participant 3.1 shared that sometimes he would "turn their microphone on and you can hear a television is on or their mum is on the phone or something". Similarly, Participant 1.1 (age: 25, experience: 3, Female) mentioned that the noise coming from students' background was too much by saying that "while using technology, the noise coming from the house would prevent me from conducting lessons."

Another problem caused by the students' learning environment was mentioned to be *technological issues*. The support provided to the students for Participant 2.1, students' having problems connecting to some online games for Participant 4.3, the external factors the students experienced for Participant 3.3 would create challenges for the teachers to carry on with the lesson effectively as well as even a single student having something that doesn't work is going to cause a problem, a big delay for Participant 3.1.

4.3.3.2. Challenges About Age

The participants work in a primary school teaching English to students aged 6-10. Many of them mentioned that this has caused them some problems throughout remote

teaching period. Participant 1.3 (age: 30, experience: 4, Female) stated that online lessons were incredibly challenging for most of the children since "they never even saw a classroom and they had no idea how lessons worked."

She also mentioned that teaching primary school students remotely was a challenge because a university student has no problem going online and learning but an 8 or a 9-year-old, has much more difficulty in understanding what's being taught online mostly because this age group requires social interaction to understand things, understand their surroundings. Similarly, Participant 2.1 (age: 30, experience: 8, Female) also regarded the age factor to be a hindrance. She stated that "I think it would be more effective if the age group was older. It seemed like zoom wasn't enough to enable young children to be involved in the lessons more clearly."

Her audience being young made teaching remotely more challenging for Participant 1.1 since the children didn't know about online learning and it was challenging for her to teach them how to use online platforms. She also added that for her students to know how to use technology would make things easier for her. On a similar note, Participant 2.2 (age: 32, experience: 9, Female) also mentioned how difficult it was to integrate digital technologies with this age group because the age factor would prevent them from adapting to a new and different digital tool by saying that "if we were to send a link to the students to do an exercise or an activity from Nearpod let's say, it was difficult for students to open it, manage it, and do it."

Participant 2.1 (age: 32, experience: 8, Female) also said that she used some websites while teaching but integrating those websites got harder as the students got younger. She also stated that it was not only difficult to integrate technology in their remote teaching but also difficult to see the findings. She reported that "we used technology in the production part, but it was a little difficult to see it at this age group."

Lastly, a different challenge posed by the students' age was that they wanted to be seen by the teacher. Participant 4.2 (age: 43, experience: 20, Female) reported that sometimes they raise their hands, and you don't see them for different reasons since they are on the screen. That would create challenges for her because "these are little children who want to be seen and who want you to be aware of them. It's very important for them and this was a little difficult."

4.3.3.3. Challenges About Motivation

Last of the challenges that were caused by the students was their motivation. Participants mentioned that it was particularly difficult to keep students motivated since they were so young. Participant 3.2 (age: 36, experience: 12, Female) reported this issue by saying that "it is very difficult for a primary school child to focus their attention especially unless it is something visual."

Similarly, Participant 2.1 also reported that one of the challenges they faced was to keep the students in the lesson. She said that their motivation in front of the screen

played an important part in the efficiency of the lesson. Participant 2.2 (age: 32, experience: 9, Female) also shared that the students had a difficult time practicing their writing skills because it was more difficult to motivate the students to do it when they are sitting there alone because "it is also difficult for them to listen to a teacher with whom they can communicate superficially in front of the screen."

As it was mentioned above, Participant 4.2 shared that giving students permission to speak i.e., seeing them and letting them know that they are seen was a source of motivation for them.

As mentioned before, the participants made use of online games to motivate the children. However, Participants 1.2 and 4.3 mentioned that it didn't always turn out to be as they expected because after some time, they got used to it, so they were reluctant to pay attention or to participate according to Participant 1.2. Participant 4.3 also shared her concerns on the effectiveness of online games since they were designed as contests which weren't individual exercises. She believes that it might've hindered some students to participate efficiently.

4.3.4. Challenges About Parent Assistance

Another challenge mentioned by the participants was the fact that they sometimes they couldn't get assistance from the parents. For example, Participant 2.3 (age: 34, experience: 10, Male) stated that teaching writing was challenging for him since "it

was also based on the parents support and of course not all of the parents were as gifted in technology or were available at that time for us."

Participant 1.1 (age: 25, experience: 3, Female) mentioned that teaching remotely would also involve parents into the education process too much. She stated that "when there was a technological problem, children could give extreme reactions since they didn't know how to use it, and we could encounter explosive parent reactions."

Similarly, Participants 3.2 also thought that since they were forced to be in close contact with the parents, sometimes they came down heavily on the teachers which of course was challenging for them. Participant 2.1 stated that they contacted the parents to get their support on receiving the production activities like writing activities of the students, but they found some excuses like 'he's sleepy, he couldn't do it, he is tired' which made teaching remotely more difficult. Lastly, Participant 2.2 shared that she would sometimes switch some digital activities when she could and opt for an activity which would be easier for students to manage since she believed she wouldn't get parents' support.

4.3.5. Challenges About Language Skills

The participants were asked to share which skills were the hardest to teach and learning which skills were challenging for students to learn. Most of them shared that writing skill was the most difficult one to teach for the participants for several different reasons. For most of the participants what made teaching writing skills so challenging was the fact that they couldn't check it remotely. Participant 3.1 reported that:

Certainly the hardest would be writing because you can't see what the student's doing, and they're holding their book up to the camera and you can kind of see they've written something but it's too bright or it's too dark and you're just kind of saying OK, they've done something and you can't so easily take a take a minute to sit with an individual student and go through what they've written. So writing was a challenge. (age: 41, experience: 12, Female)

Participant 3.2 also shared the same things and added that you can't reach every student because you have a limited time so that's why she thinks the students' writing skills fell behind. Participant 1.2 also said that the students were writing physically which made it hard for him to control and view their work. Participant 1.3 also mentioned that when they told them to write we couldn't monitor them which made teaching writing skills the most difficult one.

Some participants added the fact that they weren't able to give individual feedback to the students about their writing also made this skill so difficult to teach. For example, Participant 2.3 believed that teaching writing was hard because no matter how much you tried, you weren't there to correct at that moment. Similarly, Participant 4.1 (age: 40, experience: 17, Female) also said that "once they produce something, it's really difficult for the teacher to track, to check, to give some feedback."

Participant 1.3 shared that for similar reasons it was also hard to teach spelling. Other problems that were mentioned by the teachers about teaching writing skills were inability to assess and time limitations.

Another skill that was perceived to be difficult to teach and learn was grammar. Participant 1.1 stated that:

> I believed it was something they already had difficulty with because of their age group, but when they were remote it became a little more challenging. No matter how much we tried to teach through technological games, it has unfortunately become a challenge for students. (age: 25, experience: 3, Female)

Participant 3.3 also thought that grammar was the most challenging skill because they taught it a lot, but when it came to practice maybe it wasn't as effective as it would be face-to-face.

Participant 4.1 mentioned that it was also difficult to teach speaking remotely because when you give a chance to speak for a student, everyone else is listening which made the lesson boring and difficult to follow for those students.

4.3.6. Financial Challenges

Financial challenges were mentioned only by Participant 1.1, but even though other participants didn't mention it the researcher believed that it was a concern to be voiced in this study since it is undeniable that technology integration is closely tied to financial support. Participant 1.1 (age: 25, experience: 3, Female) stated that she couldn't integrate technology as much as she wanted to during the pandemic because she couldn't afford to buy different tools which would probably make her job easier. She also said that the biggest hindrance while teaching during the pandemic was that the school didn't provide them with full access to some applications by saying that

"the school needs to support us by buying some apps. It is not possible to get anywhere with those demo versions. I think this might be the biggest hindrance."

4.3.7. Affective Challenges

It is almost inevitable for teachers not to experience some affective challenges given the unusual circumstances they were expected to teach in. Switching to remote education was a difficult experience for them from which they were expected to recover and adapt as quickly as possible. Some adjectives mentioned by the teachers to express their experiences about teaching remotely were difficult, unconfident, anxious, not fun, stressed, challenging, frustrating, not enjoyable, wavering, scary, and tiring. Participant 4.3 is the one who was affected by this experience most greatly given her technological background. She shared her experiences as follows:

> When the pandemic first started, they told to us that to gather all 3 of our classes at nine in the morning and talk to them about different topics. I remember being so tense and stressed there. As a person who doesn't know how to use technology and frankly doesn't really care about how it is used, I was very stressed. My heart was pounding. To invite those students was like death to me. (age: 55, experience: 34, Female)

She also shared that she got help from her son to invite the students to the zoom meetings. She said that if it wasn't for her son, she would've had a panic attack. She also added that she experienced that tension every morning for as long as this practice lasted.

Of course, going through such hard times required teachers to integrate some coping practices. Many of the participants mentioned that what helped them get through this

difficult experience was the fact that they received some help from their colleagues.

Participant 4.3 mentioned that blended education was a very challenging experience

for her, and she found a way to cope with it by,

> I set up my own computer to see the students at home and I would use the class computer to teach. "It was as if they all the students were in front of me. I found such a way. A friend was doing it and I liked it a lot and it made me feel comfortable. It supported me, frankly. It was something that supported me during blended education. I mean, not being able to see the children in the house while I was teaching in the classroom was a big problem for me. Let's say I tried to get over it that way. (age: 55, experience: 34, Female)

All of the participants reported that even though the transition to remote teaching was

difficult for them they adjusted eventually, and things were easier for them after that.

Only Participant 1.2 didn't experience any problems transitioning as he reported by

saying that,

> For me technology has always been very big part of my life. It's very very easy so yes you know, and everybody knows I was probably the first one to always understand the program, so I was always there to help other people understand it. So, for me it doesn't matter before, during or after, it's always been easy from the beginning personally. (age: 32, experience: 4, Male)

4.3.8. Pedagogical Challenges

One of the challenges reported by the participants was pedagogical challenges they

had to overcome while teaching during the pandemic. For example, Participant 1.2

reported that the inability for teachers to control the participation and focus of all the

students was one of the challenges that hindered the education process. Similarly,

Participant 3.2 stated that not being able to observe all the students at the same time

during this process and track each student and correcting their mistakes were very

difficult. Giving feedback was mentioned to be a challenge for the teachers while teaching writing which is also applicable to this heading. Participant 2.1 stated that not being able to give individual feedback to each student and not being able to see their abilities, the things they can and can't do, was challenging. Participant 3.1 reported that,

> I think it's made me appreciate how being in person with your own reactions, you can motivate students and encourage them just by being able to kind of expressively react to what they say to give them the acknowledgement that you understand them and that they're using the language correctly, I think it's really important that everyone shares the same environment. (age: 41, experience: 12, Male)

4.3.9. Technological Challenges

It was inevitable to experience technological challenges since the participants moved their teaching practices to an online setting where they needed to implement different technological tools to be able to continue teaching effectively. These challenges surfaced to be caused from technology-related and teacher-related problems which are further explained under these titles.

4.3.9.1. Technology-related Challenges

The main problem regarding technology was reported to be the internet connection. Participant 2.3, Participant 1.1, Participant 4.3, Participant 2.1 all reported that stability of internet connection caused some problems for them while teaching remotely. Some other problems were mentioned by the participants were IT support (Participant 2.3, Participant 3.2, Participant 4.2), challenges caused by the digital tools like not showing

that the students answered some questions even though they did (Participant 4.3) or sharing screen and audio problems on Zoom (Participant 4.2), as well as the quality of technological hardware (Participant 4.2). Reliability of technology was another challenge pointed out by Participant 3.1 (age: 42, experience: 12, Male) since "sometimes the computer stops working and there's not much you can do at some point."

4.3.9.2. Teacher-related Challenges

The reason for some technological problems were the teachers rather than the technological devices or applications. Participant 1.3 shared that,

> I think the capacity to understand the digital notices isn't enough not just as teachers, but as educators and everyone in the field. I think we need to do more research. We have a lot of learning to do so, I think that's why the integration of technology that hindered the process. (age: 30, experience: 4, Female)

Since the participants weren't familiar with the digital tools that they had to integrate into their remote teaching beforehand and they had a limited time to get used to and utilize them, even simplest things like admitting the students in the waiting room or using the breakout rooms was very difficult as mentioned by Participant 3.2. Participant 4.2 (age: 43, experience: 20, Female) explained why this was the issue by saying that "first of all, you need to be knowledgeable about it. It was really necessary to have been trained for it, to be familiar with it."

This also caused Participant 4.3 some challenges when she was trying to help her students solve the digital problems they encountered since she also didn't know how to admit them. For her, learning technology afterwards was a problem as well.

Participant 4.3 also reported that she had to record video lessons over and over again since she wasn't familiar with technological tools that could help her.

For Participant 2.2 (age: 32, experience: 9, Female), as a teacher, it was a challenging experience since "we were asked to do something in front of the screen without looking at anyone, without looking anyone in the eye."

4.4. Findings regarding Research Question 4

RQ4: What are primary school EFL teachers' perceptions on integrating technology in their classrooms after the pandemic?

According to the answers gathered from the interview questions, the themes for this research question emerged as the one plus, changed opinions, how times have changed, and teaching language skills using technology.

Before moving on to the findings of RQ4, it's important to see the participants' technology integration competence and frequency of technology use as assistance before the pandemic, during the pandemic, and after the pandemic. Table 9 and 10 below shows this information about the participants.

Table 9

Participants' Technology Integration Competence Before, During, and After the

Pandemic

Participants	Age	Teaching experience in years	Technology integration competence		
			Before pandemic	**During pandemic**	**After pandemic**
Participant 1.1	25	3	Proficient	Competent	Proficient
Participant 1.2	32	4	Expert	Expert	Expert
Participant 1.3	30	4	Proficient	Proficient	Proficient
Participant 2.1	30	8	Proficient	Proficient	Proficient
Participant 2.2	32	9	Competent	Proficient	Proficient
Participant 2.3	34	10	Expert	Expert	Expert
Participant 3.1	41	12	Proficient	Proficient	Proficient
Participant 3.2	36	12	Competent	Proficient	Proficient
Participant 3.3	36	15	Proficient	Proficient	Proficient
Participant 4.1	40	17	Competent	Competent	Proficient
Participant 4.2	43	20	Novice	Novice	Competent
Participant 4.3	55	34	Novice	Competent	Competent

Table 10

Participants' Technology Use as Assistance Before, During, and After the Pandemic

Participants	Age	Teaching experience in years	Technology use as assistance		
			Before pandemic	**During pandemic**	**After pandemic**
Participant 1.1	25	3	Sometimes	Always	Often
Participant 1.2	32	4	Sometimes	Always	Often
Participant 1.3	30	4	Sometimes	Always	Often
Participant 2.1	30	8	Sometimes	Always	Always
Participant 2.2	32	9	Often	Often	Often
Participant 2.3	34	10	Often	Always	Often
Participant 3.1	41	12	Always	Always	Always
Participant 3.2	36	12	Sometimes	Often	Often
Participant 3.3	36	15	Often	Always	Often
Participant 4.1	40	17	Often	Always	Often
Participant 4.2	43	20	Rarely	Always	Often
Participant 4.3	55	34	Never	Always	Sometimes

Table 9 and 10 shows a perceived improvement on the technology integration competence of Participant 1.1, Participant 4.1, and Participant 4.2 after the pandemic. Also, it can be seen that apart from Participant 2.1 and Participant 3.1 who continue to use technology all the time like they did during the pandemic, the frequency of technology use as assistance in the classroom decreased after the pandemic.

When participants were asked about what type of technologies they used in their classrooms after the pandemic, they stated that they almost went back to pre-pandemic period in terms of technology use. They added that they also keep using some of the technologies they made use of during the pandemic, mostly PowerPoints they created during the pandemic, Zoom and Wordwall. Participant 4.1 referred to their technology use after the pandemic as "if it was level one before the pandemic right now one plus". This research question aimed to see how primary school EFL teachers perceived integration and use of technology in their lessons after the pandemic. As mentioned above, teachers shared that things are almost back to the pre-pandemic period. Extracts taken from the interviews are shared to show how education changed in terms of technology integration after the pandemic.

> Actually, we went back to our own normal. Of course, we learned so many different things in regard to technology throughout the pandemic period. However, we are not using them that much currently. (Participant 4.1, age: 40, experience: 17, Female)

> I think before students came back to school, I think in my mind I had a lot of questions about how things would be different, but I think in many ways it was not so different… By necessity, I think I use technology more, but apart from those things, I think it's kind of returned to as it was before. (Participant 3.1, age: 41, experience: 12, Male)

> After that [the pandemic], it actually went back to how it was previously. But still, I think there were traces of the pandemic. (Participant 3.3, age: 36, experience: 15, Female)

4.4.1. The One Plus

Many participants also reported that they continue to get support from the technologies they were introduced during the pandemic. For example, Participant 1.1 shared that the use of technology continued after the pandemic by conducting the lessons with the integration of the same applications, PowerPoint games or the games on the websites. However, Participant 1.3 (age: 30, experience: 4, Female) mentioned that after returning back to classrooms "it's just not an aim, but it's just one of the tools we use to make the students learn better."

Participant 4.2 reported that these technologies have become an inseparable part education by saying that:

> After the pandemic, these habits, let me say, we have gained, we are in favor of continuing. Frankly, we are in such a situation which is impossible to think otherwise now. It has entered our lives so that it can be used when necessary, including zoom. Or those PowerPoints, for example, have become really essential. We all, as a department, agree that online platforms, those games should continue to be used after the pandemic, frankly. (age: 43, experience: 20, Female)

Participant 2.1 also mentioned that the students participate more effectively when they keep using these technologies since they promote a lesson full of beautiful animations since they make use of the PowerPoints they used in the pandemic, the PowerPoints they prepared, the Prezis, the games on Wordwall, and such activities as well as integrating the videos they created. Similarly, Participant 2.2 said that they continued to use different applications they learned about in order to enrich the lesson, to add a difference, to attract the attention of the students. Participant 3.2 said that keeping

using these online games is good because the kids really enjoy it on top of helping the kids revise and learn new things. Participant 3.1 (age: 41, experience: 12, Male) also mentioned something similar about using technology more in the classroom by saying students enjoy using a computer. It's still something really motivating for them. He also stated that the pandemic provided them with further opportunities by saying that "the fact that classrooms have a microphone in them, and a camera did give an extra opportunity, so I guess that's something that I used after the pandemic that I couldn't have done before."

However, Participant 3.3 mentioned that they couldn't use some of the applications they used during the pandemic like Nearpod after returning to the classrooms because it is something that every student does on their own, and that isn't something that can be applied to the classroom, so they resorted to different methods after the pandemic. Not all teachers agree that keeping using technology after returning to the classrooms is a good idea. for instance, Participant 2.3 shared his opinions against technology use after the pandemic based on the account that,

> Right after the pandemic, a lot of teachers I don't want to just say teachers, but a lot of people around the world had several different burnouts, you know the human fatigue was too high, so not a lot of people had a good experience using technology after the pandemic. (age: 34, experience: 10, Male)

Other teachers also stated that they preferred not to use technology too much in their lessons anymore. Participant 3.2 also mentioned that,

> When we switched to face-to-face education after the pandemic, we were fed up with technology and wanted to enjoy face-to-face education a little more. We wanted to play more tactile games like playing with flash cards kind of games in the lessons. I think I should say we were a little bored with digital

things. We preferred games and activities where we can understand each other a little more and establish a close contact together. (age: 36, experience: 12, Female)

Similarly, Participant 3.3 also reported that she thinks using too much technology is good, but she also believes that all kinds of skills can be achieved by both using technology and being more hands-on with children without technology so there should be a middle ground in the lessons.

4.4.2. Changed Opinions

Teachers were asked about how this pandemic affected their opinions on technology use. Participant 1.1 and Participant 2.1 reported that they always had positive opinions about technology, and they always thought that they should use it abundantly. Participant 1.1 said that she fully supported using technology as much as they could since when it is used consciously, we can reduce its harm.

Many of the participants said that the pandemic had a positive effect on their perceptions of technology. For instance, Participant 3.1 mentioned that the pandemic made him appreciate the possibilities of using technology. Participant 1.3 stated that they realized that where the world is going requires them to update themselves as well because these children are very digital, and they need to adapt to that and to be able to integrate it into the learning process as much as possible. On a similar note, Participant 4.2 said that she didn't think it was that important before because she didn't know it would make this much of a difference, or that students would be so enthusiastic but

after the pandemic she realized that technology is something that can definitely benefit more as you use it and improve yourself more.

Participant 2.2 (age: 32, experience: 9, Female) stated that this experience didn't change their opinions per se about technology since they always favored using it, but she said that "the pandemic has allowed us to use it more and it influenced us a little bit more about putting it into practice."

She also stated that what the pandemic changed was their awareness of the existing applications and their own skills in using them rather than their opinions. Similarly, Participant 3.2 also mentioned that they didn't have an idea about the diversity of online games before the pandemic, so she thinks that the pandemic made a great contribution to us in terms of online games. Participant 4.3 also stated that before the pandemic she only used the courseware but after the pandemic she started using technology more by researching the topics they learn with the students during the break times. Like if they learned about a country, they would look it up on the world map to improve their knowledge about the topic.

According to Participant 2.1 (age: 30, experience: 8, Female), the pandemic didn't only affect the opinions of the teachers but also the opinions of the parents. She stated that the parents who would forbid their children from using iPads or phones realized that "they can't separate their children from this, so they said that their kids need to learn to use it correctly."

This experience made some teachers realize that they needed more support. For example, Participant 4.1 stated that she understood she needed to use technology more and learn about it more, however she also thought that the institution should provide teachers, all the teachers with some more technological training and to gain more confidence they should use technology more of course in the classrooms. Similarly, Participant 1.2 (age: 32, experience: 4, Male) thinks that there should be more technology use in the classrooms but "the institutions don't want to stray away from what they're comfortable with. So, they don't take the risks of trying these new platforms or teaching styles."

Lastly, for some teachers this experience wasn't a good one. For instance, Participant 2.3 (age: 32, experience: 4, Male) stated that too much online exposure has left a quite a bitter taste in his mouth on the account that "we're losing human touch. Students have lost their human social skills. They're not able to start up a conversation in the classroom. They're looking at their screens. They're constantly connected. Feel like they're chained to it."

Similarly, even though Participant 3.1 (age: 41, experience: 12, Male) appreciated the opportunities integrating technology and it motivated the children he stated that "just the opportunity for students to be together and interact in a way that doesn't rely on looking at a screen. I think it makes me appreciate that more."

4.4.3. How Times Have Changed

The participants were asked to compare their experiences using technology while teaching before, during and after the pandemic. Many participants reported that looking back they realized they used technology in a limited way for different reasons before the pandemic. For example, Participant 1.1 mentioned that the students also didn't know what could be done before. Participant 3.2 stated that technology use was minimum before the pandemic due to the lack of interest in that area and time. Participant 3.3 also mentioned that it was limited because it wasn't needed as much so the amount of technology was somehow enough. Participant 1.3 said that before the technology was just a piece of device because she was there to improvise if something went wrong.

For most of the participants, the pandemic had a profound impact on their perceptions and experiences of using technology. For some, it has been a difficult transition. Participant 4.3 said that she felt fear as she was learning about the new technologies. Participant 4.2 also stated that she was timid when she was using technology before, but she had to face her fears. Participant 4.1 also mentioned that it was stressful for her during the pandemic since she had to figure most of the things on her own. Participant 3.1 reported that the pandemic was a fatiguing experience for him since he had to sit in front of the computer all day long.

Some participants stated that the pandemic had a positive effect on their opinions about technology use. Participant 3.2 said that the pandemic was a good experience in terms of improving themselves in terms of technology. Participant 4.2 also said that as she got used to integrating technology, she accepted that it was a good thing, and it was very necessary. Participant 1.1 mentioned that after learning how to teach with technology during the pandemic not only the teachers but also the students, parents, and even the administration are now more positive towards it.

The participants also reported that they mainly used these technologies more to grab the attention of our students and to be able and perform to the utmost best that we could for Participant 2.3, to somehow involve students with different things for Participant 3.3 and to be literate digitally literate, to understand the children and to understand the age for Participant 1.3.

For some participants, on the other hand, technology integration during the pandemic wasn't a great experience. Participant 2.1 (age: 30, experience: 8, Female) mentioned that "with the pandemic, I saw that what I knew was actually a tiny drop in the ocean."

Participant 2.2 (age: 32, experience: 9, Female) said that they started hating technology during the pandemic because they used it too much. She said that "we missed the old times, actually we missed being in the classroom with the students there and being able to communicate more efficiently."

After the pandemic, when they look back to their experiences, some participants see a positive change in education in terms of technology integration. For instance, Participant 3.2 stated that the post-pandemic period is a nice period where they both use technology and do face-to-face teaching. Similarly, Participant 2.2 stated that being able to use the experiences they gained there provided an advantage both for them and for the students after returning to classrooms. Participant 4.3 also reported that right now she could use technology to the point where she can manage to conduct a lesson. Participant 4.2 also said that they should keep using something this useful because technology has now become an inseparable part of their lives. Participant 1.1 stated that the pandemic had a good impact on other parts of education since everyone involved in education can accept and agree on it when it is proposed to do something using technology and they can look from a wider spectrum. For Participants 4.1 and 2.1, this experience was a chance to see that personal development was very important. Participant 2.1 stated that even after all the experience she gained during the pandemic, she still researches about new technologies and thinks that they need to keep learning and keep using. Similarly, Participant 1.3 said that it was good to understand the importance of integrating life and digital life into their daily lives and into education because technology is not just a piece of device anymore.

For Participant 2.3, post-pandemic period was a bittersweet experience since he could see it in himself and from the people around him that too much technology wasn't good and he also added an old saying 'too much of everything causes a lot of headaches'. Participant 3.1 (age: 41, experience: 12, Male) said that "it's good that there are the

technologies that can help the teachers and students get through a difficult time, but I appreciate the normal class environment more than past."

4.4.4. Teaching Language Skills Using Technology

The participants were also asked which teaching skills required them to use technology more before, during, and after the pandemic. Their answers were highlighted and counted by the researcher to provide data about the issue. Table 11 below shows how many times the skills were mentioned by the participants in all interviews.

Table 11

Frequency of the Skills Which Were Taught by Using Technology Mentioned by the Participants

skills	pre-pandemic (*f*)	pandemic (*f*)	post-pandemic (*f*)
listening	10	11	11
reading	7	10	7
speaking	4	11	5
writing	1	7	1
grammar	3	7	1
vocabulary	4	7	2

The table clearly shows that listening was the language skill that was taught using technology the most before, during, and after the pandemic. To explain why they

focused on listening skills so much, Participant 2.3 (age: 34, experience: 10, Male) stated that "it just allows for the students to be able to emulate the speaker. You know, the more the better. More exposure leads to better pronunciation."

Similarly, Participant 3.1 (age: 41, experience: 12, Male) also stated that teaching listening skills through technology was important because "you know, you get to students can experience different people speaking different accents and different topics, not just the same teacher and over again."

Also, Participant 1.2 stated that before the pandemic listening was required the most, so it required even more technology integration during the pandemic.

Even though reading skills were also mentioned a lot during the interviews, participants didn't give a thorough explanation why they used technology for this skill. Only Participant 4.3 mentioned that they used technology to teach reading skills to get students' attention and to teach some techniques. Also, Participant 2.1 mentioned that technology altered the way they teach reading skills by saying for pre-reading activities they used to print photos but now they showed the photo on the screen. Also, Participants 1.3 and 2.2 reported that it was easier to track students' reading remotely because they could see the students' eye movement through the screen. But Participant 2.1 mentioned that the students who attended the remote lessons through tablets had a difficult time reading the passages through their screens.

It can be seen from the table that use of technology to teach language skills piqued during the pandemic since the teachers mostly taught remotely then. Almost all the participants said that they used technology to teach all the skills during the pandemic. Participant 4.1 (age: 40, experience: 17, Female) stated that they used technology to teach all skills during the pandemic because "I cannot really somehow think that all these skills are different from each other. Generally, an integrated method we use in our classes requires all four skills."

The table also shows that teaching speaking skills through technology was significantly higher than other skills during the pandemic. Participant 3.2 (age: 36, experience: 12, Female) explained this by saying "in my opinion, speaking skills were easy because the lessons focused more on speaking for everyone." Also, Participant 2.2 (age: 32, experience: 9, Female) shared that "we could talk to everyone more comfortably and we could give everyone permission to speak more."

Also, Participant 2.3 enlightened why speaking was the one skill that could be taught using technology more by stating that,

> About speaking, I think that was another skill that really helped though, because with, for example, the zoom application, the students were able to mute themselves unmute themselves, so it gave them more, let's say, authority in the classroom environment, and they were, I think, during the pandemic the students' participation really increased. (age: 34, experience: 10, Male)

All the skills required more technology use for the teachers to be able to teach them remotely but the one skill that was mentioned by the teachers to be the hardest skill to teach was writing. Most of the participants agreed that the reason it was so difficult to teach was because it was almost impossible to check students' writings remotely.

Participant 4.1 (age: 40, experience: 17, Female) said that it's more difficult to teach writing remotely because "it's much harder to follow every single student in an online lesson. Once they produce something, it's really difficult for the teacher to track, to check, to give some feedback." Similarly, Participant 1.2 (age: 32, experience: 4, Male) shared that it was challenging for him to teach writing skills because "they're still writing on paper, they're not typing their answers, so it's hard for me to control and view their work. And it's also hard for them to share their work."

Vocabulary and grammar were also taught using technology before, during, and after the pandemic. For example, Participant 3.1 shared that he prepared some digital activities and games during the pandemic to play with vocabulary to practice vocabulary. Participant 3.2 also shared that through online games they can learn or reinforce the vocabulary much better. She also said that they utilized technology when teaching vocabulary mostly to match the image and the word. Participant 3.3 stated that while teaching vocabulary she made use of technology for students to hear the word and repeat. Participant 3.2 also mentioned that using PowerPoints to introduce a grammar topic is actually more attractive for children when explaining the subject. Participant 4.3 also mentioned that they prepared PowerPoints to explain grammar topics during the pandemic. Participant 3.3 also said that they made use of technology like PowerPoints more for teaching grammar since they focused more on grammar.

4.5. Findings regarding Research Question 5

RQ5: What are the suggestions of teachers on integrating technology in EFL classrooms?

4.5.1. Suggestions for Teachers

After going through the pandemic and experiencing many ups and downs about technology integration, teachers had some suggestions for the novice teachers who would integrate technology into their teaching practices. These suggestions are twofold: suggestions to teachers for their own professional development and suggestions to institutions who would educate these teachers.

4.5.1.1. Suggestions for Professional Development

Continuous learning was the main suggestion mentioned by the participants. Participant 2.3 stated that it is important to take things slowly, research, learn on your own and never stop learning. Similarly, Participant 3.3 stated that every teacher should keep themselves up to date about technology since even now there's a chance to go back to how it was during the pandemic.

Since there is a constant change in technology Participant 4.1 suggests that,

> Teachers should adjust themselves to use educational models that improve with technology. They should learn different applications. They should learn to design materials or design lesson plans that require that include using different types of technology in their classes. (age: 40, experience: 17, Female)

Participant 1.3 also mentions that it is important for novice teachers to increase their competence and digital competence because it's a very challenging territory. She also suggests that,

> They should just tinker around and reading research a lot. They just shouldn't depend on their skills as individual teachers, but also, they should be able to depend on their digital skills when it comes to the classroom when it comes the lesson planning and when it comes to the children in the classroom. (age: 30, experience: 4, Female)

Similarly, Participant 1.1 advises novice teachers that,

> They should create a portfolio for themselves. In my opinion, these applications, the tools we call web 2.0 tools, are very important. Compile them in one place. They don't have to know it by heart, but I think it's important that they have a reference that they can look at and remember when they say, 'I have to teach this and that what should I do'. (age: 30, experience: 4, Female)

Participant 3.2 mentioned that thanks to the pandemic, she realized how important and engaging it is to integrate online games to her lessons. On this note, she suggests the teachers who would work in primary schools that,

> They can integrate online games into their lessons. Because the attention span of young children is very short. And we are in the age of technology, and they all have a good command of everything, so it is very effective to motivate them. I think, for novice teachers, these kinds of things can be utilized to get their focus or to attract attention during the lesson or to start the lesson. (age: 36, experience: 12, Female)

From another perspective, Participant 3.1 (age: 41, experience: 12, Male) mentioned that it is important to see the application they use from students' perspective to be familiar with what they will be experiencing when using those applications. He shared that he would set up his own tablet during remote teaching just to see what the students

see when they look at their screens during the lessons. So, his suggestion for the novice teachers to "try and set it up in such a way as you can see what the students are going to see, because it's not always what you think it is."

Participant 4.3 stated that she didn't have any suggestions to the teachers since new teachers are already equipped with better technological knowledge than she is.

4.5.1.2. Suggestions to Institutions

Instructions educating the pre-service teachers also play an important role in preparing their students for what they will be experiencing when they start teaching. That is why the participants also had some suggestions to these institutions to prepare pre-service teachers for a more digital teaching world. Participant 4.1 (age: 40, experience: 17, Female) suggests that "for candidate teachers at the universities maybe more opportunities for technology I mean, teaching with technology [can be provided]. Some courses might be added in their curriculum. They might change their curriculum because the world is changing."

Participant 1.2 (age: 32, experience: 4, Male) provided a similar advice by saying that "the educational institutions should provide training regardless of the pandemic or if they're going to immediately use it as future education will require technology and we will continue to become more dependent."

Participant 2.2 mentioned that technology should be taught as a must course. Since she mentioned that they had to dive into the ocean of technology and learned to manage their way around it, she advised that,

If you teach this in a planned and professionally designed way, stating with such and such applications you will increase the efficiency of this and that, and there are tons of research on this, there is a lot of research showing these with findings. I think it would be beneficial to teach these to students in an academic environment. If they come ready in terms of knowledge and apply what they know in theory to practice in their professional lives it will be much more effective than the way we learned. (age: 32, experience: 9, Female)

Lastly, Participant 4.2 suggests that,

I think that technology use should be a part of teacher education nowadays. Because I think that the more command the teacher has over technology, the more it will increase the efficiency of the lessons and they will do this much more easily, without difficulty. One of the biggest shortcomings of teachers right now is that they don't have much training in technology or since they are old-fashioned, they believe they don't need it. But under the current conditions, I think that new teachers should definitely receive serious training and start teaching with the knowledge of how to integrate technology. (age: 43, experience: 20, Female)

4.5.2. Suggestions for the Curriculum

Inevitably, the pandemic has caused some changes to the curriculum. Since teachers are the ones who apply the curriculum into their teaching it is very important to get their ideas about what worked and what needed to be improved. The participants were asked if the pandemic caused any changes in their curriculum in terms of technology integration. Some participants believe that technology integration has left them a limited time to cover everything in their book. Participant 3.2 explained this by saying,

While introducing the grammar subject let's say, I want to introduce it through PowerPoint. It wasn't like that before. We used to introduce it directly from the book. Now we go through PowerPoints. Or I show a vocabulary PowerPoint or play a related game at the end of the lesson. What does that do? It always strings the lessons out. (age: 36, experience: 12, Female)

Participant 1.1 (age: 25, experience: 3, Female) also shared similar opinions. She stated that the fact that they were expected to carry out their lessons both in a traditional way where they write things in notebooks or complete the book pages and try to integrate technology somehow upset the balance. She also stated that time has become an issue to achieve their goals in their yearly plans. She suggests that "what we are supposed to do supposed to teach can be specified based on technology integration." Participant 4.1 also stated it is important to specify the details about technology integration by saying that they have to adapt the curriculum according to the technological developments or how much technology they are going to use in their classes. Similarly, Participant 2.2 suggested that:

> It can be clearly stated in the curriculum which technologies we need to make use of when teaching a specific topic. I think when the teachers look at the curriculum, they should be able to see which technologies they can use there. (age: 32, experience: 9, Female)

Participant 2.1 mentioned that when the speaker in the classroom was broken it would take the school months to replace it before. But with the pandemic, the management also realized that it is an essential part of education to have access to technological equipment. Similarly, Participant 3.3 stated that the school didn't need a strong internet infrastructure before the pandemic but when all the teachers started to carry out their remote lessons at school, they realized that they needed to upgrade it and get access to different technological tools.

Other requirements surfaced to be a digital environment for the students as well. Participant 1.3 stated that it became more of a necessity than a luxury to have online things for the students like the online programs they integrated into their teaching.

Participant 1.2 added that since the projects couldn't be hand collected and reviewed, they needed to be submitted online which required some changes to the curriculum in terms of time like extending deadlines as well as a platform for students to be able to do that. Participant 2.1 suggests that continuing online submissions of the homework and having an online platform where we can easily track students are necessities that should be considered now. Participant 1.3 suggests that,

> All the material that we're teaching for the students to practice or to make it a platform where they can go back and review what they learn or revise what they learn. So, I think that's how we make digital platforms and technology into the curriculum. (age: 30, experience: 4, Female)

Similarly, Participant 1.2 suggests that,

> Everything in the curriculum should have a technological version of it in the sense that even though it may be meant for the classroom, there must be a backup plan technological backup plan in case of pandemic or in case of many absent students there should be something where we don't have to drastically change the curriculum but should have an adaptation of a technological or virtual, digital version of that lesson prepared. (age: 32, experience: 4, Male)

Since the students mostly make use of digital components of the books, Participant 1.1 suggests that the publishers can improve their technological components since the students mostly use those, and it is exciting to revise what they know on a technological platform. On a similar note, Participant 3.2 thinks that technology should be standardized. She shared that they need some applications that the school approves to be able to refer to the parents and some educational programs are developed and made available to teachers so that they could integrate those to the curriculum.

Participant 4.2 mentioned that the technological investment in order to develop the curriculum in this sense is also very important. For instance, Participant 2.1 said that they mentioned the need for interactive whiteboards to get more effective instant use.

Participant 3.3 believes that the curriculum should be updated not necessarily in terms of technology integration but in terms of the teaching methods we use. She says that,

> We should leave traditional education behind and give the students a chance to learn a little more through interaction or what we call inductive learning. They should learn more by talking, doing, touching, playing. However, I cannot say that a technology is needed for this, or I cannot say that no technology is needed. (age: 36, experience: 15, Female)

Participant 3.1 stated that he believes whatever we do in the classrooms in terms of using technology or teaching the students how to use technology should reflect real life use of the language.

> People would use English for in their real-life writing messages, emails, kind of live chats that go along with live streaming, and when people use technology in in their real life and they use English, they have to look things up, search for things using the right terms. You know, like autocomplete is something that people use. And so, I think there are aspects which could be altered to better suit people's real experience of using English, you know that would rely on technology now and in the future. I think things that are more similar to real life situations that use technology, that's something. (age: 41, experience: 12, Male)

Lastly, many participants stated that making changes to the curriculum is not enough. Since teachers are the ones who would be applying that curriculum in their classrooms, it is important that they are aware of how to apply it. Participant 2.3 suggests that one way to do that is simplifying the curriculum so that any teacher who needs to teach it can understand it clearly. Other participants suggest that in-service training should be

provided to teachers so that they can at least see what they can do and how they can do it in the curriculum. Participant 4.1 suggests that teachers should be given continuous technology training since not using technology often can cause them to forget how to apply certain technologies. Lastly, Participant 1.1 added that these trainings should be more hands-on, more active where they use the applications, rather than a seminar where they just sit and watch.

4.6. Discussions

The findings of the study indicated that the pandemic played an important role in teachers' lives in terms of affecting their perceptions of technology use in EFL classrooms.

Findings revealed that the teachers used technology in a limited way before the pandemic. The findings also showed varied opinions on the amount of technology-use among the teachers regarding the pre-pandemic period. These opinions affected the teachers' technology integration agreeing with the findings of Mueller et.al., (2008). One of the main reasons why they made use of technology in their lessons as mentioned by the teachers was to make teaching interesting since, as mentioned by Susikaran and Phil (2013), "Chalk and Talk teaching method is not enough to teach English effectively" which is parallel to Patel's (2013) study.

Also, the findings of the study indicated that even though it was difficult for the teachers to adjust to sudden changes at first, they adapted integrating more

technological tools into their teaching quickly as Alper (2020) concluded in her case study as well. The only teacher who had major problems with technology integration was the one with 34 years of teaching experience which was similar to the experiences of teachers in Puspitasari et.al., (2021). According to Sevillano García and Rodríguez Cortés (2013, as cited in Rodríguez-Cano et.al., 2022), increasing motivation to arouse interest in learning and understanding was one of the effects of using technology during the pandemic which was similar to the reasons of technology integration mentioned by the teachers in this study. Positive outcomes of the pandemic were also shared by the teachers such as having parent meetings online like in Alper's (2020) study.

As Algarawi (2022) mentioned in his study, teachers faced some challenges when integrating technology into their classrooms during the pandemic. Findings shed a light on these challenges the teachers working in this private primary school encountered. The findings showed that these challenges varied from teacher-related, institution-related, or student-related challenges to affective, pedagogical, or technological challenges. Similar to what Koç (2020) and Erkan and Balbay (2021) reported in their studies, teachers in this study most frequently mentioned that being away from the students and not being able to connect with them was the biggest challenge they had to face. Also, teachers in this study mentioned that one of the student-related challenges they faced was their learning environment parallel to what Forrester (2020) reported. Student profile and their age was also perceived to be a hindrance by the teachers, and it was mentioned that remote teaching process might

have been easier if their students were older. Manoharan, Hua, and Sultan (2022) reported that young learners indeed present different challenges than adult learners. Findings regarding primary EFL teachers' perceptions of technology integration into their lessons after the pandemic revealed that when they compared their experiences integrating technology into their classrooms before, during, and after the pandemic, most of the teachers reported that they realized the importance of technology training. Knopik and Domagała-Zyśk (2022) and Tümen Akyıldız (2020) also reported that their participants shared the same concern.

Teachers participating in this study shared their suggestions for novice teachers in terms of technology integration as well as their suggestions about improving the curriculum. Similar to what Gilakjani, Leong and Ismail (2013) pointed out, teachers in the current study mentioned the importance of professional development and suggested that novice teachers should keep learning about different technological tools. Some teachers also mentioned the importance of education novice teachers receive from teacher education programs and suggested that they should also be improved in terms of training novice teachers on this matter similar to what Hafner (2019) suggests. As for their suggestions for improving the curriculum, teachers mentioned that it is important to revise the curriculum like Dau (2022) reported. They suggested adapting communicative approaches like Sato and Oyanedel (2019), converting curriculum to online environments like Naamati Schneider et al. (2020), and upgrading technology infrastructures like Dau (2022). As Curran (2017) mentioned, effective implementation of the curriculum depends on the support

teachers get. On a similar note, teachers in this study suggested that it is important to

be provided with constant professional training for this aim.

CHAPTER 5

CONCLUSION

The purpose of this current study was to shed light on the primary school EFL teachers' perceptions on integrating technology into their classrooms before, during, and after the pandemic. The study was conducted through semi-structured interviews from EFL teachers working in a private primary school.

5.1. Summary of the Findings

The findings of the study indicated that the pandemic played an important role in teachers' lives in terms of affecting their perceptions of technology use in EFL classrooms.

The findings regarding teachers' perceptions before the pandemic revealed that especially the teachers who perceived their technology competence to be lower used technology in a limited way before the pandemic. The findings also showed diverse opinions on the amount of technology-use among the teachers regarding the pre-pandemic period. Some teachers reported that they found the amount of technology-use before the pandemic sufficient while the others believed they should have made more use of technology. One of the main reasons why the teachers participated in this

study used technology in their lessons was to make teaching interesting for the students considering their age. Also, they shared that it made their jobs easier to integrate technology into their teaching. Teachers also shared that they didn't get enough training in terms of technology integration which would make their transition to remote teaching easier.

The findings about the pandemic period also indicated that at first, teachers had a difficult time adjusting to sudden changes since they mentioned some negative feelings regarding this experience, but they quickly learned how to use the technological tools which they were supposed to integrate into their teaching. The only teacher who had major problems with technology integration was the participant with 34 years of teaching experience. They also shared that what made this adaptation easier for them was the help they got from their colleagues. The reasons to integrate technology reported by the teachers were first increasing student motivation and creating opportunities for them to participate in the lessons as much as they could. Other reasons were mentioned to be differentiating their own teaching from others, assessing the students, and making learning more permanent. Positive outcomes of the pandemic were also shared by the teachers such as having parent meetings online and getting a chance to use technology more in their classrooms. Teachers' perceptions of the amount of technology-use during the pandemic also showed diversity. Some teachers believed that the technologies they used weren't enough while others mentioned that they did everything they could to fulfill the aims of the curriculum, so it was enough. Similarly, some teachers had positive experiences while using technology like pushing their limits and realizing what they can do with technology. Other teachers reported

that this wasn't an easy process since they forced themselves to be more creative while integrating technology into their teaching. Teachers also shared that this was the first time they had to contact the parents so often and this was something they experienced for the first time. Lastly, teachers revealed that the pandemic changed them as teachers and made them realize the importance of face-to-face teaching and being in an environment where they can control everything.

This study also revealed some challenges the teachers working in this private primary school encountered. The findings showed that these challenges were teacher-related, institution-related, student-related such as their learning environment, age and motivation, challenges about parent assistance, language skills, financial, affective, pedagogical, and technological challenges like technology related and teacher related challenges. The most frequently mentioned challenge was being away from the students and not being able to connect with them.

Findings regarding primary EFL teachers' perceptions of technology integration into their lessons after the pandemic showed that when they compared their experiences integrating technology into their classrooms before, during, and after the pandemic, most of the teachers reported that they realized the importance of technology training. They also revealed that in terms of technology use and integration in their lessons they almost went back to the pre pandemic period. Some teachers shared that they continue to make use of the digital tools they created and used during the pandemic while others quit using them because of the limitations of face-to-face learning environments like lack of technological devices students can use individually. Also, most of the teachers

stated that the pandemic changed their perceptions of technology use in a positive way. They realized the opportunities that technology use provides like how integrating online games into their teaching motivate their students to participate.

The findings about technology use while teaching different language skills revealed that the teachers made use of technology mostly to teach listening skills before the pandemic. During the pandemic most of the participants mention that they had to use technology to teach all the skills. The most challenging skill for the teachers to teach and for students to learn was presented to be writing skills. The most major reason for this was mentioned to be teachers' inability to track the students and give feedback.

This study also reported the teachers' suggestions for novice teachers in terms of technology integration as well as their suggestions about improving the curriculum. Their suggestions for novice teachers were for them to continue learning about different technological tools by researching and keeping themselves up to date. They advised these teachers to create a portfolio where they can refer to whenever they needed to use a technological tool while teaching. They also suggested these teachers be aware of which technological tools best suit teaching which skills.

Some teachers also mentioned that teacher education programs should also be improved in terms of training novice teachers in terms of technology use since it is these institutions who educate the teachers of the future. Teachers suggested that these institutions should provide education on technology integration in the light of the research conducted on this topic.

Teachers mentioned that the pandemic created a need to revise the curriculum. They suggested that adapting communicative approaches, converting curriculum to online environments, and upgrading technology infrastructures would improve their curriculum. Teachers in this study also mentioned that it is important for the institutions to provide them with constant in-service training to teach them how to adapt the curriculum in terms of technology integration and to keep them up to date with technological advancements. They also mentioned that the curriculum should clearly reflect which technological tool to be used teaching which objective.

5.2. Implications for Practice

Following the data analysis, various conclusions and suggestions were made for teachers, teacher educators, and researchers.

Teachers play an important role in technology integration. They should be aware of the advancements in the field of education and keep themselves up to date in terms of these developments. They can make use of free seminars and education provided by some important figures in EFL education. They should also be conscious about their curriculum and inform the authorities about what is working and not working in the classroom and provide insights about in what ways it can be improved.

Since the pandemic has caused profound changes in technology integration and use in the classrooms, this unfortunate event can be regarded as a chance to improve teacher education programs in terms of making pre-service teachers familiar with the

importance of technology integration and different tools they can adapt in their teaching practices based on the growing body of research conducted on this topic.

In terms of material design, the books can provide teachers with some tips on how to adapt the activities in their books to online settings. LMS which is provided by the publishers can be enhanced with regards to implementing them into online education and providing the teachers with an effective student performance tracking option.

Curriculum can also be improved by taking the suggestions of the teachers into consideration. Teachers' preferences and needs are important to be considered since they are the ones who need to adapt to changes made in the curriculum and they are aware of the abilities and the needs of their students. In terms of technology integration, specific technological tools better suited to the aims and objectives of the curriculum should be selected and integrated into the curriculum. And the curriculum should clearly state which technological tools should be used by the teachers while teaching which objectives. It is important to educate the teachers on this matter as well. Teachers should be provided with comprehensive training where they actively take part and make use of the tools required by the curriculum.

As mentioned by the participants of this study, the institution they work in should make informed decisions about what teachers need to be able to teach effectively. This might mean to involve teachers in the decision-making process when it comes to implementation of certain changes. It should also be aware of the research and the challenges what each implementation brings and prepare their teachers for the changes

with enough and efficient training, especially for older teachers. Educating the parents and the students about the changes being made would also be a good idea for the institution to make the transition easier for all the stakeholders since parent support plays an important role in the learners' education process. It should also provide their teachers with continuous technology training in order to update their pre-existing knowledge about different technologies they can use and to present them with different up-to-date technologies. It can also give their teachers more opportunities to integrate technology into their classrooms. As suggested by the teachers, interactive whiteboards are regarded to be an important need for them to be able to implement and use technology in a more effective and efficient way. The institution can update their technological infrastructure in this sense.

5.3. The Limitations of the Present Study and Recommendations for Further Research

In light of the findings and the research procedure of this study, this section presents the study's limitations and recommendations for additional research.

Even though this study offers a number of insightful observations about the impact of the COVID-19 epidemic on technology integration in EFL classrooms in Turkey, there are a few limitations to the study that should be taken into account.

First of all, the fact that the only data collection tool was interviews might present a limitation to the study. Adding different data collection tools to research design can provide more diverse data.

Moreover, the fact that some interviews were conducted in Turkish, and some extracts were translated to English to be presented in this study might have caused some 'lost in translation' issues.

Lastly, since this research study aims to get a deeper understanding of the teachers' perceptions before and during the pandemic as well as which is their past experiences, their perceptions are based on the recall of their experiences. This caused some participants not to remember some of the experiences before and during the pandemic.

Considering these limitations, the same study can be repeated using quantitative data collection methods to support the findings presented in this study. Also, further research can be conducted about the perceptions of teachers working in other levels to see if their opinions and experiences are similar to or different from the ones presented in this study. Another recommendation could be to complete a follow up study by consulting students and their parents to see if their perceptions overlap with the ones of their teachers or how they differ from the teachers' perceptions. Moreover, more detailed research might be needed to see what kind of changes are required to improve curriculums after the pandemic and more thorough suggestions can be made to the institutions.

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APPENDICES

A. THE CONSENT FORM

This research is carried out by Gökçe ÖZER, a graduate student of METU English Language Teaching Department. This form has been prepared to inform you about the research conditions.

What is the Purpose of the Study?

The aim of the study is to gather information about whether primary school English teachers' perceptions of technology integration into their lessons have changed due to the pandemic.

How Do We Ask You to Help Us?

If you agree to participate in the research, you are expected to participate in an interview with 24 questions. In this interview, which is expected to last approximately 30 minutes, you will be asked questions about your experience, thoughts and advice about technology integration in English lessons before, during and after the pandemic. The answers to the questions will be recorded by the researchers in the form of audio recording or video recording.

How Will We Use the Information We Collect from You?

Your participation in the research must be entirely voluntary. You are not asked for identification information during the interview. Your answers will be kept completely confidential and will only be evaluated by the researchers. The information to be obtained from the participants will be evaluated collectively and used in the thesis study. The data you provide will not be matched with the identification information collected in the voluntary participation forms.

Here's what you need to know about your participation:

The interview generally does not contain questions that will cause personal discomfort. However, if you feel uncomfortable during participation due to questions or any other reason, you are free to stop answering and leave. In such a case, it will be sufficient to tell the person applying the study that you want to quit the study.

If you would like more information about the research:

Thank you in advance for your participation in this study. For more information about the study, you can contact Gökçe ÖZER (E-mail: e187039@metu.edu.tr), a graduate student at METU English Language Teaching Department.

I have read the information above, and I participate in this study voluntarily.

(After completing and signing the form, return it to the researcher).

Name, SURNAME   Date   Signature

B. BACKGROUND INFORMATION QUESTIONNAIRE AND

INTERVIEW QUESTIONS

1.1. Background Information

1. What grade level did you teach in before the pandemic (2019-2020)? _____
2. What grade level did you teach in during the pandemic (2020-2021)? _____
3. What grade level do you currently (2021-2022) teach in? _____
4. Teaching experience in years _____
5. Age _____
6. Gender: Male / Female
7. Which university/department did you graduate from?

    _____

8. What is the highest academic degree you hold?

    BA / MA / PhD
9. How would you describe yourself in terms of technology integration before the pandemic?

    Novice - Competent - Proficient - Expert
10. How would you describe yourself in terms of technology integration during the pandemic?

    Novice - Competent - Proficient - Expert
11. How would you describe yourself in terms of technology integration after the pandemic?

    Novice - Competent - Proficient - Expert
12. How often did you use technology as assistance before the pandemic?

    Never - Rarely - Sometimes - Often - Always
13. How often did you use technology as assistance during the pandemic?

    Never - Rarely - Sometimes - Often - Always
14. How often do you use technology as assistance after the pandemic?

    Never - Rarely - Sometimes - Often - Always

1.2. Interview questions

Teacher Perspectives on their Experiences

Before the pandemic

1. What were your experiences like when using technology before the pandemic?
2. What forms of digital technologies have you used in your classroom?
3. What were your opinions on the amount of technology use in the classroom before the pandemic?
4. Why did you feel the need to use technology as assistance in your classroom? Do you think it was necessary?
5. As the teacher how confident were you with the integration of technology and use of technology in the classroom?
6. Teaching which skills required for you use technology more?
7. Did you have any prior training on technology integration in the lessons (seminars/in-service trainings etc.)?

During the pandemic

8. What were your experiences like when using technology during the pandemic?
9. As the teacher how confident were you with the integration of technology and use of technology in the classroom?
10. What forms of digital technologies have you used in your classroom? Is there anything that you created and used in your online classroom (materials, games etc.) after the switch to remote instruction that you can share with me?

    What was its purpose?

    What was your experience using it?

    Were there any tools you tried for the first time during the pandemic (other than teaching online)? Were all these technologies enough?
11. What factors do you believe most significantly hinder or promote the integration of technology within the classroom?
12. How has this experience (teaching during the pandemic) changed you as a teacher, if at all?
13. Did you get any support/ training about technology integration? Were they enough?
14. Teaching which skills required for you use technology more?

15. Which language skill was the easiest/ hardest to teach online? Which skills were challenging for students to learn?

After the pandemic

16. Do you continue to use technology as much as you did during the pandemic? Is there anything you used for the first time during the pandemic, and you still use in your lessons after returning to classrooms?

17. What are your experiences like when using technology after the pandemic?

18. What forms of digital technologies are you using in your classroom?

19. What are your opinions on the amount of technology use in the classroom after the pandemic? Do you think you/ your students need to use technology more in the classroom? Why/ why not?

20. How did the pandemic affect your opinions about technology use in the classroom?

21. How can you compare your experiences using technology while teaching before, while and after the pandemic?

22. Teaching which skills require for you use technology more?

23. What are your suggestions to the novice teachers who would integrate technology into their remote teaching according to your experiences before, during and after the pandemic?

24. Did the pandemic require changes in your curriculum in terms of technology integration? Do you have any suggestions on improving the curriculum in this sense? What are they?

C. PERMISSION MAIL OBTAINED FROM ANISHA CLARKE TO ADAPT INTERVIEW QUESTIONS

Re: permission to adapt dissertation interview questions ↗

Clarke, Anisha göndericisinden 2022-06-08 00:11 tarihinde
✉ Ayrıntılar ≡ Düz Metin

Hello Gokce:

Sure! You may adapt some of my interview questions. But please cite my dissertation as the source of the interview questions even with modification.

All the best,

Anisha

On Tue, Jun 7, 2022, 12:17 PM < ███████████ > wrote:

> Dear Anisha Pauline Clarke,
>
> I hope this email finds you well. I am a master's student at Middle East Technical University in Ankara/Turkey. I am currently working on my thesis about technology use in EFL (English as a Foreign Language) classrooms. I aim to find out if Covid changed EFL teachers' perceptions of technology use in their lessons.
> I am writing to you to ask for your permission to adapt some of the interview questions you used in your doctoral dissertation titled "Like Flying Blind:" Instructors' Stories About Teaching Undergraduate Mathematics During the Coronavirus Pandemic" to use in my thesis.
> I want to thank you for your time and support in advance.
>
> Best Regards,
> Gokce OZER

D. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY
T: +90 312 210 22 91
F: +90 312 210 79 59
ueam@metu.edu.tr
www.ueam.metu.edu.tr

04 AĞUSTOS 2022

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Müge GÜNDÜZ

Danışmanlığını yürüttüğünüz Gökçe ÖZER'in "Pandemide Eğitim: Öğretmenlerin İngilizce Derslerine Teknoloji Entegrasyonu Hakkındaki Düşünceleri" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay **0419-ODTUİAEK-2022** protokol numarası ile onaylanmıştır.
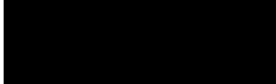
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Prof. Dr. Mine MISIRLISOY
Başkan

Doç. Dr. I.Semih AKÇOMAK
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

Dr. Öğretim Üyesi Şerife SEVİNÇ
Üye

Dr. Öğretim Üyesi Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi A. Emre TURGUT
Üye

PANDEMİDE EĞİTİM: ÖĞRETMENLERİN İNGİLİZCE DERSLERİNE

TEKNOLOJİ ENTEGRASYONU HAKKINDA DÜŞÜNCELERİ

Bu çalışma, özel bir ilköğretim kurumunda çalışan İngilizce öğretmenlerinin pandemi öncesi, sırası ve sonrasında derslerine teknoloji entegre etme algılarını araştırmayı amaçlamıştır.

Bu çalışma 5 bölüme ayrılmıştır. Giriş bölümü olan birinci bölümde, teknoloji entegrasyonunun eğitimdeki yerinden bahsedilerek çalışmanın genel amacı aktarılmıştır. Ayrıca araştırmanın arka planına, amacına ve önemine yönelik bilgiler de bu bölümde sunulmuştur. İkinci bölümde, çalışma konusu olan teknoloji entegrasyonu ve öğretmenlerin bu konudaki görüşleri ile ilgili büyük önem taşıyan çalışmaların yanı sıra daha güncel olarak yürütülmüş farklı uluslararası ve ulusal kaynakların alıntılandığı literatür taramasına yer verilmiştir. Üçüncü bölüm ise çalışmanın metotlarını belirtmektedir. Bu kısım çalışma ile ilgili araştırma soruları, çalışmanın yürütüldüğü ortam ve katılımcı bilgileri, çalışmayı yürütmek için kullanılan ölçek ve toplanan verilerin analiz edilmesi süreci gibi bilgileri yansıtmaktadır. Dördüncü bölümde yapılan veri analizi sonucu elde edilen sonuçlar ve varsayımlar araştırma sorularına uygun bir şekilde kategorize edilerek paylaşılmıştır. Beşinci bölümde ise bulunan sonuçlar özetlenerek ve daha önce yapılan çalışmalarla

karşılaştırılarak sunulmuştur. Son olarak yine bu bölümde çalışmanın kısıtlılıklarından bahsedilmiş ve bundan sonra yürütülecek olan çalışmalara tavsiyelerde bulunulmuştur.

Giriş

Teknoloji, insanların hayatlarında çok büyük bir yer edinmiştir. İnsanların hayatlarını birçok yönden geliştiren bu teknolojik ürünler eğitim ortamlarına uyarlanarak eğitimi geliştirmek amacıyla uzun zamandan beri kullanılmaktadır. Özellikle bilgisayarların eğitime entegre edilmesinden sonra eğitim öğretim alanında çok faydalı yenilikler gözlemlenmiştir.

Özellikle öğretmenler, eğitime teknoloji entegrasyonu konusunda çok önemli bir rol oynamaktadır çünkü onların teknoloji ile ilgili algıları derslerde teknoloji entegrasyonunun etkili bir şekilde gerçekleştirilebilmesi için büyük bir öneme sahiptir.

Daha önce yürütülen çalışmalar öğretmenlerin algılarının teknoloji entegrasyonu konusunda ne kadar önemli olduğunu göstermenin yanı sıra, bu süreçte yaşanan bazı olumsuzluklara ve engellilere dikkat çekmiştir. Bu engeller dışarıdan kaynaklanan ve eğitimcilerin kendilerinden kaynaklanan engeller olarak ayrılabilir. Dış kaynaklı engeller teknolojiye erişim, teknoloji entegrasyonu hakkında destek ve eğitim ve zaman olarak nitelendirilebilir. Öğretmenlerden kaynaklı engeller ise öğretmenin teknoloji entegre etme konusundaki tavır ve fikirleri ve becerileri olarak tanımlanabilir.

Pandemi, dünyadaki bütün öğretmenleri uzaktan eğitime geçmeye zorlamıştır. Bu süreçte eğitim farklı teknolojik kaynaklarla uzaktan gerçekleştirilmeye başlandığı için pandemi eğitimde etkili teknoloji entegrasyonu konusunu bir kez daha gündeme getirmiştir. Öğretmenler belki de sınıflarında daha önce hiç kullanmadıkları kadar teknoloji kullanarak öğretim programlarını uzaktan tamamlamaya ve öğrencilere kaliteli bir eğitim sunmaya devam etmeye çalışmışlardır. Ne yazık ki bu süreç bazı öğretmenler teknoloji entegrasyonun ve teknoloji kullanımı açısından büyük engeller yaratmıştır.

Bu çalışma, özel bir ilköğretim kurumunda çalışan İngilizce öğretmenleri ile gerçekleştirilmiştir. Çalışmanın amacı bu öğretmenlerin pandemi öncesi sırası ve sonrasında derslerine teknoloji entegre etme algılarını araştırmaktır. Bu araştırmayı daha önceki çalışmalardan ayıran özellik ise daha çok pandemi sırasındaki teknoloji entegrasyonuna odaklanan diğer çalışmaların aksine pandemi öncesi sırası ve sonrası dönemlerine odaklanıyor olmasıdır.

Literatür Taraması

Bu bölümde tarih boyunca teknolojinin ne tür şekillerde eğitim amacıyla kullanıldığına dair birçok çalışma, kitap ve makale incelenmiştir. Teknolojinin farklı dönemlerde nasıl şekil değiştirerek eğitime uyarlandığı ile ilgili farklı kaynaklar bu bölümde sunulmuştur.

Bu çalışmanın amacı İngilizce derslerindeki teknoloji entegrasyonu konusunda detaylı bilgi sağlamak olduğu için bu bölümde aynı zamanda bugüne kadar teknolojinin İngilizce dili öğretimi sırasında ne şekillerde kullanıldığı ve İngilizce öğrenmeyi ne şekilde etkilediğine dair çalışmalar paylaşılmıştır.

Aynı şekilde, bu araştırma İngilizce öğretmenlerinin pandemi sırasında teknoloji entegrasyonu ile ilgili algılarını yansıtmak amacıyla yürütüldüğü için yine bu bölümde yurtdışı veya yurtiçinde görev yapmakta olan farklı branşlardan öğretmenlerin ve yok İngilizce öğretmenlerinin pandemi sırasında teknoloji kullanımı algılarına yer verilmiştir.

Metodoloji

Bu çalışmanın cevaplamaya çalıştığı araştırma soruları aşağıdaki gibidir:

　　　1. İlkokul İngilizce öğretmenlerinin pandemi öncesinde sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

　　　2. İlkokul İngilizce öğretmenlerinin pandemi sırasında sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

　　　3. İlkokul İngilizce öğretmenlerinin salgın sırasında sınıflarına teknolojiyi entegre ederken karşılaştıkları zorluklar nelerdir?

　　　4. İlkokul İngilizce öğretmenlerinin pandemi sonrasında sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

　　　5. Teknolojinin İngilizce dersliklere entegrasyonu konusunda öğretmenlerin önerileri nelerdir?

Bu çalışmaya Ankara'da özel bir ilkokulda görev yapan 12 İngilizce öğretmeni katılım sağlamıştır. Verinin toplandığı ortam, pandemi öncesi sırası ve sonrasında öğretmenlerin erişebildiği farklı teknolojiler ve uzaktan eğitim sırasında bu öğretmenlerin görev yaptıkları koşullar bu kısımda detaylı olarak anlatılmıştır.

Araştırmaya katılım gönüllülük esasına dayalı olarak gerçekleştirilmiştir. Çalışma nicel yöntemler ile yürütülmüştür. Bu doğrultuda öncelikle öğretmenlerin demografik bilgileri bir anket aracılığıyla toplanmış ve daha sonra daha önceden belirlenmiş olan kriterlere uyan öğretmenlerle röportaj yapılmıştır.

Bu araştırma öğretmenlerin pandemi öncesi sırası ve sonrasındaki teknolojini entegrasyonu algılarını yansıtmayı amaçladığı için katılımcıların bu süreçlerde yani pandemi öncesi sırası ve sonrasında bu özel ilkokulda görev yapmış olmaları bir gereklilik olarak düşünülmüş ve bu kritere uymayan öğretmenler çalışmaya davet edilmemiştir. Kriterlere uyan öğretmenler ise çalışma deneyimlerine göre 1-5 yıl arası, 6-10 yıl arası, 11-15 yıl arası ve 16 yıl ve üzeri olmak üzere 4 kategoriye ayrılmıştır ve her kategori için 3 öğretmen seçilmiştir. Bu şekilde çalışma 12 katılımcı ile gerçekleştirilmiştir.

Yukarıda bahsedildiği üzere öğretmenlerden demografik bilgilerini yansıtan bir anket doldurmaları istenmiştir. Bu ankette öğretmenlerin belirtmeleri istenen bilgiler şu şekildedir:

1. Şu an hangi seviyeye öğretiyorsunuz? _____

2. Pandemide hangi seviyeye öğretiyordunuz? ـــــــــــــــــ

3. Öğretmenlik deneyimi (yıl) ـــــــــــــــــ

4. Yaş ـــــــــــــــــ

5. Cinsiyet: Kadın / Erkek

6. Hangi üniversite/bölümden mezun oldunuz?

ـــ

ـــــــــــــــــ

7. En yüksek eğitim seviyeniz nedir?

   BA / MA / PhD

8. Teknoloji entegrasyonu konusunda pandemiden önce kendinizi nasıl
   tanımlardınız?

   Deneyimsiz - Yetenekli - Usta - Uzman

9. Teknoloji entegrasyonu konusunda pandemi sırasında kendinizi nasıl
   tanımlardınız?

   Deneyimsiz - Yetenekli - Usta - Uzman

10. Teknoloji entegrasyonu konusunda pandemiden sonra kendinizi nasıl
    tanımlardınız?

    Deneyimsiz - Yetenekli - Usta - Uzman

11. Pandemiden önce ne sıklıkla teknoloji kullandınız?

    Asla - Nadiren - Ara Sıra - Sıklıkla - Her Zaman

12. Pandemi sırasında teknolojiyi ne sıklıkla kullandınız?

    Asla - Nadiren - Ara Sıra - Sıklıkla - Her Zaman

13. Pandemiden sonra ne sıklıkla teknoloji kullanıyorsunuz?

    Asla - Nadiren - Ara Sıra - Sıklıkla - Her Zaman

Bu toplanan demografik bilgiler detaylı bir şekilde tablo olarak bu bölümde sunulmuştur. Ayrıca, daha önce bahsedildiği üzere kriterlere uyan öğretmenler ile röportajlar gerçekleştirilmiştir. Bu röportajda öğretmenlerin pandemi öncesi sırası ve sonrasında teknoloji kullanma ve derslerine entegre etme hakkındaki görüş düşünce ve deneyimlerini anlamaya yönelik sorular yöneltilmiştir. Röportajlarda yöneltilen sorular şu şekildedir:

Pandemi Öncesi

1. Pandemiden önce teknoloji kullanırken deneyimleriniz nasıldı?

2. Sınıfınızda ne tür dijital teknolojiler kullandınız?

3. Pandemi öncesinde sınıfta teknoloji kullanımı oranı hakkında fikirleriniz nelerdi?

4. Neden derslerinizde teknoloji kullanma gereği gördünüz? Sizce teknoloji kullanmak gerekli miydi?

5. Öğretmen olarak derste teknoloji entegre etme ve kullanma konusunda ne kadar kendize güvenirdiniz?

6. Hangi becerileri öğretmek için daha çok teknoloji kullandınız?

7. Daha önce hiç derslerde teknoloji entegrasyonu hakkında eğitim (seminer, servis içi eğitim vb.) aldınız mı?

Pandemi Sırası

8. Pandemi sırasında teknoloji kullanırken deneyimleriniz nasıldı?

9. Öğretmen olarak derste teknoloji entegre etme ve kullanma konusunda ne kadar kendize güvenirdiniz?

10. Sınıfınızda ne tür dijital teknolojiler kullandınız? Uzaktan eğitime geçildikten sonra derste kullanmak için kendi ürettiğiniz bir şey var mıydı?

  Amacı neydi

  Kullanırken deneyimleriniz neydi

11. Pandemi sırasında online eğitim dışında ilk kez denediğiniz veya deneyimlediğiniz şeyler nelerdi? Sizce bütün bu araçlar yeterli miydi?

12. Derste teknoloji entegre etmeyi en çok engelleyen ya da destekleyen faktörler nelerdi?

13. Pandemide öğretmek (bir şekilde etkili olduysa) sizi öğretmen olarak ne şekilde değiştirdi?

14. Hangi becerileri öğretmek için daha çok teknoloji kullandınız?

15. Hangi dil becerilerini uzaktan öğretmek daha kolay zordu? Hangi becerileri öğrenmek öğrenciler için zorlayıcıydı?

Pandemi Sonrası

16. Pandemiden sonra teknoloji kullanırken deneyimleriniz nasıldı?

17. Sınıfınızda ne tür dijital teknolojiler kullanıyorsunuz?

18. Teknolojiyi pandemi sırasında kullandığınız kadar kullanmaya devam ediyor musunuz? Pandemi sırasında ilk kez kullandığınız ve okula döndükten sonra kullanmaya devam ettiğiniz bir şey var mı?

19. Pandemi sonrasında sınıfta teknoloji kullanımı oranı hakkında fikirleriniz nelerdir? Sizce öğrencileriniz sınıfta teknolojiyi daha fazla kullanmalı mıdır? Neden?

20. Pandemi sınıfta teknoloji kullanımı konusunda düşüncelerinizi ne şekilde etkiledi?

21. Pandemi öncesinde, sırasında ve sonrasında eğitimde teknoloji kullanımı hakkında tecrübelerinizi nasıl karşılaştırsınız?

22. Hangi becerileri öğretmek için daha çok teknoloji kullanıyorsunuz?

23. Pandemi öncesi, sırası ve sonrasındaki deneyimlerinizi düşündüğünüzde mesleğe yeni başlayacak öğretmenler için eğitimde teknoloji kullanma konusunda vereceğiniz tavsiyeler nelerdir?

24. Pandemi eğitim programınızda teknoloji entegrasyonu konusunda değişimlere gerek duyulmasına neden oldu mu? Eğitim programının bu konuda geliştirilmesi için tavsiyeleriniz var mı? Nelerdir?

Çalışmanın amacı bir olay hakkında katılımcılardan olabildiğince derinlemesine bilgiler elde edebilmek olduğu için nicel veri toplama yöntemleri yani röportajlar bu araştırma çalışması için uygun ve yeterli görülmüştür. Katılımcılardan toplanan veriler içerik analizi metodu ile incelenmiştir.

Sonuçlar

Bu kısımda sonuçlar araştırma sorularına göre analiz edilip paylaşılmıştır. Araştırma soruları çok geniş kapsamlı olduğu için bu sorular ışığında veriler analiz edilirken sonuçlar farklı temalar altında toplanmıştır.

1. İlkokul İngilizce öğretmenlerinin pandemi öncesinde sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

Bu araştırma sorusu öğretmenlerin pandemi öncesinde sınıflarında teknoloji entegre etme konusundaki görüş düşünce ve deneyimlerini açığa çıkarmak amacıyla yöneltilmiştir. Veriler incelenirken bu soru ile ilgili farklı temalar açığa çıkmıştır ve sonuçlar bu temalara göre organize edilmiştir.

Pandemi Öncesi Teknoloji Entegrasyonunun Amaçları

Bu kısım öğretmenlerin pandemi öncesinde hangi amaçlarla derslerine teknoloji entegre ettiklerini sunmaktadır. Öğretmenler, neden derslerinde teknolojiyi entegre ettikleri sorulduğunda öğrencilerin ilgisini ve dikkatini çekebilmek için, öğrenciler teknoloji kullanımının yüksek olduğu bir jenerasyonda doğup büyüdükleri için ve teknolojinin çok hızlı gelişip ilerlediği bir dönemde yaşadığımız için gibi nedenlerle teknoloji kullandıklarını belirtmişlerdir.

Pandemi Öncesi Teknoloji Entegrasyonunun Gerekliliği

Öğretmenlere pandemi den önce teknoloji kullanımının gerekli olup olmadığı hakkındaki düşünceleri sorulduğunda öğretmenler çelişen cevaplar vermişlerdir. Bazı öğretmenler pandemi öncesinde teknoloji kullanmayı çok önemli algılarken bazı öğretmenler ise bunun o dönemin şartları göz önüne alındığında çok da gerekli olmadığını belirtmişlerdir.

Pandemi Öncesi Teknoloji Eğitimi

Öğretmenlere pandemiden önce derste teknoloji entegre etme konulu bir eğitime katılıp katılmadıkları sorulmuştur. Çoğu öğretmen böyle bir eğitim almadıklarını belirtmiştir. Bazı öğretmenler PowerPoint sunuları ve akıllı tahta gibi farklı teknolojilerin kullanılması hakkında eğitim aldıklarını fakat bu eğitimlerin pandemi sırasındaki ihtiyaçlarını karşılayacak düzeyde olmadıklarını paylaşmışlardır. Bir

öğretmen derse teknoloji entegre etme konusunda merakı olduğunu hatta bu konuda bir blog geliştirdiğini paylaşmıştır.

2. İlkokul İngilizce öğretmenlerinin pandemi sırasında sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

3.

İkinci araştırma sorusu öğretmenlerin pandemi sırasında teknoloji entegrasyonu hakkında görüş düşünce ve deneyimlerini öğrenmek amacıyla yöneltilmiştir. Pandemi sırasında öğretmenler daha önce hiç kullanmadıkları teknolojik uygulamaları çok kısa bir süre içinde öğrenmek ve bunları derslerine entegre etmek zorunda kalmışlardır. Bu zorlu süreç nedeniyle öğretmenlerden çok çeşitli ve fazla sayıda elde edilen veriler farklı temalar altında toplanmıştır.

Yeni Normale Uyum

Bu başlık altında öğretmenlerin uzaktan eğitim sürecine nasıl uyum sağladıkları paylaşılmıştır. Öğretmenlerin büyük bir çoğunluğu bu sürecin onlar için çok zorlayıcı olduğunu belirtmiştir. Bu sürece uyum sağlamanın onlar için çok stresli, zor ve kendilerine güvenlerini zedeleyici bir deneyim olduğundan bahsetmişlerdir. Fakat özellikle çalışma arkadaşlarıyla paylaşımlarda bulunarak bu sürece kısa süre içinde uyum sağladıklarını paylaşmışlardır.

Teknolojiden Yararlanmak

Birçok öğretmen bu süreçte farklı teknolojilerden faydalanarak derslerinde kullanmak amacıyla birçok materyal ürettiklerinden bahsetmiştir. Bu materyaller başta öğrencilerin ilgisini derse çekmek olmak üzere motivasyon ve öğrencilerin performans ve bilgilerini değerlendirme gibi farklı amaçlarla derslere entegre edilmiştir.

Teknoloji Kullanım Miktarı

Öğretmenlere pandemi sırasında kullandıkları teknolojilerin yeterli olup olmadığı sorulduğunda yine çelişen cevaplar alınmıştır. Çoğu öğretmen o zamanın koşulları göz önüne alındığında bu kadar kısa bir sürede yapabileceklerinin en iyisini yaptıklarını belirtmiştir. Bazı öğretmenler eğitim programının amaçlarına ulaştıklarını söylerken diğer öğretmenler pandemi sırasında kullanan teknolojileri yeterli bulmamış ve öğrenciler yüz yüze eğitime geri döndüklerinde bunu gözlemleyebildiklerini paylaşmışlardır.

Teknolojiyi Kurcalamak

Öğretmenler uzaktan eğitim süresince entegre etmek zorunda oldukları teknolojik araçları ilk kullanmaya başladıklarında zorlandıklarını ifade etmişlerdir. Özellikle ilk maçlarda çok stresli ve gergin olduklarını belirtmişlerdir. Öğretmenler neden zorluk yaşadıklarına dair kendilerini yaratıcı olmak için zorlama, bütün öğrencilere derse katamama, öğrencilerin motivasyonunu yüksek tutamama ve ilgilerini çekememe gibi

farklı sebeplerden bahsetmişlerdir. Öğretmenler ayrıca bu süreci çalışma arkadaşlarından yardım alarak daha kolay atlattıklarını belirtmişlerdir.

İlk Deneyimler

Birçok öğretmen pandemi sürecinde uzaktan eğitimi ilk kez deneyimlemiştir. Fakat öğretmenler uzaktan eğitim dışında ilk kez deneyimledikleri farklı tecrübelerden bahsetmişlerdir. Asenkron dersler için ders videoları hazırlamak bu deneyimlerden biri olarak paylaşılmıştır. Bunun yanı sıra öğretmenler ilk kez velilerle bu kadar iç içe oldukları bir süreç deneyimlediklerinden de bahsetmişlerdir. Normalde yüz yüze yapılan veli görüşmelerinin online ortamda yapılmaya başlanması bu sürecin kattığı olumlu bir gelişme olarak paylaşılmıştır.

Yeni Bir Öğretmen Olmak

Öğretmenler pandemide öğretmenlik yapmanın onları birçok farklı yönden değiştirdiğinden bahsetmişlerdir. Çoğu öğretmen bu süreç sayesinde yüz yüze eğitimin ne kadar değerli ve önemli olduğunu anladıklarını paylaşmıştır. Öğrencilerinin gözlerinin içine bakabilecekleri, onlarla temas edebilecekleri ve bir arada olabilecekleri bir ortamın önemini kavramışlardır. Ayrıca okulun sadece eğitim için var olmadığının, eğitimin gerekli koşullar sağlandığında her yerden yapılabileceğinin fakat okulun sosyal bir ortam olduğunun farkına vardıklarını da paylaşmışlardır.

4. İlkokul İngilizce öğretmenlerinin salgın sırasında sınıflarına teknolojiyi entegre ederken karşılaştıkları zorluklar nelerdir?

Kurumda çalışan birçok öğretmen uzaktan eğitimin ilk kez deneyimledikleri bir şey olduğundan bahsetmiştir. Bu nedenle ve sürekli değişen eğitim ortamı ve teknolojiler yüzünden öğretmenler birçok zorlukla karşılaşmışlardır. Bu zorluklar çok çeşitli olduğu ve farklı nedenlerden kaynaklandığı için farklı temalar altında sunulmuştur. Bu temalar öğretmen kaynaklı; kurum kaynaklı; öğrenme ortamı, yaş ve motivasyon olmak üzere öğrenci kaynaklı; veli desteği kaynaklı; dil becerileri kaynaklı; finansal; duygusal; eğitimsel ve teknolojiyle alakalı ve öğretmenle alakalı olmak üzere teknolojik zorluklar olarak ayrılmıştır.

Öğretmen kaynaklı sorunlar daha çok öğretmenlerin teknoloji kullanımı konusundaki becerilerinden kaynaklanmaktadır. Kurum kaynaklı sorunlar ise öğretmenlere yeterince teknoloji entegrasyonu konusunda eğitim vermemesi, ders süresinin teknoloji kullanılarak yürütülmesi için kısa olması, yeterince teknik destek sağlayamaması gibi sorunlar olarak baş göstermiştir. Öğrenci kaynaklı sorunlar öğrenme ortamı, yaş ve motivasyon olarak 3 alt tema altında incelenmiştir. Öğrencilerin uzaktan derslere katıldıkları ortamların uygunsuzluğu, yaş olarak küçük olmaları ve motivasyon eksikliği pandemi sürecinde eğitimi zorlaştıran faktörler olarak bildirilmiştir. Veli desteği kaynaklı sorunlar ise daha çok pandemi sürecinde delilerin eğitime çok fazla dahil olmasından kaynaklanmıştır. Öğretmenler farklı dil becerilerini öğretirken çeşitli zorluklarla karşılaşmışlardır. Öğretmenler yazma becerilerini öğretirken özellikle zorlandıklarını bildirmiştir. Bunun nedenleri

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öğrencileri takip edememe, ne yazdıklarını kontrol edememe, anında geri dönüt verememe ve kısıtlı zaman olarak aktarılmıştır. Finansal sorunlar ise kurumun çeşitli teknolojik materyaller satın alıp öğretmenlerin kullanımına sunmaması veya öğretmenlerin derslerinde kullanmak üzere kendi kendine farklı teknolojik araçlar satın almak istememesi olarak ortaya çıkmıştır. Duygusal sorunlar ise öğretmenlerin özellikle uzaktan eğitime ilk geçildiğinde hissettikleri ve bu sürece adaptasyonu zorlaştıran duygular olarak nitelendirilmiştir. Eğitimsel sorunlar öğrencileri takip edememe, neyi yapıp yapamadıklarını görememe, bazı öğrencilere uzaktan ulaşamama ve yeterli geri dönüp verememe olarak belirtilmiştir. Teknolojiyle alakalı yaşanan sorunlar ise 2 alt temada incelenmiştir. Bu sorunların bazılarının öğretmen kaynaklı bazılarının teknoloji kaynaklı olduğu gözlemlenmiştir. Örneğin, bir öğretmenin teknolojiyi hızlıca öğrenip adapte edebilmesinin öğretmen kaynaklı; yaşanan internet sorunları, teknik destek yetersizliği gibi sorunların teknoloji kaynaklı olduğu belirtilmiştir.

5. İlkokul İngilizce öğretmenlerinin pandemi sonrasında sınıflarına teknolojiyi entegre etme konusundaki bakış açıları nelerdir?

Dördüncü araştırma sorusu öğretmenlerin pandemi sonrasında teknoloji entegrasyonu hakkında görüş düşünce ve deneyimlerini öğrenmek amacıyla yöneltilmiştir. Aynı şekilde verilerin çeşitliliği ve fazlalığı nedeniyle sonuçlar farklı temalar altında aktarılmıştır.

Artı Bir

Çoğu öğretmen, pandemi sırasında okullara dönülüp yüz yüze eğitime geçildiğinde çoğu şeyin, özellikle teknoloji kullanımı açısından, pandemi öncesi döneme geri döndüğünü paylaşmıştır. Bit öğretmen, bu dönemin teknoloji entegrasyonu konusunda pandemi öncesine çok benzediğini, eskiden teknoloji kullanımı oranı 1 ise şu an + 1 olduğunu söylemiştir. Yani yüz yüze eğitime geri dönüldükten sonra derslerde öncesine kıyasla daha fazla teknoloji kullanılmaya başlanmıştır. 1 sınıfların karantina altına alınması ya da sınıftaki bir ya da birkaç öğrencinin korona olması gibi teknoloji kullanımının zorunlu olduğu durumlar dışında, teknoloji kullanımının hala öğrenciler için çok motive edici olması ve pandeminin öğretmenlere kullanabilecekleri çeşitli teknolojik kaynaklar sunmuş olması ve sınıfların teknolojik altyapılarının geliştirilmiş olması gibi nedenlerle öğretmenler sınıfta daha fazla teknoloji kullanmayı tercih etmektedir.

Değişen Düşünceler

Bu çalışmaya katılan öğretmenler pandeminin sınıfta teknoloji kullanımı algılarını değiştirdiğinden bahsetmiştir. Yok birçok öğretmen bu deneyimin teknoloji kullanımı hakkındaki düşüncelerini olumlu bir şekilde etkilediğini belirtmiştir. Öğrencilerinin dijital bir çağda doğup büyüdüklerini göz önüne aldıklarında teknoloji entegrasyonunun artırılmasının onlar için daha faydalı olacağını belirtmişlerdir. Bazı öğretmenler ise teknoloji kullanımının ne kadar önemli olduğunun her zaman farkında olduklarından fakat panda eminin teknolojiyi derslerde daha çok kullanma açısından

bir fırsat yarattığından bahsetmiştir. Ayrıca öğretmenler bu sürecin yalnızca kendilerinin değil velinin ve yönetimin de teknoloji kullanımı konusunun ne kadar önemli olduğunu anlamasına yardımcı olduğunu bildirmişlerdir.

Diğer taraftan, bazı öğretmenler pandemi sırasında çok fazla teknoloji kullanmanın olumsuz etkileri olduğunu ve okula dönüldükten sonra öğrencilerle daha çok fiziksel temas kurabilecekleri teknolojik olmayan oyunlar oynamanın sosyal açıdan da önemli olduğunu vurgulanmıştır.

Zaman Nasıl da Değişti

Öğretmenlerden aynı zamanda pandemi öncesinde sırasında ve sonrasında teknoloji kullanımı hakkında deneyimlerini karşılaştırmaları istenmiştir. Birçok öğretmen geriye dönüp baktığında pandemi öncesinde teknolojiyi ne kadar kısıtlı kullandıklarını fark ettiğini belirtmiştir. Pandemi sırasındaki deneyimlerinin çoğu zaman olumlu olmadığını fakat kolay uyum sağlayan bildiklerini de bildirmişlerdir. Bu süreç bazı öğretmenler için aslında sahip olduklarını sandıkları teknolojik bilginin ne kadar az olduğunu anlamalarını sağlamıştır. Çoğu öğretmen teknolojik açıdan pandemi sırasında elde ettikleri becerileri yüz yüze eğitime döndükten sonra kullanmanın ne kadar faydalı olduğundan bahsetmiştir. Fakat bazı öğretmenler artık kendilerinin ve öğrencilerinin teknoloji kullanma konusunda sıkıldıklarını ve teknoloji kullanmadan daha aktif, birbirleriyle temas edebilecekleri fiziksel oyunlar oynamayı tercih ettiklerini bildirmiştir.

6. Teknolojinin İngilizce dersliklere entegrasyonu konusunda öğretmenlerin önerileri nelerdir?

Son araştırma sorusu olan beşinci soru öğretmenlerin pandemi öncesi sırası ve sonrasındaki deneyimlerini karşılaştırıldıklarında mesleğe yeni başlayacak öğretmenlere ne tür tavsiyeler verebileceklerini öğrenmek için sorulmuştur. Katılımcıların verdikleri tavsiyeler öğretmenlere yönelik ve kurumlara yönelik olmak üzere 2 başlık altında toplanmıştır. Mesleğe yeni başlayacak olan öğretmenlere verilen tavsiyeler daha çok kendilerini kişisel ve mesleki açıdan farklı teknolojiler hakkında ve bunları derse ne şekilde entegre edebilecekleri konusunda sürekli yenilemelerine yönelik olmuştur. Mesleğe yeni başlayacak öğretmenlere derse entegre edebilecekleri farklı teknolojik araçlar konusunda araştırma yapmaları ve bu araçları topladıkları bir portfolyo oluşturmaları tavsiye edilmiştir.

Kurumlara verilen öneriler ise özellikle yaşadığımız bu pandeminin ışığında derslere teknoloji entegre edebilmenin ne kadar önemli bir beceri olduğunu anlamaları ve gelecek öğretmenleri eğitirken bu konu üzerine daha çok düşmeleri olmuştur. Öğretmenlik eğitiminde derste teknoloji kullanımı konusunun, özellikle bu konuda yapılmış olan birçok sayıdaki çalışma kaynak alınarak, zorunlu olarak öğretimi tavsiye edilmiştir.

Son olarak öğretmenler pandeminin getirdiği değişiklikleri göz önünde bulundurarak İngilizce eğitim programında bazı değişikliklere gidilmesi gerektiğini belirtmiştir. Sınıflara akıllı tahta getirilmesi, öğretmenlerin teknolojik değişiklikler ve gelişmeler

hakkında sürekli eğitilmesi, geleneksel eğitimin bir kenara bırakılarak öğrencilerin daha çok etkileşerek ve farkında olmadan dili öğrenebilecekleri metotların benimsenmesi, derse teknoloji entegre edildiğinde daha çok öğretme zamanına ihtiyaç olunduğunu göz önünde bulundurarak değişikliğe gidilmesi ve hangi teknolojik aracın eğitim programının hangi noktasında ne şekilde kullanılacağının açık ve net bir şekilde programda belirtilmesi gibi tavsiyeler verilmiştir.

Sonuç

Bu bölümde çalışmanın sonuçları özet halinde tekrarlanmış ve önceki çalışmalarla desteklenmiş, bu bilgiler ışığında öğretmenlere, öğretmen eğitmenlerine ve kuruma tavsiyelerde bulunulmuştur. Ayrıca, araştırmanın kısıtlılıkları katılımcı sayısı, araştırmada farklı veri toplama araçları kullanılmaması, veri toplamanın Türkçe dilinde yapılıp İngilizceye çevrilmiş olması ve soruların öğretmenlerin uzun 1 zaman önceki deneyimleri hakkında olması nedeniyle geçmişe yönelik hatıralarına yönelik olması olarak belirtilmiştir.

Bu sınırlılıklar gelecekte bu ve buna benzer konuda yapılacak çalışmalara örnek olabilir. Ayrıca bu çalışma farklı seviyelerdeki öğretmenlerle tekrarlanıp benzer deneyimler yaşayıp yaşamadıkları karşılaştırılabilir. Aynı zamanda pandeminin eğitim programı üzerinde neden olduğu değişiklikler daha detaylı bir çalışmayla gün yüzüne çıkarılıp kurumlara programlarına teknoloji entegre etme konusunda daha detaylı tavsiyeler verilebilir.

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YAZARIN / AUTHOR

Soyadı / Surname   : ÖZER
Adı / Name   : Gökçe
Bölümü / Department   : İngiliz Dili Öğretimi / English Language Teaching

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