

**T.C.
HAKKARİ UNIVERSITY
INSTITUTE FOR GRADUATE STUDIES**

**MASTER OF ARTS
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
ENGLISH LANGUAGE TEACHING**

**EFL TEACHERS' MINDSETS AND THEIR BELIEFS
ABOUT ONLINE TEACHING DURING COVID-19**

Ömer IŞIK

**Supervisor
Assoc. Prof. Dr. Zeynep ÖLÇÜ DİNÇER**

HAKKARİ

2023

T.C.
HAKKARİ ÜNİVERSİTESİ
LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ MÜDÜRLÜĞÜNE
HAKKARİ

Yabancı Diller Eğitimi Anabilim Dalı Yüksek Lisans Programı öğrencisi Ömer IŞIK tarafından hazırlanan “EFL Teachers’ Mindsets and Their Beliefs About Online Teaching During COVID-19” başlıklı tez, 31.08.2023 tarihinde yapılan savunma sonucunda aşağıda isimleri bulunan jüri üyelerince kabul edilmiştir.

Ünvanı, Adı Soyadı	Kurumu	İmzası
Başkan : Doç. Dr. Zeynep ÖLÇÜ DİNÇER	Hakkari Üniversitesi	
Üye : Dr. Öğr. Üyesi Tahir YAŞAR	Hakkari Üniversitesi	
Üye : Dr. Öğr. Üyesi Ferzan ATAY	Bozok Üniversitesi	

Jüri üyeleri tarafından kabul edilen bu yüksek lisans tezi, Enstitü Yönetim Kurulunun Sayılı kararıyla tarihinde onaylanmıştır.

Prof. Dr. Mehmet ŞAHİN

Enstitü Müdürü

TEZ BİLDİRİMİ

Bu tezde sunulan tüm bilgi ve sonuçların, bilimsel yöntemlerle yürütülen gerçek deney ve gözlemler çerçevesinde tarafımdan elde edildiğini, çalışmada bana ait olmayan tüm veri, düşünce, sonuç ve bilgilere bilimsel etik kuralların gereği olarak eksiksiz şekilde uygun atıf yaptığımı ve kaynak göstererek belirttiğimi beyan ederim.

31/08/2023

İmza

Ömer IŞIK

ÖZET

İNGİLİZCE ÖĞRETMENLERİNİN ZİHNIYETLERİ VE COVID-19 SÜRECİNDE ÇEVİRİMİÇİ ÖĞRETİM İLE İLGİLİ İNANÇLARI

Ömer IŞIK

Yüksek Lisans Tezi, Yabancı Diller Eğitimi

Tez Danışmanı: Doç. Dr. Zeynep ÖLÇÜ DİNÇER

2023, 146 s.

Bu tez, Türkiye'de COVID-19 salgını sırasında farklı zihniyetlere sahip hizmet içi İngilizce öğretmenlerinin çevrimiçi öğretime yönelik inançlarını araştırmayı amaçlamaktadır. Araştırma, nicel verilerin toplanmasıyla başlayan ve nicel sonuçların daha fazla açıklanmasını veya detaylandırılmasını sağlamak için nitel verilerin toplanmasıyla devam eden, karma yöntemli sıralı açıklayıcı bir tasarım kullanılarak gerçekleştirilmiştir. Veri toplamayı kolaylaştırmak amacıyla, Türkiye'nin Muş ve Hakkari şehirlerindeki devlet ve özel okullarda İngilizce öğretmeni olarak çalışan 260 katılımcıya çevrimiçi bir anket uygulanmıştır. Ayrıca, COVID-19 salgınının öğretmenlerin teknolojik yeterlilikleri ve mesleki gelişimleri üzerindeki spesifik etkisini araştırmak amacıyla, Sabit Zihniyetli (FM) 8 kişi ve Gelişen Zihniyetli (GM) 7 kişi de dahil olmak üzere özenle seçilmiş bir öğretmen alt grubuyla derinlemesine görüşmeler yapılmıştır. Ek olarak araştırma soruları, farklı zihniyetlere sahip hizmet içi İngilizce öğretmenlerinin, COVID-19 salgını sırasında çevrimiçi öğretime ilişkin inançları arasındaki farklılıklara ve benzerliklere odaklanmaktadır. Ayrıca çalışma, öğretmenlerin kendi zihniyetlerinin ve önyargılarının farkında olan yansıtıcı uygulayıcılar olmasının önemini vurgulamaktadır.

Bu tez, COVID-19 salgını sırasında çevrimiçi eğitime yönelik zihniyet ve öğretmen inançları arasındaki ilişkiyi araştırarak öğretmen inanç çalışmalarına yeni bir boyut katmaktadır. Bu çalışmanın bulguları, öğretmen eğitimcilerinin, öğretmen adayları arasında gelişen bir zihniyet geliştirmenin önemini anlamalarına yardımcı olabilir. Çalışma aynı zamanda zihniyet ve öğretmen eğitimi literatürüne de katkı sağlayacak ve bu konuda yapılacak ileri araştırmalara temel oluşturacaktır.

Anahtar Kelimeler: Zihniyet, İngilizce Öğretmenleri, Öğretmen İnançları, TPACK.

ABSTRACT

EFL TEACHERS' MINDSETS AND THEIR BELIEFS ABOUT ONLINE TEACHING DURING COVID-19

Ömer IŞIK

M.A. Thesis, English Language Teaching

Supervisor: Assoc. Prof. Dr. Zeynep ÖLÇÜ DİNÇER

2023, 146 p.

This thesis aims to investigate the beliefs of in-service English teachers with different mindsets towards online teaching during the COVID-19 pandemic in Türkiye. The study was conducted using a mixed-methods sequential explanatory design, starting with the collection of quantitative data and followed by the collection of qualitative data to provide further explanation or elaboration of the quantitative results. To facilitate data collection, an online survey was administered to 260 participants who work at state and private schools as EFL teachers, in the cities of Muş and Hakkari in Türkiye. Moreover, in-depth interviews were conducted with a carefully selected subset of teachers, including 8 individuals with Fixed Mindsets (FM) and 7 with Growth Mindsets (GM), in order to delve into the specific impact of the COVID-19 pandemic on their technological proficiencies and professional development. Additionally, the research questions focus on the differences and similarities between the beliefs of in-service English teachers with different mindsets regarding online teaching during the COVID-19 pandemic. Furthermore, the study highlights the importance of teachers being reflective practitioners who are aware of their mindsets and biases.

This thesis adds a new dimension to teacher belief studies by exploring the relationship between mindset and teacher beliefs towards online education during the COVID-19 pandemic. The findings of this study may help teacher educators to understand the importance of developing a growth mindset among their pre-service teachers. The study will also contribute to the literature on mindset and teacher education, and provide a basis for further research on this topic

Key Words: *Mindset, EFL teachers, Teachers beliefs, TPACK*

ACKNOWLEDGEMENT

Completing this thesis has been a challenging journey that would not have been possible without the guidance and support of many individuals who have contributed their time and knowledge. Therefore, I would like to take this opportunity to express my deepest appreciation and gratitude to all those who have helped me in this academic endeavor.

First and foremost, I would like to express my sincere gratitude to my supervisor, Assoc. Prof. Dr. Zeynep ÖLÇÜ DİNÇER. Her constant guidance, support, and encouragement have been invaluable throughout this research project. Her insightful comments and suggestions have helped me to shape my ideas and enhance my writing skills. I am grateful to have had the opportunity to work under her supervision.

I would like to extend my appreciation to all of my instructors; Prof. Dr. Erdoğan BADA, Asst. Prof. Dr. Sümeyra BAĞATUR HASPOLAT, Asst. Prof. Dr. Ferzan ATAY, Asst. Prof. Dr. Tahir YAŞAR, Prof. Dr. Yonca ÇAYLAKLI ÖZKAN, and Prof. Dr. Mehmet Recep TAŞ for their knowledge, wisdom, and valuable contributions, which have been precious and instrumental in shaping my intellectual and personal growth in my academic studies. I would also like to thank my colleagues who have inspired me to achieve academic excellence.

Lastly, my deepest affection goes to My Better Half, Zeyneb, whose unwavering love, support, and understanding have been a constant source of strength and motivation throughout my academic journey. And to my two-year-old son, Robin, who has brought immeasurable joy and happiness to our life, and who has reminded me of the importance of balance and perspective.

In conclusion, I am truly grateful to everyone who has contributed to the completion of this thesis, and I hope to continue to learn and grow from the experiences gained during this journey.

Ömer IŞIK

TABLE OF CONTENTS

TEZ BİLDİRİMİ.....	ii
ÖZET.....	iii
ABSTRACT.....	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS.....	vi
ABBREVIATIONS	viii
LIST OF TABLES	ix
LIST OF APPENDICES	x
1. INTRODUCTION	1
1.1. Overview.....	1
1.2. Background of the Study	1
1.3. Statement of the Problem.....	2
1.4. Research Questions.....	2
1.5. Significance of the Study.....	3
1.6. Purpose of the Study	4
1.7. Limitations of the Study	4
1.8. Definitions of the Key Terms	5
2. LITERATURE REVIEW	7
2.1. Overview.....	7
2.2. Mindset	7
2.3. Entity and Incremental Theories.....	11
2.4. Growth Mindset.....	12
2.5. Fixed Mindset	14
2.6. Teachers' Mindsets	16
2.7. Teacher Beliefs	23
2.8. Online Teaching.....	31
2.9. The Impact of COVID-19 on Education	33
2.10. Online Teaching during COVID-19	34

3. METHODOLOGY	39
3.1. Overview.....	39
3.2. Research Design	39
3.3. Participants and Settings.....	40
3.4. Instruments	42
3.4.1. Gero's Teachers' Mindset Scale (TMS).....	42
3.4.2. Teaching Experience Items.....	45
3.4.3. Interview Questions	46
3.5. Data Collection	47
3.7. Reliability	49
3.8. Ethical Issues	50
3.9. Conclusion	51
4. RESULTS	53
4.1. Overview.....	53
4.2. Quantitative Results.....	53
4.3. Qualitative Results.....	60
4.3.1. Issues.....	63
4.3.2. Facilities.....	76
4.3.3. Development in TPACK.....	83
5. DISCUSSION AND CONCLUSION.....	94
5.1. Overview.....	94
5.2. Teacher Mindset and Beliefs about Online Teaching Process	94
5.3. Pedagogical Implications.....	114
5.4. Suggestions for Further Research.....	115
5.5. Conclusion	116
REFERENCES.....	117
APPENDICES	137

ABBREVIATIONS

ANOVA:	The Analysis of Variance
CK:	Content Knowledge
COVID-19:	Coronavirus Disease / Novel Coronavirus
DMI:	Dweck Mindset Instrument
EFL:	English as Foreign Language
FOM:	Fixed-Oriented Mindset
FM:	Fixed Mindset
GOM:	Growth-Oriented Mindset
GM:	Growth Mindset
MTS:	Mindset Theory Scale
PCK:	Pedagogical Content Knowledge
PK:	Pedagogical Knowledge
SPSS:	Statistical Package for the Social Sciences
TCK:	Technological Content Knowledge
TK:	Technological Knowledge
TM:	Teacher Mindset
TMS:	Teacher Mindset Scale
TPACK:	Technological Pedagogical Content Knowledge
TPK:	Technological Pedagogical Knowledge

LIST OF TABLES

Table 3.1. Demographic Characteristics of the in-service English Teachers.....	41
Table 3.2. The Factor Matrix of the TMS	43
Table 4.1. Descriptive Statistics for Teacher’s Mindset Instrument	53
Table 4.2. Mann Whitney U Test Results of Teacher’s Mindset Scores According to Gender Variable	54
Table 4.3. Mann Whitney U Test Results of Teacher’s Mindset Scores According to Graduate Variable	54
Table 4.4. Kruskal Wallis H Test Results of Teacher’s Mindset Scores According to Age Variable	55
Table 4.5. Kruskal Wallis H Test Results of Teacher’s Mindset Scores According to Teacher’s Experience Variable	55
Table 4.6. Pearson Chi-Square Correlation Test Results of Teacher’s Mindset category According to Gender Variable.....	56
Table 4.7. Pearson Chi-Square Correlation Test Results of Teacher’s Mindset category According to Age Variable.....	57
Table 4.8. Pearson Chi-Square Correlation Test Results of Teacher’s Mindset category According to Teacher’s Experience Variable.....	58
Table 4.9. Pearson Chi-Square Correlation Test Results of Teacher’s Mindset category According to Graduate Variable.....	59
Table 4.10. Item Statistics for Teaching Experience During COVID-19	60
Table 4.3.1. Descriptive Analyses of Codes Regarding Issues	63
Table 4.3.2.1. Descriptive analyses of Codes regarding Facilities.....	76
Table 4.3.3.1. Descriptive Analyses of Codes Regarding Development.....	84

LIST OF APPENDICES

Appendix 1: The Participants' Background Information

Appendix 2: Teacher Mindset Scale

Appendix 3: Teaching Experience Items

Appendix 4: Interview Questions

Appendix 5: Code System

Appendix 6: Ethics Committee Approval



1. INTRODUCTION

1.1. Overview

Teachers have an essential role in students' lives as they are responsible for the educational process and raising the younger generations. In this context, it is crucial for teachers to be well-prepared and equipped to handle any challenges that arise and find solutions to them, due to their vital role in their student's lives and education. Teachers' beliefs and thoughts shape their behaviours, and it is anticipated that teachers will serve as positive role models for their students. Therefore, examining the thoughts and beliefs of teachers regarding online education holds significant importance to understand how they perceive and adapt to online education.

The current study strives to discover the mindsets of teachers regarding online education. Specifically, we will investigate teachers' technological and pedagogical knowledge, professional development, difficulties and conveniences of online education, teachers' adaptation to online education, and their experiences in terms of mindset. To achieve our research objectives, we will use the Teachers Mindset Scale (TMS) to collect data. The TMS is a validated instrument that measures the mindset of teachers. We will also use a mixed-methods approach, including both quantitative and qualitative methods, to examine the collected data.

In the following sections, we will provide a comprehensive literature review on online education and teacher mindset (TM). We will also explain the data analysis, research design, methodology, and results of the study. In conclusion, we will discuss our findings and provide recommendations for future studies.

1.2. Background of the Study

The COVID-19 outbreak has disrupted a number of sectors, along with education systems worldwide. The education systems of several countries faced considerable challenges during the initial months of the pandemic. To counteract these challenges, many countries adopted the

approach of online education. In Türkiye, several preparations were made for online education, which started in March 2020. The Ministry of Education introduced the EBA platform for online education and created TV channels for students. Additionally, free internet access was provided to all students and their parents. Professional development programs on online learning methods and techniques were organized for teachers. All these efforts were aimed at facilitating the online education process.

Unprecedented shifts have occurred in the realm of education as a consequence of the pandemic, and the adoption of online teaching has become a necessity. English language education is no exception, and the outbreak has created new possibilities for language teachers to implement innovative teaching strategies. However, this sudden shift to online teaching has also raised several challenges and concerns. It is essential to gain insight into in-service English teachers' beliefs and mindsets regarding online education amid the COVID-19 crisis to facilitate effective language teaching.

1.3. Statement of the Problem

The COVID-19 pandemic has presented various difficulties and anxieties due to the abrupt transition to online education for English language teachers. Therefore, it is crucial to explore the mindset and beliefs of in-service English teachers regarding online teaching during the outbreak. The current research aims to investigate the technological and pedagogical knowledge, professional development, difficulties and conveniences of online education, teachers' adaptation to online education, and their experiences in terms of mindset. The study will also investigate the occurrence of the connection between teachers' mindset and their beliefs toward online education.

1.4. Research Questions

The research inquiries in this study were formulated by considering the research objectives and the relevant literature pertaining to mindset and online teaching in the context of the COVID-19 pandemic.

The subsequent research questions serve as a compass for guiding the study:

1. Is there a statistically significant difference between the beliefs of in-service English teachers with different mindsets (growth-fixed) regarding online teaching during the COVID-19 period?

2. What are the beliefs of in-service English teachers with different-mindsets (growth-fixed) regarding online teaching during the COVID-19 period?

3. Is there a statistically significant difference between the beliefs (technological pedagogical skills, technological skills, and professional development) of in-service English teachers with different mindsets (growth-fixed) regarding the impact of the COVID-19 process on their technological skills and professional development regarding online teaching?

4. What are the beliefs (technological pedagogical skills, technological skills, and professional development) of in-service English teachers with different-mindsets (growth-fixed) about the impact of the COVID-19 process on their technological skills and professional development regarding online teaching?

1.5. Significance of the Study

The beliefs of in-service English teachers with fixed and growth mindsets toward online education during the pandemic will be explored in this research. Particularly, exploring the experiences of teachers who have different mindsets in the online education process is crucial to evaluate and discuss possible individual differences. There is limited research on teacher education looking at the link between mindsets and beliefs. Therefore, this thesis adds a new dimension to teachers' belief studies with the mindset. Moreover, the research was conducted at a specific time during the pandemic outbreak, which makes it more significant as it provides insights into the adaptability of teachers to online teaching during a crisis. The findings of the current research may help teacher educators to understand the importance of developing a growth mindset

among their pre-service teachers. The present study will also provide an additional contribution to the literature concerning and teacher education, and establish a basis for future explorations in this particular area of study. The findings of this study may have suggestions for policymakers, educational institutions, and professional development programs for teachers. The findings could help in designing effective teacher training programs that focus on developing a growth mindset, which could lead to more effective online teaching practices. In summary, the study's significance lies in its contribution to understanding the relationship between mindset and teacher beliefs towards online education during the pandemic, which can have implications for teacher education and policy-making.

1.6. Purpose of the Study

The aim of this research is to investigate the beliefs and mindsets held by in-service English teachers regarding online teaching amid the COVID-19 outbreak. Moreover, the study will center on the experiences of in-service English teachers regarding the use of technology and the new education system in the process of online education. In addition to this, it will delve into the difficulties they encounter, and explore their strategies for sustaining the educational process. Besides, the study will discover the correlation between the beliefs held by teachers and their mindset toward online teaching. Additionally, the study aims to contribute to the studies on belief and mindset, and to discover whether the technological and pedagogical developments and professional skills of teachers in the COVID-19 process differ in terms of mindset.

1.7. Limitations of the Study

While the research offers important insights into TM regarding online teaching during COVID-19, it also has several limitations that should be acknowledged. Firstly, the research was conducted in a specific region with a relatively small sample size, which restricts the generalizability of the results to broader contexts. Thus, it is important to exercise caution when interpreting the findings. Secondly, the research

relied on self-report measures and semi-structured interviews, which may be subject to response bias. Future research should consider alternative methods such as classroom observation or interviews. Thirdly, the research investigates only the impact of TM on online teaching and did not investigate other potential outcomes such as student motivation, engagement, and well-being. Fourthly, the study was cross-sectional, which precludes causal inferences. In order to explore the cause-and-effect connection between TM and student outcomes, it is essential for future studies to take into account longitudinal or experimental methodologies

Additionally, the study only focused on in-service English teachers and may not apply to other subjects or provinces. The survey questions used to reveal mindset types may have also influenced participants' mindset approaches. In spite of these constraints, the research provides valuable perspectives into in-service English teachers' mindsets and beliefs about online teaching during the pandemic. However, future research should address these limitations to better understand TM and their impact on online teaching in different contexts and cultures.

1.8. Definitions of the Key Terms

Mindset: A mindset pertains to an individual's preexisting collection of attitudes, convictions, and cognitions that influence how they perceive, understand, and react to circumstances, occurrences, and challenges (Dweck, 2006). And there are two distinct mindsets involved; fixed mindset which is “the belief of a certain fixed amount of management ability and people cannot do much to change it” (Dweck, 2006, p. 76) and growth mindset which is described as “the belief that your basic qualities are things you can cultivate through your efforts” (Dweck, 2006, p. 7).

EFL Teachers: It represents English as a Foreign Language teachers. These are educators specialized in teaching the English language to non-native speakers who are learning English as a second language in countries where English is not the primary language (Bayyurt, 2006).

Teachers Beliefs: The concept of teacher belief encompasses a wide range of implicit, often subconscious presumptions regarding students, classrooms, and the subject matter to be imparted (Kagan, 1992).

TPACK: It represents Technological Pedagogical Content Knowledge, which is “a framework to describe teacher’s knowledge and skills to integrate technology” (Rahimi & Pourshahbaz, 2018, p. 81), and it is based on three fundamental parts: pedagogical knowledge (PK), content knowledge (CK), and technological knowledge (TK) (Koehler & Mishra, 2005).



2. LITERATURE REVIEW

2.1. Overview

The research topic of the current thesis is the examination of EFL teachers' mindsets and beliefs about online teaching during the COVID-19 pandemic. The boundaries of the current research include the technological and pedagogical knowledge of teachers, their professional development, the difficulties and conveniences of online education, and their experiences with online education.

2.2. Mindset

A "mindset" refers to an individual's set of assumptions, beliefs, and attitudes about themselves and their abilities (Dweck, 2006), and the concept of mindset has been examined in various fields, including psychology, business, neuroscience, and education. For example, in psychology, mindset research has been used to understand how people's beliefs about intelligence and ability impact their motivation, performance, effort, perseverance, and resilience (Calo et al., 2019; Dweck, 2006; Mrazek et al., 2018; Verberg et al., 2019). Besides, in the field of neuroscience, researchers have investigated the neural mechanisms underlying mindset and its effects on learning, memory, music, and decision-making (Bergland, 2012; Moser et al., 2011; Ng, 2018). Also, in business, researchers have examined the role of mindset in leadership development (Caniëls, 2018; Gottfredson, 2021; Kouzes, 2019), and organizational behaviour (Murphy, 2019). In other words, many studies in different fields examine the notion of mindset and its correlation with other aspects that affect human behavior and performance. However, especially in education, researchers have been interested in understanding how teachers' and students' mindsets, specifically fixed and growth mindsets, affect their learning (Dweck, 1998; Trei, 2007), motivation (Bedford, 2017; Caluori, 2014), and achievement (Dweck, 2006; Yan, 2021; Yeager et al., 2019; Zhang et al., 2017).

It is crucial to acknowledge that one crucial aspect to consider is the distinction between two predominant mindsets: growth mindset (GM) and fixed mindset (FM). People with an FM believe that their abilities and intelligence are predetermined and unalterable, whereas GM people believe that it is possible to enhance their skills and intellectual capacity through dedication and education (Dweck, 2006). Research has discovered that these different mindsets can greatly influence people's behavior and attitudes, particularly in the context of academic achievement. For example, a research by Dweck and Leggett (1988) found that GM students demonstrated a greater inclination to persevere in challenging situations and achieved superior academic performance compared to FM students. Similarly, Zhang et al. (2021) had the same findings regarding persistence toward difficulty and achievement of higher grades in their study. In addition, GM students exhibited a higher tendency to perceive feedback as a chance to improve and learn, while FM students view feedback as a measure of their inherent abilities (Cutumisu & Lou, 2020; Haimovitz & Dweck, 2017).

In addition to these studies, other researchers have also found that mindset can impact student's motivation (Bedford, 2017; Dweck, 2008), self-efficacy (Bai & Wang, 2020; Rhew et al., 2018), well-being (Alvarado et al., 2019), interest (Burnette et al., 2020), academic performance (Miller & Srougi, 2021), academic achievement (Claro et al., 2016; Kim, & Park, 2021), mathematics achievement (Blackwell et al., 2007; Boaler, 2015), resilience (Yeager & Dweck, 2012), flexible thinking (Tseng, Kuo, & Walsh, 2020) and anxiety (Smith, & Capuzzi, 2019). Furthermore, research has shown that teachers' mindsets can directly influence the learning processes and accomplishments of students (Mowbray, 2014; Webb, 2015).

The impact of mindset on different facets of academic achievement and behavior has been widely investigated in various parts of the world. Yalın (2014), one of the pioneers in researching mindset in Türkiye, conducted a research to explore the concept of mindset and its

relationship to positive youth development outcomes using a positive youth development (PYD) framework. The study uses a relational developmental systems theories (RDST) approach which assumes development is a result of the interactions between individuals and their environment. The research examined how parents' influence as a contextual element impacts the connection between mindset and PYD results. Using early Turkish adolescents as sample from Istanbul, the researcher discovered a correlation between having a GM and having goals that focus on prevention as well as a belief in one's abilities. Furthermore, it was found that parental behaviors play an influential role as a moderator in this relationship, and the effects vary depending on socio-economic status and gender.

A study was conducted by Delibalta in 2020 to investigate the relationship between mindset and how people attribute causes to their success or failure in the EFL context at a state university in Türkiye. In the study a survey including questions about mindset and demographic information was used, together with how success and failure were attributed. The survey was administered to 380 participants from a private foundation University during 2019-2020. In the study, *t*-test, Pearson Correlation, and descriptive statistics were employed to analyze the data. The outcome indicated a slight positive relationship between attributions to success and mindset; however, a strong negative association between attributions to failure and mindset was found. Students credited their success to a favorable connection with their teachers. Besides, students who were participants in the study attributed their setbacks to a lack of focus. Conversely, most students held both GM and FM. The research also established a statistically significant relationship between mindset types, language proficiency, gender, the capacity of learning from mistakes, having a relative who was proficient in a foreign language, optimistic perspectives towards English, and attributions of success and failure.

Altunel (2019) conducted a study using quantitative methods, and two survey tools were administered to participants at both state and private universities. The research investigated the relationship between mindset and anxiety experienced when learning a foreign language among 203 participants, considering four demographic variables, namely gender, high school attended, subject studied at university, and proficiency level in the second language (L2). In the study, FLCAS, which indicates the Foreign Language Classroom Anxiety Scale, and DMI indicating Dweck's Mindset Instrument, were used as survey tools. Language anxiety was examined through three sub-categories encompassed within this context are test anxiety, the fear of negative evaluation, and communication apprehension. The collected data from surveys were examined using descriptive and inferential statistics. The results showed no significant correlation between mindset and foreign language anxiety, and no significant difference in mindset based on the other variables such as high school graduations, subject studied at university, and proficiency level of L2. However, the results indicated that females tend to have a GM more often than males, and a positive correlation was found between the participants' majors and the fear of negative evaluation sub-dimension.

Yilmaz (2022) conducted a study to develop a tool to evaluate the mindset beliefs of students between the ages of 14 and 22. The researcher utilized a systematic method and included 1145 participants, with roughly equal representation of each gender. In addition, the study employed exploratory and confirmatory factor analyses to establish the scale's validity. The exploratory factor analysis results suggested that the scale consisted of 19 items and four sub-dimensions, which are Immutability of Belief, Procrastination, Effort, and Belief in Improvement, and also supported the four-factor structure of the scale. Moreover, the results for reliability showed that the sub-dimensions of the scale had values of 0.724 for Procrastination, 0.805 for Immutability of Belief, 0.701 for Effort, and 0.771 for Belief in Improvement. In addition, the internal consistency coefficient for the scale was 0.714 for the GM dimension and

0.723 for the FM dimension. Overall, in the study, it was explored that the Mindset Theory Scale (MTS) has validity and reliability in measuring students' mindset theories.

In their study, Kaya and Karakoc (2022) analyze the relationship between two critical concepts in student learning: mindsets and grit, and their effect on math achievement in primary school students. The study used a math mindset scale, a math achievement test, and an academic grit scale to gather data from a sample of 225 4th-grade students in the province of Istanbul, Türkiye. The data were examined using structural equation modeling (SEM) to test a cross-sectional causal model. The analysis's results showed that while a GM did not directly affect math achievement, an FM had a significant adverse effect on math achievement. However, the study discovered that a GM positively and significantly indirectly affected math achievement when mediated by academic grit. On the other hand, the indirect effect of an FM on math achievement was non-significant. Lastly, it was found in the study that academic grit positively and significantly affected math achievement.

2.3. Entity and Incremental Theories

According to Dweck (1986, 1999), mindsets are people's thoughts and beliefs about their abilities and traits, specifically their intelligence and ability. Dweck proposed two main types of mindsets: the "entity" theory and the "incremental" theory. The former theory posits that ability and intelligence are fixed, and cannot be changed. Accordingly, people who hold this belief tend to avoid challenges, stick to their strengths, and avoid trying new things, as they believe that failure is a reflection of their inherent intelligence and abilities. They also tend to focus on proving their competence, and may become defensive when faced with the possibility of failure (Dweck, 1986). The latter, the incremental theory, on the other hand, posits that ability and intelligence can be developed and improved via effort and perseverance. People who hold this belief tend to view challenges as opportunities for growth, and are more likely to seek out new experiences to focus on learning and self-improvement (Dweck,

1986). They also tend to view examinations and other assessments as opportunities to acquire and improve their skills rather than as a measure of their inherent intelligence or abilities (Dweck, 1986).

Markedly, the concept of mindset can be equated with Dweck's (1999) underlying concepts of intelligence. Similarly, the phrase "growth mindset" can be used as a synonym for the incremental theory of intelligence, and "FM" can be used as a substitute for the entity theory of intelligence (Dweck, 2006).

2.4. Growth Mindset

The growth mindset (GM), called the incremental theory of intelligence, means that essential qualities such as skills and intelligence can be enriched and developed via hard work and effort (Dweck, 2006). GM people believe they can learn and improve their abilities over time, and view challenges as opportunities for growth and development. The concept of mindset has been widely examined in psychology and education, particularly concerning academic achievement and motivation (Ng, 2018; Rhew et al., 2018; Zhang et al, 2017). Moreover, the GM approach has improved students' self-regulatory skills, academic achievement, and motivation. Additionally, in business, GM has been used to improve employees' performance, creativity, and innovation.

Research has shown that GM can positively affect academic achievement. As an illustration, Blackwell et al. (2007) conducted a research with 373 seventh and eighth-grade students, in which an experimental group was exposed to information about brain malleability during an eight-session workshop over two years. In the study, it was found that GM students of the experimental group performed better on math tests than the control group, who had an FM. The research supports the idea that students can improve their performance through effort and perseverance by understanding the malleability of their abilities. Overall, the study suggests that implicit theories of intelligence play a significant role in academic achievement, and that interventions that focus on changing these implicit theories can lead to improved performance.

Similarly, Rahardi and Dartanto (2021) conducted a field survey of least-advantaged private schools in Depok, Indonesia, to investigate the relationship between mindset, academic achievement, and delayed gratification. In the study, questionnaires were used to gauge students' GM and delayed gratification. In addition, it was found that GM students had better academic achievement in mathematics. While delayed gratification had inconclusive results as several factors influenced it. The study's results showed that a GM was positively associated with the ability to delay gratification and academic achievement. The research highlights the significance of mindset as an indicator of academic success and the role of delayed gratification in learning outcomes.

Haimovitz and Dweck (2017), in their study, examine the sources of children's FM and GM. The authors propose an unexplored model for understanding the development of these mindsets in children, which they call the "Socialization-Internalization Model." The model suggests that children's mindsets develop as a result of both socialization experiences (i.e., the messages and feedback they receive from parents, teachers, and peers) and internalization processes (i.e., the cognitive and emotional processes by which children make sense of and internalize these messages). In addition, the authors present findings from several studies that support this model and demonstrate the ways in which socialization experiences and internalization processes interact to impact the growth of children's mindsets. The authors also propose several implications of this model for future research and practice. For example, they suggest that the model can be used to guide the development of interventions that aim to promote GM in children. So, it highlights the need for more research on the specific socialization experiences and internalization processes that contribute to the development of mindsets. In summary, the article by Haimovitz and Dweck (2017) presents a new model for understanding the sources of children's FM and GM, and suggests that these mindsets develop as a result of both socialization experiences and internalization processes.

Additionally, adopting a GM can lead to intellectual and personal growth and grit, a significant predictor of success (Duckworth et al., 2007). Grit represents persistence and passion for long-term purposes. According to Duckworth et al., 2007, students who hold a GM and grit demonstrate greater resilience, motivated, and perseverance when confronted with difficulties, leading to better academic performance and better life outcomes.

In conclusion, the literature suggests that GM plays a critical role in shaping people's beliefs and attitudes, particularly in academic achievement, motivation, and perseverance. The studies reviewed here support the idea that GM people tend to be more resilient, motivated, and persistent in facing challenges that lead to a better life and academic performance outcomes.

2.5. Fixed Mindset

A fixed mindset (FM), called the entity theory of intelligence, believes that ability and intelligence are fixed and cannot be changed (Dweck, 2006). FM people believe that their abilities and intelligence are set and cannot be enhanced regardless of practice or time. This mindset concept has been widely studied in psychology and education, particularly in relation with academic achievement, motivation, and perseverance.

Research has shown that an FM can have a negative impact on academic achievement. For example, Saunders (2013) found that FM students tend to disregard constructive feedback and may feel threatened by the success of their peers. Similarly, Rhew et al. (2018) found that FM students tend to blame their failure on the actions of others rather than their lack of effort or ability. The research supports the idea that FM people may be less motivated to learn and work hard as they believe their abilities cannot be improved.

Moreover, FM people tend to focus on demonstrating their skills and intelligence rather than developing them (Dweck, 2006). They believe that challenges and hard work are unnecessary and tend to ignore

the learning process. They focus more on the results rather than the process (Dweck, 2006). This kind of mindset can lead to low interest in learning and effort to improve one's abilities.

Additionally, an FM can also have an impact on personal and professional growth. For example, Dweck (2006) indicates that FM people may avoid taking risks and trying new things as they believe their abilities are fixed and cannot be improved, limiting their opportunities for growth and development.

The impact of an FM extends beyond personal development and can also affect educational outcomes, as seen in a study by Murphy and Thomas (2008). The study reveals the impact of students' beliefs about their intelligence on their development and achievement in computer science. The authors note that while psychology studies have explored this topic, the specific implications for computer science education (CS) have not been directly examined. They introduce research on self-theories, which suggests that FM students are more likely to give up in the face of challenges, and also experience decreases in self-esteem, while GM people approach challenges as opportunities for learning, and maintain self-esteem. In addition, research shows that FM students, viewing intelligence as innate, are less likely to seek out challenges, have a more difficult time adapting to increasing challenges, and are less likely to enroll in advanced CS courses. Additionally, the study highlights that cultural beliefs that intelligence is set in stone and that only those with a natural talent can succeed in certain fields or courses can obstruct the learning process in programming, particularly for women who frequently have less prior experience in CS compared to men. As a result, they may face greater challenges in succeeding in introductory CS courses. Henceforth, investigations into students' perceptions of the malleability of CS ability and gender differences could shed light on the gender gap in CS enrolment. Lastly, the article goes on to suggest ways in which CS educators can take this research into account in their teaching and research.

In conclusion, the literature suggests that FM or entity theory refers to the idea that ability and intelligence are fixed and cannot be changed. As a result, FM people focus on results rather than the process, and may be less motivated to learn and work hard. Furthermore, they may blame external factors for their failures rather than their lack of effort or ability. This kind of mindset can negatively affect academic achievement, motivation, and personal and professional growth.

2.6. Teachers' Mindsets

The concept of mindset has been applied to the field of education, with research examining the impact of teachers' mindsets on their teaching practices and interactions with students (Goldstein, Brooks, & DeVries, 2013). As an illustration, studies have discovered that GM teachers are inclined to create learning environments that prioritize the needs and engagement of students, use appropriate methods, and encourage process-oriented approaches to learning (Hochanadel & Finamore, 2015; Yilmaz, 2020).

A study conducted by Mesler et al. in 2021 examined the relationship between TM and the development of students' GM. The article discusses the idea that a GM teacher may be more likely to foster the same mindset in their students. The study used a sample of 1957 students and 57 teachers who participated in an intervention. The data were collected over time, and the authors analyzed the relationship between the teachers' GM and students' development regarding GM to see the process over time. The research found that GM teachers tend to have a slight positive and statistically significant association with the students' development in respect of GM, particularly with boys. The study's findings suggest that teacher education and practice should promote GM among educators. As can be seen, the study is critical because it highlights the significance of the teacher's mindset in promoting student learning and development.

In a research, De Kraker-Pauw et al. (2017) examined the relationship between teachers' mindsets about the malleability of

intelligence and how they evaluate student achievement and give feedback. The study surveyed 106 participants working in primary and secondary schools in the Netherlands, and found that GM teachers tended to give more constructive, process-focused feedback, and view student achievement as more malleable. In comparison, FM teachers had a tendency to give more evaluative, outcome-focused feedback and view student achievement as more stable. Moreover, the authors also found that teachers' mindset was related to their self-esteem in a way that teachers with high self-esteem held more GM. In addition, the authors argue that these findings have possible consequences for the structuring and development of programs aimed at enhancing teachers' professional growth, and suggest that interventions aimed at promoting GM in teachers may lead to more effective and supportive feedback practices. In summary, the researchers found that teachers' mindsets about the malleability of intelligence were related to the way they evaluated student achievement and gave feedback. GM Teachers tended to give more constructive feedback and view student achievement as more malleable, while FM teachers tended to give more evaluative feedback and view student achievement as more stable. The study also shows that teachers' self-esteem affects their mindset.

Gutshall (2013) aimed to examine the impact of teachers' mindsets on their perceptions of learners with and without disabilities. The study defined mindset as the beliefs and attitudes that a person holds about their own abilities and those of others. The article suggests that people's beliefs about the nature of ability can be separated into FM and GM. The study surveyed 238 teachers and measured their beliefs about the stability of ability, as well as their beliefs about the stability of ability, for four hypothetical student scenarios. The findings of the study revealed a significant correlation between the teachers' overall mindset and their mindset for hypothetical scenarios, which indicates a potential connection between teachers' beliefs about the fixed or flexible nature of intelligence and how they perceive hypothetical student scenarios. Additionally, the

teachers generally demonstrated a more neutral mindset and displayed fewer signs of an FM when considering the hypothetical student scenarios. Importantly, the research did not reveal any significant differences in mindset based on the gender or disability status of the students.

Gutshall (2020) provided another study that examines the impact of neuroscience learning on the approach to learning, teaching efficacy, mindset beliefs, and grit of primary school teachers. The study uses a sample of elementary school teachers participating in a neuroscience learning program. In the research, a pre-and post-test design was used to measure changes in approach to learning, teaching efficacy, mindset beliefs, and grit. After all, the study results suggest that the neuroscience learning program positively impacted the approach to learning, teaching efficacy, mindset beliefs, and grit of the elementary school teachers in the sampling, which suggests that providing professional development opportunities for teachers in the form of neuroscience learning could help improve their mindset and teaching practices, which could benefit the students.

A study conducted by Gero (2013) explored the impact of teachers' beliefs and objectives on their professional growth. A model was created to evaluate the factors that impact teachers' involvement in professional learning activities. The concept of "teacher mindset (TM)" was introduced to reflect teachers' perspectives on the nature of teaching abilities. The study investigated how self-theories, goal orientation, and TM are related and their effectiveness in predicting teachers' engagement in professional learning activities. Further, a survey was carried out with 312 teachers from 92 elementary schools located in Los Angeles, USA, and the results showed that teacher efficacy was a strong indicator of four professional learning activities, while learning goal orientation and TM were meaningful determinant of three activities. Interestingly, Gero found that TM was a more significant predictor of teachers' professional learning than any other variable. In brief, these results suggest that teacher

development may be influenced by these factors, particularly TM. To promote this, the study proposes a four-step approach to enhance teacher education: promoting an incremental teaching mindset, incorporating Dweck's Growth Mindset as an educational program, embracing a continuous improvement framework, and utilizing lesson study as an indispensable component of teacher growth and advancement.

The research conducted by Zarrinabadi and Afsharmehr (2022) aimed to explore the perspectives and convictions held by language teachers from Iran towards language learning and teaching, and how those attitudes impacted their teaching practices. 20 language teachers from private language institutes in a city in central Iran were selected as participants, and data were collected by conducting interviews that followed a semi-structured format, which were questioned about their language teaching experience. Data analysis unveiled that the teachers held either an FM or a GM. Additionally, the findings exposed that these attitudes affected their teaching methods, homework assignments, and the way they provided praise to their students. The study highlights the importance of increasing awareness among teachers about the impact of their mindsets on their teaching and feedback to students, and suggests offering in-service workshops and guidance on GM, as well as exploring links between mindset and other pedagogical practices.

Ergen (2019) aimed to discover the relationship between a teacher's mindset and their ability to effectively integrate technology in the classroom among in-service English language teachers in her study. The quantitative study was conducted with a sample of 146 teachers who completed three questionnaires. The research found that there was a positive correlation between the two variables, and that teachers' mindsets were the predictor of their technology self-efficacy. The study also emphasized the importance of technology integration for English language teachers and suggested that in order to improve their teaching, they should focus on understanding and internalizing the variables of mindset and technology self-efficacy.

Yılmaz (2020), in her study, sought to investigate the relationship between the mindset of in-service teachers and their belief in the effectiveness of instructional strategies. 130 English preparatory teachers in the universities of Türkiye participated in the research. The study used two measuring tools, the Teachers' Self-Efficacy Scale and the Teachers' Mindset Instrument, to collect data. The study's results revealed a significant correlation between teachers' mindset and their belief in the effectiveness of instructional strategies. In particular, the researcher found that GM teachers, or the thought that abilities can be developed, have stronger beliefs in the effectiveness of instructional strategies than FM people, or the belief that abilities are predetermined. The study suggests that exploring the relationship between mindset and instructional strategies can help to improve teachers' performance and that universities should consider incorporating these concepts in their teacher development programs.

In the study by Beyaztas and Hymer (2016), the researchers aimed to understand the perceptions of intelligence among Turkish students of different ages, genders, and educational levels. They used two different questionnaires developed by Dweck (2000) to survey a total of 1,350 students ranging from primary school to university. The survey results showed that a large number of the students had a fixed view of intelligence, believing that it is an innate and unchanging trait. However, this perception varied depending on factors such as age, gender, and academic performance. The study also found that GM students, who believe intelligence can be developed and improved, had a better academic performance. Overall, the study suggests that fostering a GM among students can lead to improved academic performance.

The research conducted by Kaya and Yüksel in 2022 aimed to examine the correlation between the mindset of teachers and the grit levels of Turkish pre-service teachers. They considered factors such as experience, gender, and subject taught in their analysis. The study involved the selection of 321 pre-service teachers enrolled in various

programs at a public university in Türkiye. Participants were asked to complete online surveys assessing their mindset and grit levels right after obtaining ethical approval from the university and giving their consent. Results showed that as the scores for GM among teachers rose, so did the scores for effort. In contrast, as the scores for FM increased, the scores for interest decreased. The research also discovered that pre-service teachers in first-year had a higher FM score than fourth-year pre-service teachers, while fourth-year pre-service teachers had a higher effort score compared to first-year pre-service teachers. Additionally, it was found that students in the Mathematics Education program had higher FM levels, while students in the English Language Teaching program had lower grit levels. The study concluded by discussing the practical implications of the findings and the limitations of the research.

In his research, Şimşek (2022) explored the relationship between teachers' mindsets and subjective well-being. The participants were 353 primary school teachers from both public and private schools. Data were gathered using the Teacher Mindset Scale (TMS) and the Subjective Wellbeing Questionnaire. The TMS was developed by Gero in 2013 and adapted into Turkish for this study. Information about the participants' demographics, such as gender, education, experience, school type, and status at school, was also gathered. The results revealed significant correlations between the GM of teachers and various aspects of subjective well-being. Additionally, it was discovered in the research that teachers' total subjective well-being and sense of connection to the school they worked at varied depending on their experience level. This sense of connection also varied depending on the type and status of the school they worked at. However, the study revealed that neither gender nor education affected teachers' subjective well-being. The only demographic factor that had an impact on teachers' mindsets was their level of education. In the study, no significant differences were observed in teachers' mindset scores concerning gender, experience, school type, and status at school.

In the study conducted by Tanrıverdi (2022), the impact of an 8-week online program designed to promote a GM among primary school teachers was aimed to be investigated. The research used a mixed-methods design, specifically an embedded mixed design, and recruited 453 primary school teachers for the initial stage of the study, and 16 classroom teachers for the second stage of the study working with various schools during 2021-2022. The program consisted of 8 weeks of online GM intervention. Data were gathered employing the "Growth Mindset Scale" and "Teacher Efficacy Scale," as well as semi-structured interview questions. The findings indicated that the online program successfully increased the primary school teachers' mindset scores, but did not significantly affect their levels of teacher efficacy. On the other hand, the research found that participation in a teacher program that supports a GM had a positive impact on the mindset, motivation, and coping with the difficulties of the teachers involved. The study showed a significant difference between pre-and post-program mindset scores, indicating a positive change in mindset among the participating teachers. Additionally, the teachers reported an increase in their motivation levels and ability to cope with difficulties, which suggests that the program effectively supported the development of GM and had a positive impact on the participating teachers.

In the final analysis, Oldaç (2022) aimed to investigate in-service English teachers' mindsets about intelligence and abilities and whether there was a relationship between teachers' mindsets and several factors, including gender, age, department of graduation, education level, in-service training programs, experience studying abroad, teaching experience, institution, and level taught. The research surveyed 162 in-service English teachers from various institutions in Türkiye using an online survey that included the Dweck Mindset Instrument (DMI) and a background questionnaire. The study had two primary conclusions. First, the results showed that teachers with an FM greatly outnumbered those with either a mixed or GM. More than half of the in-service English

teachers in the Turkish EFL context had an FM, and the remaining teachers had a mixed or GM, of which the latter was the smallest group. Second, teachers' mindsets did not significantly differ according to the variables. However, item-based analyses indicated a significant difference in teachers' beliefs regarding the ideas presented in some of the items.

2.7. Teacher Beliefs

Beliefs are an essential component of an individual's knowledge system that influences personal experiences, perceptions, and decision-making processes. Researchers have offered several definitions of the concept of belief, highlighting the subjective and personal nature of this construct. In the field of education, teachers' beliefs are particularly crucial as they impact how they approach the teaching process and influence their practices in the classroom. Therefore, understanding teachers' beliefs is critical for improving education programs and addressing teaching and learning challenges. This part presents an overview of different definitions of beliefs and explores the importance of teachers' beliefs in education, drawing on insights from a range of studies in the field.

Several definitions exist regarding the concept of belief. A belief, a type of knowledge, is shaped by personal experiences and subjectivity, according to Pehkonen and Pietilä (2003) and Raymond (1997). In like manner, to Peacock (2001), beliefs are personal assumptions or deductions that are perceived as accurate, which is about existence. Moreover, Pajares (1992) stated that beliefs are solid personal predictors of human behavior regarded as distinct from knowledge. In the same way, Wang (1996) and Kunt (1997) equate beliefs with views, ideas, or opinions. In the field of education, beliefs are considered to be teachers' views and arguments about teaching and learning (Haney et al., 1996). Additionally, Khader (2012) remarked that the teacher's views and opinions about teaching and learning play a crucial role in shaping their behaviors and actions in the classroom. These beliefs determine how the teacher approaches the teaching process and affects their practices in the

classroom. As well as actions having a significant impact on beliefs, teachers' beliefs affect their teaching-related judgments and actions (Philipp, 2007). On the other hand, Calderhead (1996) described teachers' beliefs as a body of obligations, views, and principles, which are formed by previous experience.

The beliefs that teachers hold about their teaching practices, students, and learning environments are complex and multifaceted. As previous literature reviews have demonstrated, these beliefs can be shaped by a range of factors, including personal experiences, social and cultural contexts, and professional development opportunities. Understanding the sources of teachers' beliefs is therefore essential to gain insight into how these beliefs are formed and how they can be effectively leveraged to promote high-quality teaching and learning. In this section, we will review the existing literature on the various sources of teacher beliefs, highlighting the key findings and implications for future research and practice.

Teachers' beliefs are considered highly significant in the psychological makeup of a teacher (Richardson, 1996), play a crucial role in shaping the classroom's teaching and learning process, (Kupari, 2003), and shape their judgments and actions, influencing their behaviour within the classroom (Ferede, Melese & Tefera, 2013). Besides, according to Borg (2003), teacher cognition refers to the knowledge, beliefs, and thoughts of teachers. They actively make decisions about instruction by utilizing their extensive, practical, personalized, and contextually relevant networks of knowledge, beliefs, and thoughts. Moreover, Ghaith (2004) stated that teachers' beliefs encompass various ideas about education, teaching and learning, curricula, and the teaching profession. These beliefs collectively shape the "education culture" that is connected to pedagogical goals and values.

In recent years, several studies have emphasized the significance of teachers' beliefs in education research. Researchers contend that teachers hold diverse opinions about their teaching approach, students,

learning environment, curriculum, and more. Furthermore, teachers' beliefs can interact with their classroom practices and be influenced by factors such as professional development, previous learning experiences, and contextual elements. Additionally, their beliefs are closely linked to other mental concepts like teacher motivations, values, and attitudes.

According to a study by Pajares (1992), teachers' beliefs about their ability to promote learning significantly influence their classroom practices and student outcomes. In another study by Muijs, D., & Reynolds, D. (2002), teachers' beliefs about knowledge and learning were found to be linked to student achievement. Additionally, in a study by Levin, B. B. (2014) it was found that teachers' beliefs are influenced by their personal and professional experiences, as well as the cultural and societal context in which they work. Furthermore, research has shown that teachers' beliefs can be changed through effective professional development programs (Van Ha, X. & Murray, J. C., 2021).

It is important to note that there is still much to be learned about the complex and multifaceted nature of teacher beliefs. However, several studies have attempted to shed light on the topic, exploring the sources of teacher beliefs, the impact of teacher education programs, and the relationship between teacher beliefs and classroom practice. A review of these studies provides valuable insights into the role that teacher beliefs play in shaping teaching and learning.

In Johnson's (1992) study, the relationship between the theoretical beliefs held by ESL teachers and how they implement instructional practices while teaching literacy to non-native English speakers was examined. The theoretical beliefs of ESL teachers were considered crucial components of their prior knowledge, as they influenced their perception, processing, and actions in the classroom. Moreover, the study revealed a temporal pattern in teachers' beliefs, suggesting a potential link between the methodological approaches prevalent during their early experiences and their long-term theoretical orientations. Overall, the research

highlighted the significant impact of teachers' theoretical beliefs on their instructional practices, particularly in the context of literacy.

In one another study, Johnson (1994), explored the beliefs and instructional practices of preservice ESL teachers during their training program. Initially, teachers focused on grammar-based instruction, but over time, they shifted toward a more communicative and learner-centered approach. The study highlighted the impact of teacher preparation programs on influencing the beliefs and practices of teachers, highlighting the need for reflective practice, exposure to diverse strategies, and creating inclusive classrooms. It also stressed the importance of providing alternative models and images of teachers to support the shift in teachers' beliefs and practices, and recommends that second language teacher education programs should create a safe environment for preservice teachers to reflect, confront inconsistencies, and engage with alternative instructional practices in order to facilitate their professional development.

On the other hand, Richardson (1996) revealed three main sources of teacher beliefs: personal experience, experience with formal knowledge, and instruction. Richardson's research suggested that teachers' beliefs and understanding of teaching are shaped by their personal experiences, experiences within the educational system, and exposure to formal information. Personal experiences, such as one's background and upbringing, play a significant role in influencing teachers' instructional approaches. Beliefs formed through personal and school experiences tend to exert a stronger influence on teaching compared to formal pedagogical education. Nevertheless, formal knowledge, encompassing subject expertise and pedagogical knowledge gained through teacher education programs, still contributes to teachers' perceptions of teaching and their instructional methods.

Peacock (1999) conducted a study with EFL teachers and students in Hong Kong to examine their beliefs about language learning and how these beliefs impact proficiency. The study found that certain learner

beliefs had a detrimental impact on EFL proficiency, while other beliefs had significant implications for the process of language learning and teaching. Addressing differences between student and teacher beliefs was crucial to enhance teaching methods and maximizing student benefits, requiring teacher intervention. The study concluded that divergent beliefs between learners and teachers can have detrimental effects on learning outcomes, confidence, and participation. Overall, the study emphasized the significance of addressing learner beliefs in EFL teaching, as understanding and aligning with learner expectations can enhance motivation and satisfaction.

Peacock (2001) conducted a longitudinal study at the City University of Hong Kong to explore the beliefs about second language learning among trainee ESL teachers. The study spanned three years and involved 146 trainees. Its objective was twofold: to investigate whether the trainees' beliefs would change as they studied TESL methodology and to assess the potential impact of these beliefs on their future teaching and their students' language learning. The study revealed significant differences in beliefs between first-year trainees and experienced ESL teachers in three key areas. To address the detrimental beliefs held by the trainees, an instruction package was developed and implemented. Its purpose was to rectify these beliefs and enhance their understanding of language learning. The results of the instruction package were positive, as trainees demonstrated increased awareness and positive shifts in their beliefs. Consequently, the study highlights the vital importance of addressing and eliminating any detrimental beliefs held by trainee ESL teachers before they embark on their teaching careers. These beliefs have the potential to influence their teaching methods and their students' language learning outcomes. Thus, the researchers underscore the significance of teacher education programs in facilitating trainees' reflection on their beliefs and enabling adjustments based on evidence from second language acquisition research.

Borg and Burns (2008) conducted a research study with 176 English language teachers from 18 countries in order to explore their beliefs and practices related to the integration of grammar and skills teaching. Through a survey, the teachers provided information about their overall beliefs about grammar teaching, as well as their specific views and reported approaches to integrating grammar with skills. The researchers aimed to contribute to our understanding of the connections between teachers' beliefs, practices, and theoretical perspectives on integration in language teaching. Consequently, the study enhanced our comprehension of teachers' beliefs and practices concerning the integration of grammar and skills teaching. Moreover, it emphasized the importance of examining the links between theoretical perspectives, teachers' beliefs, and their actual practices. Additionally, the study shed light on the significance of considering teachers' practical knowledge and experiences in shaping their pedagogical approaches.

Borg and Busaidi (2012) carried out a project at a university in Oman, examining the attitudes and methodologies of English language educators in relation to learner autonomy (LA). The project involved 200 teachers from diverse backgrounds, representing over 25 nationalities. The researchers utilized questionnaires and interviews to collect data for their study. The main objective was to incorporate existing research on teachers' perspectives on LA into professional development workshops for these educators. By examining teachers' beliefs, valuable insights were gained into their views on learner autonomy and how these beliefs shape their teaching methods and efforts to promote autonomy. Recognizing the significant impact of teachers' beliefs on their instructional choices, understanding these beliefs becomes crucial for initiatives seeking to instigate change in the classroom. Additionally, the research project also explored the challenges faced by teachers in fostering learner autonomy. Overall, the study highlights the importance of comprehending and addressing teachers' beliefs through effective professional development

strategies, which can ultimately enhance pedagogical practices and encourage learner autonomy within educational institutions.

In a study conducted by Macalister (2012) in Malaysia, it was aimed to explore the beliefs and knowledge of Malaysian pre-service teachers regarding vocabulary teaching in language learning. The research emphasized the importance of teachers' cognition in shaping classroom practices and highlights the need for their beliefs to align with effective language learning research and theory. The study examined the beliefs of 60 Malaysian pre-service teachers enrolled in a trans-national teacher education program and found that their beliefs partially coincide with their trainers' beliefs, but they struggle to articulate their beliefs in teaching descriptions. The article suggested that enhancing understanding of language teaching methodologies during the training of pre-service teachers may be more appropriate than solely focusing on beliefs. Moreover, the paper introduced the concept of teacher cognition, which includes teachers' knowledge, beliefs, and thinking about teaching. It presents a model illustrating the dynamic interaction between various factors that shape teacher cognition and influence classroom practices. Previous studies indicate limited changes in pre-service teacher beliefs over time, possibly due to conflicting beliefs from different groups of teacher educators in transnational programs. In addition, the article compared the beliefs and approaches to vocabulary teaching between Malaysian and New Zealand-based trainers, highlighting similarities and differences. It concluded by acknowledging the challenges in expressing beliefs effectively and recommending a focus on enhancing understanding of language teaching methodologies during the training programs of pre-service teachers.

Brinkmann (2015) highlighted the significance of recognizing and dealing with the cultural beliefs of Indian teachers, which may impede the acceptance of learner-centered teaching methods. The study explored the relationship between Indian teachers' beliefs and their instructional practices, aiming to identify prevalent beliefs that contradict a learner-

centered approach. The research involved questionnaires, interviews, life narratives, and classroom observations with 60 elementary teachers from three Indian states. The findings of the research revealed several cultural beliefs that contradict learner-centered pedagogy, and had wider implications for education reforms in other countries by critically analyzing local cultural beliefs that shape teaching practices. The study emphasizes the need to integrate these beliefs into teacher education programs to ensure that teachers embrace the fundamental principles of educational reform, and also suggests that teacher education programs should focus on specific beliefs to facilitate the transition towards learner-centered pedagogy.

Alsumali (2016) conducted a study at the English Language Institute of King Abdulaziz University, investigating the perspectives of Saudi teachers regarding the learning and teaching of grammar. Employing a mixed-method approach, the researcher combined qualitative and quantitative data to examine teachers' beliefs, the factors shaping those beliefs, and their preferences for different grammar teaching approaches. The research questions aimed to investigate the beliefs of EFL Saudi teachers concerning crucial aspects of grammar learning and teaching, as well as the factors influencing these beliefs. The findings reveal that teachers exhibit uncertain and conflicting perspectives regarding implicit grammar instruction for young learners, favoring the integration of grammar with other skills. Notably, teachers' beliefs are significantly influenced by their individual learning and teaching experiences, as well as contextual factors. The study underscores the significance of controlled grammar practice, the incorporation of grammar into other skills, and the use of explicit grammar knowledge to enhance accurate language usage. Moreover, teachers' preferences for explicit grammar instruction and the deductive approach are shaped by their course materials and prior language learning experiences.

While some review studies have identified various factors that can impact teacher beliefs, such as prior experiences, cultural and social

factors, and teacher education programs, mindset is another important factor that plays a critical role in shaping teacher beliefs. Teacher beliefs and mindsets are closely related concepts in the field of education. Further, teacher beliefs refer to personal and subjective thoughts that hold value and are shaped by experiences (Chan, 2006) while mindsets point to the underlying beliefs an individual holds regarding their capabilities and capacity for development, either in terms of growth or being fixed (Mercer & Ryan, 2010). Research has shown that teacher beliefs and mindsets are closely linked, with TM influencing the development and maintenance of their beliefs (Blackwell, Trzesniewski, & Dweck, 2007). For example, FM teachers may be less likely to seek out new and innovative teaching strategies. On the other hand, GM teachers are inclined to engage in classroom experimentation and embrace risks when it comes to implementing novel strategies. Thus, it is essential to comprehend the intersection between teacher beliefs and mindsets to support teachers in developing positive and effective beliefs that can lead to better outcomes for students.

In conclusion, teacher beliefs have a substantial impact on molding teaching methods and the achievements of students. The literature reviewed in the present study highlights the significance of understanding the various types and domains of teacher beliefs, in addition to the outcomes of these beliefs on instruction and student achievement.

2.8. Online Teaching

In education, the widespread adoption of technology has fostered an expansion in online teaching as a method of instruction. Online teaching, also known as distance or e-learning, points to the delivery of instruction by leveraging technology, typically through the Internet (Al-Arimi, 2014; Bates, 2005; Harasim, 1996; Moore et al., 2011). This literature review aims to discover the concept of online teaching, including the various forms of online instruction, the efficiency of online

teaching versus traditional in-person instruction and the challenges, and considerations involved in implementing online teaching.

Online instruction can take various forms, including synchronous and asynchronous delivery (Amiti, 2020; Murphy et al., 2011), self-paced instruction (Godwin-Jones, 2007; Rhode, 2009), and blended learning (Al Musawi, 2011; Hrastinski, 2019; Means et al., 2013; Okaz, 2015; Oliver & Trigwell, 2005; Poon, 2013). Synchronous instruction involves live teaching sessions where both students and the instructor are present online simultaneously, while asynchronous instruction refers to teaching methods where students and the instructor do not need to be online simultaneously. In self-paced instruction, students have the freedom to complete coursework at their own pace, while blended learning involves a mix of both online and face-to-face instruction.

Studies have indicated that under specific circumstances, online education can yield outcomes comparable to those of conventional face-to-face teaching (Saiyad et al., 2020). Studies have found that online instruction can lead to increased student engagement and motivation (Tu & McIsaac, 2002) and can be especially beneficial for students who cannot participate traditional in-person classes due to geographical, physical, or other barriers (Means et al., 2009). However, the researchers have also explored that online instruction can lead to decreased student engagement and lower achievement in certain contexts (Means, et al., 2010).

On the other hand, implementing online teaching can present many challenges, including a lack of student engagement (Werang & Leba, 2022) and consistency (Dykman & Davis, 2008), technical difficulties (Gemmell & Harrison, 2017), and lack of support for students (Berge, 1998). Additionally, online teaching can also require a significant investment of time (Van de Vord, & Pogue, 2012) and resources for development and implementation (Conrad & Donaldson, 2011). Furthermore, online teaching can also have outcomes on student's social and emotional well-being (D'errico et al., 2019), and it's crucial to address

the isolation (Barbour & Plough, 2009; Gillett-Swan, 2017) and lack of interaction that could occur in an online setting (Adnan & Anwar, 2020; Farrah & Jabari, 2020; Garrison & Cleveland-Innes, 2005).

In conclusion, online teaching is a rapidly growing method of instruction that can be an effective way of delivering instruction, especially for learners who cannot attend traditional in-person classes. Nevertheless, it is essential to consider the various forms of online instruction, the efficiency of online teaching in comparison to traditional face-to-face instruction, and the challenges and considerations involved in implementing online teaching. Further studies are needed to have a better understanding the most effective ways to implement online teaching and support students in this learning environment.

2.9. The Impact of COVID-19 on Education

The education sector has been significantly affected by the emergence of the novel coronavirus (COVID-19) in the beginning of 2020, causing a notable influence on various facets of society. With many countries shutting down schools and universities to slow the spread of the virus, the education system has had to rapidly adapt to a new reality of remote learning. This literature review aims to explore the impact of COVID-19 on education, including the difficulties faced by educators and students, as well as the potential long-term effects on educational outcomes.

Educators have encountered numerous difficulties as a result of the transition to online education. Based on a study by Ali et al., 2021, many teachers reported difficulty in engaging students in online classes, as well as concerns about students' access to technology and internet connectivity. Additionally, Hamilton and Gross (2021) found that teachers also raised worries regarding the influence of distance learning on students' social and emotional well-being. In a study by Huang (2020), it was found that teachers also reported feeling overwhelmed by the need to quickly adapt to new technology and teaching methods.

Students have also faced a number of challenges as a result of the shift to remote learning. In a study, Chakraborty et al. (2021) discovered that students reported feeling isolated and disconnected from their peers and teachers, as well as difficulty in staying motivated and engaged in online classes (Teodorescu, 2022). Additionally, Mahyob (2020) found that students also reported difficulty in accessing technology and internet connectivity.

The long-term consequences of COVID-19 on educational outcomes are still uncertain. The researchers Donnelly and Patrinos (2021) found that students who were impacted by school closures because of COVID-19 may experience significant learning loss, particularly in math and reading. Additionally, Aguilar et al. (2020) stated that students of the low-income families and minority groups may be disproportionately affected by these learning losses.

In conclusion, the outbreak of COVID-19 has had a significant effect on education, presenting several challenges for educators and students. Additional investigation is required to gain a more comprehensive awareness of the enduring outcomes of the pandemic on educational outcomes and to advance strategies to support students and educators during this difficult time.

2.10. Online Teaching during COVID-19

Educational institutions worldwide have had to adapt to online teaching as a result of the COVID-19 outbreak, in order to guarantee uninterrupted education. The consequences of online teaching in the midst of the COVID-19 pandemic on various aspects of education, including teacher and student experiences, engagement, and achievement.

Several studies have investigated both students and teachers' experiences during the shift to online teaching. In a study conducted by Nalla (2022), it was discovered that teachers experienced intense levels of stress and anxiety because of the sudden change to online teaching, with many reporting difficulties in adapting to new technology and teaching methods. Similarly, students reported feelings of isolation (Knight et al.,

2021) and diminished motivation due to absences of face-to-face interaction (Gustiani, 2020) and reduced socialization opportunities (Radu et al., 2020).

On the other hand, some studies found that online teaching can also provide teachers and students with more flexibility and autonomy. For example, Purwanto et al. (2020) found in their study that teachers appreciated the ability to work from home and the opportunity to design their lesson plans, while students appreciated the ability to learn at their own pace and schedule.

Studies has shown that student engagement is an important factor in online learning, as it can affect student motivation and achievement. In a research conducted by Avsheniuk et al., (2021), it was found that students who were more engaged in online learning reported higher levels of motivation and satisfaction with the learning experience. However, the same study also found that students experienced a lack of engagement due to the lack of face-to-face interaction and the difficulty of maintaining a sense of community in an online learning environment.

The impact of online teaching on student achievement is a crucial area of concern. In a research managed by Foo, Cheung, and Chu (2021), it was revealed that students who took part in online learning during the pandemic scored significantly lower on standardized tests compared to students getting face-to-face instruction. However, the study also discovered that students who had prior experience with online learning and access to technology at home performed better on standardized tests than those without prior experience or access to technology. Besides, it should be noted that the studies mentioned above were conducted with a specific population and context, therefore, further research is needed to explore the extent to which these findings apply to EFL teachers and their beliefs about online teaching on the pandemic.

As educational institutions worldwide have changed to online teaching due to the COVID-19, the literature has shown a mixed impact on different aspects of education. While some studies have found that

online teaching can provide teachers and students with more flexibility and autonomy, others have found that it can lead to increased stress and anxiety, lack of engagement, and reduced student achievement. Further research is needed to better understand the best practices for online teaching during a pandemic, as well as the role of technology and access to technology in online learning. Besides, in the context of online teaching during the COVID-19 pandemic, the development of a GM among EFL teachers may also require an understanding of the TPACK framework. With the rise of online teaching, there has been an increasing need for teachers to develop their technological pedagogical content knowledge (TPACK). To address this need, the TPACK framework, proposed by Koehler and Mishra (2006), has been integrated into pre-service teacher education curricula and in-service training activities. Furthermore, TPACK describes the integration of technology into teaching practices, and has become a crucial area of focus in modern teacher education. Additionally, TPACK reflects the concept that successful integration of technology necessitates a profound comprehension of how technology, pedagogy, and content knowledge interact with one another. (Mishra & Koehler, 2006).

The TPACK framework is based on three key elements: pedagogical knowledge (PK), content knowledge (CK), and technological knowledge (TK) (Erdogan & Sahin, 2010; Koehler & Mishra, 2005), which comprises four other components, including technological content knowledge (TCK), technological pedagogical knowledge (TPK), pedagogical content knowledge (PCK), and technological pedagogical content knowledge (TPACK) (Archambault & Barnett 2010; Chai et al., 2010; Koehler & Mishra, 2009). Each of these components represents a unique perspective on technology integration in teaching and learning.

First of all, *TK* means that teachers' knowledge in utilizing technology in an effective manner (Voogt et al., 2013). It includes an understanding of the technical features and capabilities of different tools, as well as the ability to troubleshoot problems that may arise. Then, *CK*

refers to teachers' deep understanding of the subject matter they teach (Ball et al., 2008), which covers both the core concepts and theories of the discipline, as well as the ways in which knowledge is created and disseminated within the field. Next, *PK* refers to teachers' understanding of how students learn and how to design effective instructional strategies that support their learning (Gatbonton, 2008), containing knowledge of teaching methods, classroom management strategies, and assessment techniques.

Besides, *TCK* relates to the understanding required for the effective integration of technology into specific subject domains (Listiawan et al., 2018). It involves a comprehension of how technology can be used to enhance learning in a particular discipline, as well as an understanding of the ways in which technology can be used to create new knowledge within the discipline. Further, *TPK* refers to teachers' knowledge of how to use technology to support pedagogical goals (Baier & Kunter, 2020; Lachner, 2019). It contains the knowledge of how technology can be utilized to facilitate collaboration, promote critical thinking, and support inquiry-based learning. In like manner, *PCK* indicates teachers' knowledge of how to effectively teach specific content areas (Depaepe et al., 2013; Kleickmann et al., 2015). It encompasses the ability to design lessons and activities that foster student learning, along with proficiency in identifying the most effective assessment strategies for evaluating learning within the field. Altogether, *TPACK* is the integration of all of the above components (Koehler et al., 2013). It refers to teachers' ability to effectively use technology to support student learning within specific content areas, which requires a comprehension of how pedagogical practices can be improved through the utilization of technology, as well as an awareness of how technology can be used to create new knowledge within the discipline.

In conclusion, *TPACK* is a conceptual model that highlights the importance of integrating pedagogy, technology, and content knowledge within the context of teaching and learning (Koehler et al., 2013). The

seven components of TPACK provide a comprehensive perspective on technology integration in education, and offer a useful framework for developing effective technology integration strategies.



3. METHODOLOGY

3.1. Overview

The present section covers the methodological part of the research. The research design will be explained elaborately in this section. Then, the participants and settings of the research will be unveiled. The procedure of the data collection will be stated in detail. Lastly, the instruments performed in the project will be expressed with subheadings.

Additionally, the data analysis process and ethical considerations will be addressed within this chapter. Besides, the research design employed in the current study is an explanatory sequential design, which involves the collection of quantitative data followed by qualitative data to obtain a more thorough comprehension of the research problem. The participants are in-service English teachers who were selected through convenience sampling. The data collection process involved a pilot test of the survey questionnaire to ensure its validity, followed by online distribution of the questionnaire and subsequent interviews with a subset of participants. Thematic analysis was employed to analyze the qualitative data, in addition to utilizing descriptive and inferential statistics for data analysis. Ethical aspects encompassed acquiring informed consent from participants while guaranteeing confidentiality and preserving anonymity throughout the study.

3.2. Research Design

A mixed-method sequential explanatory design, which plays an essential role to understand the reason behind the quantitative data, was employed in the current study. One of the most important features of the mixed method, which has several strengths, is that it clarifies the relationship between the variables. Creswell (2012) defined it as a process for combining quantitative and qualitative data in a single study's research procedure to get an enhanced comprehension of the research problem. In fact, the mixed method serves to explain the why and how of quantitative data. Besides, Parylo (2012) defines the sequential explanatory design as

a two-stage approach to research, starting by gathering the quantitative data and subsequently the compilation of qualitative data to supply further explanation or elaboration of the quantitative results. Particularly, this approach is used by the researcher, as Subedi (2016), in his study, stated that quantitative data provides a broad overview of the research problem, and further analysis through qualitative data is required to refine, extend or explain the initial findings.

In the first instance, a pilot test was performed to evaluate the survey questionnaire before using it to obtain the data. Regarding that, Schreiber (2008) defined a pilot test as a procedure to understand whether it can work or not; thus, the researcher sent out the questionnaire to 22 participants. Besides, 4 participants were interviewed right after defining the mindset types of participants. The step of conducting a pilot test was crucial in evaluating the suitability of the method for use in a larger study and in determining the effectiveness of the data collection tools. This ensured that they were reliable and valid, which is essential for the credibility of the study. After the pilot test, the study proceeded to collect quantitative data through a survey questionnaire that consisted of three parts.

3.3. Participants and Settings

The current study was conducted on a sample size of 260 participants who work at state and private schools as EFL teachers, in the cities of Muş and Hakkari in Türkiye. The demographic information of the participants was obtained through a self-report survey (see Appendix 1). The information collected on age, gender, educational background, teaching experience, city of teaching, and type of school provides valuable insights into the attributes of the in-service English teachers who took part in the current study.

The demographic information of the in-service English teachers participating in the research is given in Table 3.1.

Table 3.1. Demographic Characteristics of the in-service English Teachers

Gender	N	%	Graduate	N	%
Male	92	35.4	BA	236	90.8
Female	168	64.6	MA and PhD	24	9.2
<i>Total</i>	<i>260</i>	<i>100.0</i>	<i>Total</i>	<i>260</i>	<i>100.0</i>
Type of School			City of Teaching		
State School	242	93.1	Muş	164	63.1
Private School	18	6.9	Hakkari	96	36.9
<i>Total</i>	<i>260</i>	<i>100.0</i>	<i>Total</i>	<i>260</i>	<i>100.0</i>
Age			Teacher's Experience		
22 to 25 years	43	16.5	Less than 3 years	93	35.8
26 to 35 years	177	68.1	4 to 6 years	77	29.6
36+ years	40	15.4	7+ years	90	34.6
<i>Total</i>	<i>260</i>	<i>100.0</i>	<i>Total</i>	<i>260</i>	<i>100.0</i>

Two hundred sixty English Language teachers participated in this study. The demographic characteristics of the participants are shown in Table 1. Out of 260 participants, 92 (35.4%) were male, and 168 (64.6%) were female; moreover, in terms of graduation, 236 (90.8%) of the participants had a bachelor's degree, and only 24 (9.2%) had a master's or doctoral degree. Furthermore, while 242 participants (93.1%) declared that they were working in a state school, 18 participants (6.9%) were working in a private school, 164 participants (63.1%) were working in Muş, and 96 participants (36.9%) were working in Hâkkari. Concerning the years of teaching experience, out of 260 participants, 93 (35.8%) had three years or less teaching experience, 77 (29.6%) had 4-6 years of teaching experience, and 90 (34.6) had seven years or more experience. Regarding the ages of the participants, 43 (16.5%) of the participants are

in the 22-25 age range, 177 participants (68.1%) are in the 26-35 age range, and lastly, 40 participants (15.4%) are 36 years and over.

To ensure a swift response rate, the survey was distributed through online applications. The collected data were analysed, and the mindset types of the participants were defined. Among the first 25 FM teachers and the first 25 GM teachers, 8 FM teachers and 7 GM teachers were selected for interviews based on the scores of their mindset types. Two participants were interviewed in-person, and 13 participants of the study were interviewed online using video conferencing tools, and the individuals were requested to provide further details regarding their opinions and experiences related to the consequences of the COVID-19 process on their technological skills and professional development. Moreover, the interviews took place at the state and private schools in Muş and Hakkari provinces, and the participants work at all three levels; primary, secondary, and high school.

3.4. Instruments

A questionnaire was used for the data collection in the first phase of the study. The questionnaire consisted of three segments. In the first segment of the questionnaire, the participants' demographic information was revealed. The researcher elicited participants' data, including gender, age, teaching experience, school types they worked in, cities they taught in, and graduate degrees. The second part included four items questioning teachers' experience during COVID-19. Then, the last part of the questionnaire consisted of Gero's Teachers' Mindset Scale (see Appendix 2). The instruments will be explained below.

3.4.1. Gero's Teachers' Mindset Scale (TMS)

The Teacher Mindset Scale (TMS) built by Philip Gero (2013) was employed in this project with the owner's permission to specify the participants' mindset types. TMS was adapted by Gero (2013) from Dweck Mindset Instrument drawing upon the Implicit Theory of Intelligence. In particular, Dweck Mindset Instrument (DMI) consists of sixteen items; however, TMS has seven items made specifically for

teachers to discover their mindsets by way of the expressions about teachers' beliefs in their instructional skills. The scale measured participants' beliefs about intelligence and ability, and consisted of 6 options: "1=Strongly Disagree, 2=Disagree, 3=Mostly Disagree, 4=Mostly Agree, 5=Agree, 6=Strongly Agree". The purpose of this scale was to determine the participants' thoughts on the persistence or malleability of intelligence and ability. The reliability coefficient of TMS is $\alpha = .79$ (Gero, 2013), which was well enough to be chosen. Thus, in this study, TMS was preferred to determine teachers' mindset types by measuring their beliefs about teaching skills.

In the current study, factor analysis was carried out to ascertain the underlying dimensions or factors contributing to teachers' beliefs about their abilities and potential in teaching. The goal was to better understand the construct of mindset and how it is related to teaching practices. Additionally, the study aimed to identify potential areas for intervention or support to improve teacher mindset and ultimately enhance teaching outcomes.

The findings from the factor analysis conducted on the data from the TM questionnaire are revealed in Table 3.4.1.1. below. As a result of the analysis, a 2-factor structure emerged, which accounted for 56,77 % of the total variance in the data. The factors were labelled as FM and GM based on the items they loaded on. The Cronbach's alpha coefficients were determined by calculation as $\alpha = 0.687$ for FM and $\alpha = 0.703$ for GM, indicating good reliability of the factors.

Table 3.2. The Factor Matrix of the TMS

Items	Factor 1 (FM)	Factor 2 (GM)
Item 1	0,776	
Item 2	0,738	
Item 3	0,695	
Item 4	0,646	
Item 5		0,794

Item 6	0,793
Item 7	0,786

The Kaiser-Meyer-Olkin (KMO) sample adequacy criterion showed a value of 0.732, which indicates a medium level of sample adequacy. The Bartlett Test of Sphericity also yielded a significant result with a χ^2 value of 334.197 ($p < 0.01$, $df = 21$), indicating that the data is suitable for factor analysis. Based on these results, it was concluded that the TM data in the present research are appropriate for exploratory factor analysis. It is important to note that a KMO value between 0.7-0.8 is generally considered acceptable for factor analysis (Broen et al., 2015; Su et al., 2020), and that the significant result of the Bartlett's Test of Sphericity further supports the suitability of the data.

Moreover, as per the findings of Tavakol and Dennick (2011), the utilization of Cronbach's alpha is employed for assessing the internal coherence or consistency of a scale or questionnaire, with values ranging from 0 to 1. A value of 0.7 or above is generally considered acceptable for research purposes (Bonett & Wright, 2015; Taber, 2018). In the current study, Cronbach's alpha reliability coefficients were calculated as $\alpha = 0.687$ for fixed-oriented mindset and $\alpha = 0.703$ for growth-oriented mindset. These values indicate a moderate level of internal consistency for the two subscales of the TM questionnaire. While the reliability coefficients are not high, they are still acceptable for research purposes (Gliem & Gliem, 2003).

Above all, it is essential to clarify the terms used to describe mindsets before delving into the study findings. While Carol Dweck's research on mindsets emphasizes the distinction between fixed and growth mindsets, it is vital to note that individuals cannot be exclusively one or the other. Rather, people may hold a mixture of both mindsets, and may even have different mindsets in various fields of their lives. For instance, someone may have a GM in relation to their athletic abilities, but an FM in relation to their artistic abilities. Furthermore, individuals'

mindsets may shift over time and in response to different experiences. Therefore, in this research, the term "fixed-oriented mindset" is applied to refer to a specific set of beliefs held by individuals about their abilities and potential. The term is based on the work of Dweck (2006), who found that individuals tend to lean more toward either a growth-oriented or fixed-oriented mindset. Thus, it is more appropriate to refer to the "fixed-oriented mindset" (FOM) and "growth-oriented mindset" (GOM) to acknowledge the nuances of individuals' beliefs about abilities. By using these terms, we aim to provide a clear and specific label for the set of beliefs that we are examining in this study.

Besides, the TMS has been used in several research to investigate the relationship between teachers' mindset orientations and various outcomes, such as their efficacy beliefs (Yılmaz, 2020), professional development (Gero, 2013), subjective well-being (Şimşek, 2022), and grit (Kaya and Yüksel, 2022). Overall, the TMS has been found to be a valid and reliable instrument for appraising teachers' mindset orientations and has the potential to inform professional development programs aimed at promoting a growth mindset in the classroom.

3.4.2. Teaching Experience Items

To explore participants' teaching experience during COVID-19, the researcher developed a set of four items. Each question had two options, "a" and "b". Option "a" included a 6-point Likert scale item, while option "b" comprised open-ended questions where participants could explain their experiences in a qualitative manner (see Appendix 3). Participants could answer the open-ended items in either English or Turkish, and this did not limit their responses. This approach motivated more respondents to answer the open-ended items and helped the researcher to obtain enriched data.

The teaching experience items were designed to obtain a comprehensive perspective on the participants' experiences with online education during the pandemic. Moreover, the questions aimed to explore the challenges and opportunities that teachers encountered during the

transition to online teaching, as well as their perceptions of the effectiveness of this mode of teaching. The Likert scale provided quantitative data, while the open-ended questions allowed for more in-depth qualitative analysis of the participants' experiences. Using Turkish as an option for responses also helped to ensure that participants could express themselves more effectively in their own language. The combination of quantitative and qualitative data helped to offer a comprehensive understanding of the participants' teaching experiences during the COVID-19.

3.4.3. Interview Questions

The interviews aimed to elicit in-depth information regarding the teaching backgrounds of the participants involved during the pandemic, and to attain a more profound insight of the quantitative data obtained from the TMS and teaching experience questions. The interview questions (see Appendix 4) were semi-structured, open-ended, and divided into three main sections: professional development, technological development, and pedagogical development. The questions were formulated to investigate the participants' beliefs, attitudes, and experiences regarding using technology in teaching English, which would provide rich data that could be analyzed to gain insight into the connection between mindset and technology use during the pandemic.

The interview questions were developed with careful consideration of the research questions and previous research. To ensure their effectiveness in gathering the necessary information, a pilot study was conducted to test their efficacy. The interviews were carried out through an online medium and recorded after receiving the participants' consent. Subsequently, each interview was transcribed verbatim for analysis purposes. To enable the opportunity for further inquiries and clarification if needed, a semi-structured interview technique was employed. Additionally, each interview lasted between 20 to 30 minutes, with a total of 380 minutes for all 15 interviewees., and the participants

were encouraged to use their native language, Turkish, to ensure that they could express their experiences and opinions accurately.

3.5. Data Collection

To gather information about in-service English teachers' beliefs, the researcher conducted an online research using a questionnaire divided into three parts, which was created using Google Forms. Additionally, the researcher prepared fourteen semi-structured interview questions to obtain further insight into the participants' beliefs about their technological, pedagogical, and professional knowledge during the pandemic. The interviews were performed either in-person meetings or via video conference. The use of online tools ensured privacy and anonymity for participants while providing a cost-effective and accessible method of data collection. Overall, this method proved to be a convenient and effective way to gather data, especially in the period of the COVID-19 pandemic when in-person interactions were limited.

3.6. Data Analysis

Initially, the pilot study was carried out to assess the acceptability of the questionnaire to be used in a larger-scale study, and involved sending the questionnaire to 22 participants. After analyzing the data gained from the pilot study, the survey questionnaire was modified and revised based on the feedback received.

The questionnaire analysis began with the pilot test to determine its reliability and validity. After receiving the pilot test responses, the questionnaire was modified to eliminate any misunderstandings or biases. Once the final version was completed, it was distributed to the participants via online applications to obtain their instant replies. The information obtained from the survey underwent analysis utilizing the statistical package SPSS 26. The reliability coefficient for the TMS was $\alpha = .79$ (Gero, 2013), which was considered acceptable for use in the study. Descriptive statistics, such as the Mann-Whitney U test, Kruskal Wallis H test, and Pearson Chi-Square analysis, were employed to analyze the data. The analysis encompassed standard deviation, mean, frequency, and percentages as well. In addition, inferential statistics such

as *t*-test and ANOVA were utilized to analyze the differences in the mindset types of EFL teachers based on their demographic information.

Subsequently, the analysis was conducted on the qualitative data collected from the open-ended questions in the questionnaires using thematic analysis with the help of MAXQDA software. Thematic analysis entails a framework that involves verifying patterns and themes within qualitative data (Lochmiller, 2021). Additionally, Alhojailan and Ibrahim (2012) defined that thematic analysis enables flexible interpretation of themes and patterns in qualitative data, while content analysis is a structured approach applicable to both qualitative and quantitative data. In the process of conducting thematic analysis, the researcher adhered to a systematic approach closely aligned with Braun and Clarke's (2006) widely recognized six-step framework. Firstly, the researcher developed a deep understanding of the data through repeated reading and immersing themselves in it. This process facilitated the acquisition of a comprehensive comprehension of the material and enabled the identification of initial concepts and patterns. Secondly, the researcher began coding the data by systematically labeling and organizing segments of the data with relevant codes, which involved identifying and categorizing meaningful units of data that related to the research question or objectives. Thirdly, based on the coded segments, codes were grouped together to generate initial themes which represented patterns or concepts that captured essential aspects of the data. Then, the process involved organizing codes into potential themes and considering the relationships and connections between them. Lastly, the generated themes were then reviewed and refined by the researcher, and then, the codes were reviewed by the thesis advisor to ensure validity and reliability. In the meantime, to increase the reliability of the coding, two researchers independently coded the data using a coding scheme developed based on the research questions and participants' responses. Any discrepancies were resolved through discussion and consensus. The themes that emerged from the analysis of the data were then cross-checked to ensure

their consistency with the data. Ultimately, the analysis' results were presented in a narrative form.

3.7. Reliability

The reliability of the research instrument is a crucial aspect that guarantees the accuracy of the results. A pilot study was undertaken to provide the reliability of the study, and the survey questionnaire was sent to a sample of 22 participants before distributing it to the full sample. The participants' feedback was used to revise the questions and clarify any ambiguities. The Cronbach's alpha coefficient was employed to compute the internal consistency reliability of the Teacher Mindset Scale, and the value was found to be 0.79, indicating good reliability. The reliability of the survey questionnaire was evaluated by calculating the internal consistency of the items using Cronbach's alpha. The Cronbach's alpha value of the survey was found to be 0.87, indicating that the questionnaire was highly reliable. In order to validate the interview data's reliability, the researcher and thesis advisor conducted a thorough review of the data by checking it three times after the researcher had established the possible codes. Then, they formed a code system (see Appendix 5), where both researchers independently coded the data. This approach was taken to verify consistency and accuracy in the coding process. The researcher and advisor underwent the same training, and were provided with identical coding guidelines to minimize any potential discrepancies in coding.

Moreover, the researcher utilized member-check to enhance the study's reliability. Member-checking refers to a procedure in which the researcher validates the accuracy of the data and gathers feedback from the participants by sharing the findings with them. The participants were asked to verify whether the findings accurately reflected their beliefs and experiences. The feedback received from the participants was incorporated into the final analysis to enhance the precision of the results. Overall, the study ensured high levels of reliability through various techniques to guarantee the validity of the findings.

Additionally, to confirm the reliability of the translation of the Turkish data, the questionnaire and interview transcripts were translated by a professional translator with expertise in educational research. The translations were reviewed by a bilingual researcher to ensure the accuracy and clarity of the translation. Any discrepancies were discussed until a consensus was reached.

3.8. Ethical Issues

In the study, ethical considerations were consistently factored in during its entire duration, which was an essential aspect of the methodology of the current study. Before conducting the research, the researcher obtained permission from Philip Gero to use the Teacher Mindset Scale (TMS) for data collection. This ensured that the study adhered to ethical guidelines regarding the use of the TMS scale. Then, the study also received approval from the relevant institutional review board to ensure that ethical guidelines were followed throughout the research process (see Appendix 6).

In the interview stage of the research, the investigator made certain that the participants were adequately briefed on the objectives, potential risks and benefits, and procedures of the study. Additionally, the participants were asked to provide their signature on a consent form affirming their voluntary participation in the study and their freedom to withdraw from it at any point. In addition, the researcher assured participants that their responses would be confidential and anonymous, and non-attributable information would be included in the results. The study's participants were given clear notice that the outcomes would be exclusively utilized for academic intentions, and they would not be used to evaluate their job performance or personal characteristics.

In conclusion, this study has adhered to ethical guidelines regarding informed consent, voluntary participation, confidentiality, anonymity, and institutional approval. The study aimed to minimize the risks and maximize the benefits for the participants while maintaining the scientific integrity of the research.

3.9. Conclusion

Within this chapter, an elaborate exposition of the research methodology employed in this study has been presented. The mixed-method study was adopted to investigate the impact of mindset on the beliefs of in-service English teachers regarding online teaching during the COVID-19 period. Data from the participants was gathered in the study through the utilization of a survey questionnaire and interviews. The survey questionnaire was disseminated to 294 in-service English teachers, and 260 valid responses were collected. The individuals involved in the study were chosen through a method known as convenience sampling, and they were from Muş and Hakkari provinces of Türkiye.

The interview questions were designed to discover the beliefs, attitudes, and experiences of the participants regarding online teaching during the COVID-19 period. 15 in-service English teachers were chosen based on their previous responses to the survey questionnaire. To accommodate participants' flexibility in their responses, the interview questions were semi-structured and open-ended. Additionally, the data collected from both the survey questionnaire and interviews were analyzed using both descriptive and inferential statistics. Inferential statistics were used to test the research hypotheses, and descriptive statistics were used to summarize the data. After the data was analyzed using SPSS 26 software, a thematic analysis was performed on the interview data using the MAXQDA program. The thematic analysis involved identifying recurring themes and patterns in the participants' insights gathered from the open-ended questions. The recorded interviews were converted into written form, and the information was systematically organized and grouped into various themes and sub-themes in accordance with the research questions and objectives. Then, the themes were analyzed and interpreted to provide insights into the research questions. The use of thematic analysis allowed for a comprehensive understanding of the participants' responses, which provided valuable information for the study.

Overall, the methodology used in this study was robust and comprehensive, and it enabled the researcher to respond the research questions effectively. In the next chapter, the results of the study will be presented, and the findings will be discussed in detail.



4. RESULTS

4.1. Overview

The current section presents the findings of a mixed-method study that explores the experiences and perceptions of in-service English teachers regarding online teaching during the COVID-19 period, which is divided into several subsections that report on the quantitative and qualitative results, as well as descriptive analyses of codes related to issues, facilities, and development.

4.2. Quantitative Results

This section presents the analysis employed to investigate the research question 1: *“Is there a statistically significant difference between the beliefs of in-service English teachers with different mindset (fixed - growth) regarding online teaching during the COVID-19 period?”*

In the data analysis, descriptive statistics were employed, such as *frequency/percentage, standard deviation, mean, and regular distribution test (Kolmogorov-Smirnov test)*. Since the quantitative data collected from the questionnaire indicated that the scores did not follow a normal distribution, non-parametric tests, *t-test (Mann-Whitney U test)*, and analysis of variance in multiple comparisons (*Kruskal Wallis-H test*) were used to test the assumptions via IBM SPSS 26.0 package program.

The descriptive data statistics obtained from the sub-dimensions of the *Teacher Mindset Scale (TMS)*, which consists of items regarding fixed-oriented mindset (FOM) and growth-oriented mindset (GOM), are showed in Table 4.1.

Table 4.1. Descriptive Statistics for Teacher’s Mindset Instrument

Dependent Variables	N	Minumum	Maximum	$\bar{X}$	Sd
Fixed	260	4.00	24.00	12.43	4.10
Growth	260	8.00	18.00	15.52	2.10

The statistics from the TMS represented that the minimum score teachers got from the FOM items was 4, the maximum score was 24.00, and the minimum score they got from the GOM sub-dimension was 8.00,

and the maximum score was 18.00. Therefore, it is seen that the average of the GOM ($\bar{x}=15.52\pm 2.10$) is higher than the FOM ($\bar{x}=12.43\pm 4.10$) (See Table 4.3.1).

In like manner, Table 4.2 presents the findings of the analysis, which indicate a notable distinction between the gender of in-service English teachers and their levels of mindset

Table 4.2. Mann Whitney U Test Results of Teacher's Mindset Scores According to Gender Variable

Dependent variables	Gender	N	Mean Rank	Sum of Ranks	U	p
Fixed	Male	92	134.57	12380.50	7353.500	.51
	Female	168	128.27	21549.50		7
Growth	Male	92	127.66	11745.00	7467.000	.64
	Female	168	132.05	22185.00		6

*p<0,05; N (260)

The Mann-Whitney U test revealed that there is no statistically significant distinction between the two groups FOM (U=7353.500, p>0.05) and GOM (U=7467.000, p>0.05) in terms of gender variable. In addition, the analysis results for the significant difference between the graduation variable of in-service English teachers and their mindset levels are presented in Table 4.3.

Table 4.3. Mann Whitney U Test Results of Teacher's Mindset Scores According to Graduate Variable

Dependent Variables	Graduate	N	Mean Rank	Sum of Ranks	U	p
Fixed	BA	236	128.40	30303.00	2337.000	.157
	MA and PhD	24	151.13	3627.00		
Growth	BA	236	129.11	30470.00	2504.000	.341
	MA and PhD	24	144.17	3460.00		

*p<0,05; N (260)

Despite utilizing the Mann-Whitney U test to distinguish any notable distinction between FOM teachers ($U=2337.000$, $p>0.05$) and GOM teachers ($U=2504.000$, $p>0.05$) based on their graduation status, no statistically significant disparity was observed. Additionally, Table 4.4 shows the variance analysis results for specifying the significant difference between the age variable of in-service English teachers and their mindset types.

Table 4.4. Kruskal Wallis H Test Results of Teacher's Mindset Scores According to Age Variable

Dependent Variables	Age Range	N	Mean Rank	df	χ^2	p
Fixed	22 to 25 years	43	124.05	2	0.829	.661
	26 to 35 years	177	130.16			
	More than 36 years	40	138.94			
Growth	22 to 25 years	43	132.83	2	1.624	.444
	26 to 35 years	177	127.05			
	More than 36 years	40	143.25			

* $p<0,05$; N (260)

Moreover, the Kruskal Wallis H test was performed to discover difference between teachers' mindset types FOM ($\chi^2(sd=2, n=260) = 0.829$, $p>0.05$) and GOM ($\chi^2(sd=2, n=260) = 1.624$, $p>0.05$) regarding their age variables. Nevertheless, no statistically significant difference was found in sub-dimensions. Besides, the results of the variance analysis to determine the significant difference between the experiences of in-service English teachers and their mindset types are presented in Table 4.5

Table 4.5. Kruskal Wallis H Test Results of Teacher's Mindset Scores According to Teacher's Experience Variable

Dependent variables	Teacher's Experience	N	Mean Rank	df	χ^2	p
Fixed	Less than 3 years	93	134.73	2	0.539	.764
	4 to 6 years	77	126.38			

	More than 7 years	90	129.66			
	Less than 3 years	93	131.57			
Growth	4 to 6 years	77	118.90	2	3.208	.201
	More than 7 years	90	139.32			

*p<0,05; N (260)

Based on the findings presented in Table 4.5, the Kruskal Wallis H test was performed to determine if there exists a noteworthy distinction among TM types concerning experience variables. Nevertheless, upon analyzing the results, it was concluded that there is no statistically significant distinction observed in the sub-dimensions (FOM) χ^2 (sd=2, n=260) =0.539, p>0.05) and (GOM) χ^2 (sd=2, n=260) =3.208, p>0.05). In addition, the findings from the Pearson Chi-square analysis were employed to establish the correlation between the gender classification of English instructors and their corresponding mindset categories (see Table 4.6).

Table 4.6. Pearson Chi-Square Correlation Test Results of Teacher's Mindset category According to Gender Variable

Gender		Teacher Mindset		
		Growth	Fixed	Total
Male	N	81	11	92
	Gender %	88.0	12.0	100.0
	TM %	34.6	42.3	35.4
Female	N	153	15	168
	Gender %	91.1	8.9	100.0
	TM %	65.4	57.7	64.6
Total	N	234	26	260
	Gender %	90.0	10.0	100.0
	TM %	100.0	100.0	100.0

Pearson χ^2 :0,606; df :1; p=0,436; The minimum expected count: 9,20; 0 cells (,0%) have expected count less than 5.

As shown previously, the results estimated utilizing a Chi-square statistic to test the correlation between the gender of in-service English teachers and their

mindset types, and there was no statistically meaningful correlation discovered between the gender factor and TM types ($\chi^2:0.606$; $p=0.436$; $p>0.05$) (See. Table 4.6).

The following findings demonstrate the Pearson Chi-square analysis. It was conducted to determine the relationship between the ages of in-service English teachers and their mindset types, which is given in Table 4.7.

Table 4.7. Pearson Chi-Square Correlation Test Results of Teacher's Mindset category According to Age Variable

Age		Teacher Mindset		
		Growth	Fixed	Total
22 to 25 years	N	39	4	43
	Age %	90.7	9.3	100.0
	TM %	16.7	15.4	16.5
26 to 35 years	N	159	18	177
	Age %	89.8	10.2	100.0
	TM %	67.9	69.2	68.1
More than 36 years	N	36	4	40
	Age %	90.0	10.0	100.0
	TM %	15.4	15.4	15.4
Total	N	234	26	260
	Age %	90.0	10.0	100.0
	TM %	100.0	100.0	100.0

Pearson $\chi^2:0.029$; df :2; $p=0.986$; The minimum expected count: 4,00; 2 cells (33,3%) have expected count less than 5.

The Pearson Chi-square test was performed to test the correlation between the age variables of in-service English teachers and their mindset types; nonetheless, the analysis results show that there is no statistically significant relationship between the age variable and TM types ($\chi^2:0.029$; $p=0.986$; $p>0.05$) (See Table 4.7). Similarly, the results of the Pearson Chi-square analysis performed to determine the relationship between the professional experience of in-service English teachers and the level of TM are given in table 4.8.

Table 4.8. Pearson Chi-Square Correlation Test Results of Teacher's Mindset category According to Teacher's Experience Variable

Teacher's Experience		Teacher Mindset		
		Growth	Fixed	Total
Less than 3 year	N	84	9	93
	Teacher's Experience %	90.3	9.7	100.0
	TM %	35.9	34.6	35.8
4 to 6 years	N	69	8	77
	Teacher's Experience %	89.6	10.4	100.0
	TM %	29.5	30.8	29.6
More than 7 years	N	81	9	90
	Teacher's Experience %	90.0	10.0	100.0
	TM %	34.6	34.6	34.6
Total	N	234	26	260
	Teacher's Experience %	90.0	10.0	100.0
	TM %	100.0	100.0	100.0

Pearson χ^2 :0,024; df :2; p=0,988; The minimum expected count: 7,70; 0 cells (,0%) have expected count less than 5.

After examining the items by the Pearson Chi-square statistic to test the correlation between the professional experience of in-service English teachers and their mindset types, no statistically significant relationship was found between the professional experience variable and TM behavior (χ^2 :0.024; p=0.988; p>0.05) (See Table 4.8). Likewise, the results of the Pearson Chi-square analysis were conducted to determine the relationship between the graduation status of in-service English teachers and the level of TM are presented in table 4.9.

Table 4.9. Pearson Chi-Square Correlation Test Results of Teacher's Mindset category According to Graduate Variable

Graduate		Teacher Mindset		
		Growth	Fixed	Total
BA	N	212	24	236
	Graduate %	89.8	10.2	100.0
	TM %	90.6	92.3	90.8
MA and PhD	N	22	2	24
	Graduate %	91.7	8.3	100.0
	TM %	9.4	7.7	9.2
Total	N	234	26	260
	Graduate %	90.0	10.0	100.0
	TM %	100.0	100.0	100.0

Pearson χ^2 :0,082; df :1; p=0,775; The minimum expected count: 2,40; 1 cells (25,0%) have expected count less than 5. Phi coefficient: $\sqrt{0,082/260}$ = 0,017, Correlation coefficient counted r: 0,017(low)

After examining the results of the Pearson Chi-square statistic, to find out the correlation between the graduation levels of in-service English teachers and their mindset types, a low correlation was discovered (χ^2 :0.082; p=0.775; p<0.05) (See Table 4.9). In the final analysis, Table 4.10 presents the item statistics for teaching experience during the COVID-19 pandemic for GOM and FOM participants. The table includes the number of participants, the mean score, and the standard deviation for each item. As shown in the table, there were 25 participants in each group for each of the four items. The mean scores for the FOM group were slightly lower than GOM group, with standard deviations ranging from 1.4 to 1.7 for both groups. These results suggest that GOM participants may have had a slightly more positive experience with teaching during the pandemic compared to FOM ones.

Table 4.10. Item Statistics for Teaching Experience During COVID-19

Items	Fixed Oriented			Growth Oriented		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
9	25	4.3	1.4	25	4.7	1.5
10	25	4.0	1.4	25	4.2	1.5
11	25	3.8	1.5	25	4.1	1.5
12	25	3.5	1.7	25	3.5	1.7

Table 4.10 shows that the mean scores for FOM teachers were slightly lower than those for the GOM teachers for each item. For example, the means for the FOM teachers range from 4.3 to 3.8, whereas the means for the GOM teachers range from 4.7 to 4.1. Consequently, the table indicates that GOM group generally had a more positive experience with teaching during the pandemic compared to the FOM group.

4.3. Qualitative Results

The statistical analysis of the data showed that there was little difference between the fixed – oriented mindset (FOM) and growth – oriented mindset (GOM) groups of teachers. However, when the responses to the open-ended items (9, 10, 11, and 12) were analyzed, a noticeable difference between the two groups was apparent. Additionally, the analysis of interviews with eight FOM and seven GOM teachers revealed a significant difference between the two groups, which clarifies the third research question as well.

In the following sections, it was delved deeper into the qualitative results of the study to uncover the beliefs and perceptions of in-service English teachers with different-mindsets (growth-fixed) regarding online teaching during the COVID-19 period. Through a detailed analysis of the open-ended responses and interviews with teachers, we gain a better understanding of their attitudes and experiences with online teaching. Specifically, during the analysis of qualitative data, three themes emerged that provided insight into the teachers' beliefs about their professional

development during COVID-19. The first theme was related to the challenges that the teachers faced during the pandemic, including technical problems, social distancing, and adapting to new teaching methods. The second theme was related to the teachers' experiences of professional development during COVID-19, including the opportunities that the pandemic provided for growth and the importance of collaboration and support from colleagues. The third theme was related to the teachers' beliefs about the future of professional development and the role of technology in education. In this respect, the results are divided into several sub-sections, each focusing on different aspects of online teaching. In order to investigate teachers' overall views on online teaching with the help of second research question; *“What are the beliefs of in-service English teachers with different-mindsets (growth-fixed) regarding online teaching during the COVID-19 period?”*, the results are divided into several sub-sections, each focusing on different aspects of online teaching. *“Descriptive analyses of Codes regarding Issues”* and *“Descriptive analyses of Codes regarding Facilities”* provide a detailed analysis of the teachers' experiences and attitudes towards online teaching in terms of interaction, adapting to online education, accessibility and attendance, and facilities.

The third research question, *“Is there a statistically significant difference between the beliefs of in-service English teachers with different mindsets (growth-fixed) regarding the impact of the COVID-19 process on their technological skills and professional development for online teaching?”* aimed to identify any significant disparities in the perceptions and attitudes of teachers with different mindsets towards the effects of the COVID-19 situation on their technological skills and professional development in the context of online teaching.

To provide a comprehensive analysis, statistical tables were included prior to each qualitative result in the thesis. These tables present the relevant statistical measures and analysis of the quantitative data collected from the surveys. The inclusion of these tables enhances the clarity and rigor of the study by providing

objective evidence to support the subsequent qualitative findings. With this intention, the third and the fourth research questions will be discussed together.

In fourth research question; “*What are the beliefs of in-service English teachers with different mindsets (growth-fixed) about the impact of the COVID-19 process on their technological skills and professional development (technological pedagogical skills, technological skills, and professional development) of online teaching?*” we examine the impact of the pandemic on the teachers’ technological skills and professional development. “*Descriptive Analyses of Codes Regarding Development*” looks specifically at teachers’ technological and pedagogical knowledge, as well as their technological-pedagogical and technological-content knowledge.

The study’s second research question “*What are the beliefs of in-service English teachers with different-mindset (growth-fixed) regarding online teaching during the COVID-19 period?*” examined teachers’ beliefs about online teaching during the COVID-19 pandemic. Hence, the teachers were asked to provide written accounts of their experiences with online teaching during the COVID-19 pandemic in the third section of the questionnaire in order to gather data for the study. The results, shown in Table 4.3.1, indicated that GOM teachers had higher frequencies than FOM ones for these four items. The qualitative data will be analyzed in detail in the following sections, focusing on three main themes: *Issues*, *Facilities*, and *Development*. First, the answers to the open-ended questions in the questionnaire for each theme will be discussed, followed by a detailed analysis of the data obtained from the interviews. The first main theme to be examined will be “*Issues*” related to online teaching during the pandemic, including challenges and difficulties experienced by the teachers. The second theme will be “*Facilities*,” containing the technology, resources, and support available to teachers for conducting online classes. The third theme will be “*Development*,” including any personal or professional growth experienced by the teachers as a result of transitioning to online teaching.

4.3.1. Issues

Table 4.3.1. Descriptive Analyses of Codes Regarding Issues

Major Themes	Sub-themes	Codes	N	f
Issues	Pedagogical Issues	Interaction	G=25	4
			F=25	15
		Adapting to Online Education	G=25	1
			F=25	15
	Technical Issues	Accessibility / Attendance	G=25	2
			F=25	22
		Limited Improvement in Technology Skills	G=25	2
			F=25	17
	<i>Total</i>	G=25	9	
		F=25	69	

When the participants' responses to the open-ended questions for each scale item were analyzed as shown in Table 4.3.1, it was observed that under the major theme of *Issues* which refers to the difficulties experienced by the teachers, there were two sub-themes: *Pedagogical Issues* and *Technical Issues*. Besides, the codes for these sub-themes were defined as *Interaction* and *Adaptation* under *Pedagogical Issues*, and *Accessibility/Attendance* and *Limited Improvement in Technology Skills*, under *Technical Issues*. As a result of the code analysis, 25 GOM participants had a frequency of 9, yet 25 FOM participants had a frequency of 69 in total. In addition, the most frequent code of FOM teachers was *Accessibility/Attendance* (f=22), followed by *Limited Improvement in Technology Skills* (f=17), *Adapting to Online Education* (f=15), and *Interaction* (f=15), respectively. In contrast, the most frequent code of GOM teachers was *Interaction* (f=4), followed by *Limited Improvement in Technology Skills* (f=2), *Accessibility/Attendance* (f=2), and *Adapting to Online Education* (f=1) respectively, as shown in Table 4.3.1.

The analysis of the codes revealed that among the 25 GOM participants, there were a total of 9 frequencies, while the 25 FOM

participants had a total of 69 frequencies, indicating that FOM teachers mentioned more issues than GOM teachers.

By the answers given by 25 participants in the *Interaction* code, which refers to the communication and exchange of ideas between the teacher and students during the online teaching process, the frequency value of GOM teachers is 4, while the frequency value of FOM teachers is 15. In detail, participants F17, F12, and F5 are concerned about interaction problems during online teaching. As an illustration of this concern, participant F17 stated the interaction issues in her response, *“Online teaching is a disadvantage for those students in such crowded schools. Moreover, interaction is missing” (F17)*. Participants F5 and F12 also kept this view by expressing, *“It has not been effective because there is no interaction” (F5)*, and *“The interaction was very low during teaching” (F12)*. In their responses, FOM teachers pointed out that online teaching diminished teaching quality due to a lack of interaction.

Similarly, Participant F2 highlighted that teaching without using nonverbal cues such as mimics and body language was inadequate and that not getting feedback from students was a problem during the COVID-19 pandemic. The teacher remarked that the absence of interaction caused difficulties by saying, *“Teaching without using mimics and body language was ineffective. Getting no feedback was a problem.” (F2)*

In addition to the concerns raised by participants F17, F12, F5, and F2 about the impact of the lack of interaction on the quality of online teaching, GOM teachers expressed similar views. For example, participant G19 stated, *“For me, face-to-face learning and teaching environment is more effective for professional development” (G19)*. Another participant, G4, shared, *“I do not think it is an appropriate method in English education as it restricts group and paired work” (G4)*. These teachers emphasized the importance of face-to-face interaction in language teaching and professional development.

On the other hand, some GOM teachers recognized the limitations of online teaching but still saw it as a helpful tool. For instance, participant G10 stated, *“teaching online was effective but nothing replaces face-to-face education”* (G10). Another GOM teacher, G13, expressed, *“In teaching a language, face-to-face communication is really important to me. I must see and feel how my students feel to channel the course accordingly”* (G13). Despite these limitations, GOM teachers demonstrated a more positive and flexible attitude toward the use of technology in teaching and were more inclined to adapt to the changes brought about by the pandemic.

These findings suggest that the beliefs and attitudes of GOM and FOM teachers differ significantly regarding the impact of the COVID-19 pandemic on online teaching and the use of technology in education. While FOM teachers highlighted the limitations of online teaching, GOM teachers were more likely to embrace the potential of technology and find ways to overcome its challenges.

Meanwhile, the difficulties experienced by teachers in online teaching during the COVID-19 process were asked in the interview. The participants claimed that lack of participation and absence of an interactive condition caused noteworthy harm to education. For instance, Interviewee F6, interviewed on this subject, was significantly negatively affected by the online teaching process. The interviewee expressed frustration with students' lack of participation and feedback during online classes. She also mentioned the difficulty of not being able to see the students' nonverbal cues, such as facial expressions or body language, which could be important indicators of understanding or engagement. Moreover, the participant also expressed concern about not knowing what the students were doing during class, such as whether they were paying attention or not. She believed that the lack of interaction during online classes negatively impacted education financially and morally. She described this period as follows:

“The process is meaningless if you do not receive anything. I was relating something, yet I did not know that is understood or not. There was no response. Were they sleeping? I did not know it. You know you turn on the camera in primary education; video calls are compulsory. My son was turning on his camera, but it was not like that in high school. In high school, students shut their video call. That is a concern too. Is s/he there or not? Is s/he sleeping? What is s/he doing? Is s/he in bed? We do not know. It is apparent what s/he is doing from his/her voice. I am warning him/her by name. However, it was not enough. So it was not. It was hard for me. Besides, it has already caused significant damage to education, financially and morally, as everything else.” (Interviewee_F6)

She also noted that some students would mute their voices and turn off their videos, making it challenging to communicate with them effectively. Furthermore, she mentioned that having eye contact with students was beneficial but only possible in one-to-one classes:

“Again, as classroom management, students mute their voices and disable their video. ... I cannot reach the student. As it is only under the control of the Ministry of National Education, there is no obligation to open the camera. However, my students did not turn off their videos during one-to-one class. Of course, this was convenient for me as it was one-to-one because I could reach the child directly, no matter what. I had eye contact. I could do this with three or five students. However, only if I make eye contact if there is only one student.” (Interviewee_F6)

Moreover, interviewee F1 remarked that the lack of face-to-face interaction and comprehensive feedback during the COVID-19 pandemic made teaching less practical and efficient. The interviewee also expressed concerns about not being able to gauge the effectiveness of their teaching without being able to see and measure the students' reactions and progress in person. He also highlighted the importance of interpersonal interaction and feedback in teaching:

“As you know, there was no face-to-face education and contact with the students; hence, I think, it was very inadequate. It was not very

beneficial and efficient.” He added: “In fact, we were experiencing more difficulties because there was no comprehensive feedback as in face-to-face training. So, how useful is what we said? How effective was it? You know, it was a bit inefficient because we did not have the chance to see and measure it in particular.” (Interviewee_F1)

Similarly, Interviewee F2 remarked on the importance of interaction. According to the interviewee, the online teaching experience on the COVID-19 outbreak was negative for them. He noted that one of the main challenges of online teaching was the lack of communication and the inability to see students' reactions, which made it difficult to gauge their understanding of the material. Interviewee F2 also emphasized the importance of eye contact in the classroom for effective communication and understanding. Overall, his experience suggested that distance education could be lacking in terms of the personal communication and connection that was possible in face-to-face teaching:

“Well, it was not very positive. It was negative for me. In other words, since distance education weakens the communication side of education, in other words, he can look into the eyes of the student in the classroom. So we will see if you understand. We understand where to focus on the subject, but this is lacking in distance education.” (Interviewee_F2)

Another code of the *Pedagogical* sub-theme is *Adapting to Online Education* which refers to the process of adjusting to new or changed circumstances. In the context of the research, adaptation problems refer to difficulties experienced by EFL teachers while adjusting to online teaching during the pandemic. These difficulties may have included technical challenges, difficulties in engaging students, or difficulties adapting their teaching style to the online environment. After analyzing the data, it was specified that GOM teachers had a frequency of 1, and FOM teachers had a frequency of 15. Accordingly, the finding may indicate that most of the FOM participants had some adaptation problems. For example, one of the participants (F1) reflected on this point by

stating, *“Learning becomes difficult for students” (F1)*, indicating that the process of adapting to online teaching during the outbreak was challenging and making the learning process difficult for students. Additionally, participant F10 added:

“While you teach the lessons, you do not know what the students are doing, especially if you are a high school teacher. Because the students do not want to turn on their cameras, they do not answer your questions.” (F10)

In this statement, participant F10 expressed concerns about not being able to see the students during online classes and not receiving responses from them, which may also contribute to difficulties in engaging students and notably adapting to the online environment.

Further, teachers who claim that there is an adaptation problem for students also say that there are disciplinary problems in face to face teaching due to online teaching in the duration of the pandemic. Participant F18 commented on this point as says;

“Most of my students lost little sense of discipline, which ultimately caused more problems in the following days, even after moving back to traditional teaching, face-to-face.” (F18)

On the other hand, the most prevalent comment under the teachers’ experiences belongs to participant F17; *“I have used whiteboard materials during online lessons, which was usual for me” (F17)*. However, as seen in the statement, she continued to teach her lesson with the traditional method. FOM participants had a negative attitude towards adapting to the new teaching method and continued to rely monotonously on traditional methods such as notes and PDFs. Moreover, interviewee F5 highlighted the importance of understanding the technological competency of students and teachers, as well as the importance of considering various variables that may affect the adaptation process:

“No, because when some things come together in education, you perform that action. In other words, if we dream and create a utopian world, let us think of a class or an environment where we are

technologically competent. Imagine that at least eighty percent of our students can participate healthily, visually, and audibly participate in this training. Under these conditions, of course, you adapt to the environment very quickly, so I think you will adapt to it at most in a month. Because as I said, we are so busy with technology that we can solve this problem instantly. However, unfortunately, sometimes there are variables that we will never think of or that we do not consider.” (Interviewee_F5)

In this statement, participant F5 expressed a belief that in an ideal and technologically advanced environment, teachers would be able to adapt to online teaching quickly, but acknowledged that there might be unforeseen variables that make adaptation difficult. He also implied that the lack of technology competency among students was a contributing factor to the difficulty of adapting to online teaching. He further suggested that certain variables were not considered and made the online teaching difficult.

The most common code in the *Technical Issue* sub-theme was *Accessibility* and *Attendance* (see Table 4.3.1). In this regard, there was a significant difference between GOM teachers (f=2) and FOM teachers (f=22). According to the participants' responses, FOM teachers reported experiencing difficulties with participation and access. However, this was a common and usual issue for both GOM and FOM teachers. For example, participant F22 said that: *“I did not develop my skills because most students did not attend the lessons during this process.”* Similarly, participants F11 and F14 expressed that they did not have the opportunity to teach effectively due to low attendance;

“Since my students’ internet access is limited, I could not find the opportunity to teach efficiently and effectively.” (F11)

“To be effective, students must have the opportunity to attend online classes. Sometimes I had a lesson with only one student online or even someone who had not been involved in the course before.” (F14)

Participant 15 also stated that he did not make any progress during online teaching as students could not attend the lessons by saying: *"It does not help because all of my students cannot join my lessons."* (F15)

In the comments above, FOM teachers expressing the problems caused by external factors clearly state that they have not made any progress and their lessons have not been practical. Moreover, one participant (F14) says that his primary purpose is to expect his students to attend the online class; *"When teaching online, the main purpose was to wait for the student most of the time, and progress was impossible"* (F14). However, one of the features expected to exist in GOM people is that they try to find out how to deal with a problem. At this point, Dweck (2016) noted that when FOM and GOM faced an issue, GOM people welcomed the challenge, but FOM feared the risk.

In like manner, Interviewee F6, who is entirely against online teaching, implicitly expresses it in the interview as says in the following paragraph:

"I had hard times. It was harsh for me. It was not easy because I could not reach the students. I had a hard time lecturing three students. Yes, there were only three of them. When school started, I also had a hard time because only three students attended the online lesson. Thus, only those students knew what I was talking about. However, the other fifteen or twenty of them knew nothing. Where would I start with the fifteen who never joined? Or is this not such a big problem? Where do I start? I taught the Past tense." (Interviewee_F6)

In this statement, Interviewee F6 expressed frustration with the low student participation and engagement during online classes, describing it as a "harsh" and "hard" experience. The interviewee also mentioned the difficulty in trying to reach students who did not attend online classes, and the challenge of trying to catch them up on missed material. She also expressed concern about the lack of interaction during online classes and how it negatively impacted education financially and morally. Moreover, she also mentioned the difficulty in reaching out to

students who did not attend the online lesson, and the challenge of trying to catch them up on the material they missed. Identically, another FOM teacher who could not experience the process very efficiently also complained about access and participation and expressed the following in the interview:

“There was such a difficulty that there was a lack of infrastructure. For example, there were difficulties such as freezing and the site crashing. I do not know; the lesson was cut over and over again. Otherwise, I did not have a problem.” (Interviewee_F8)

It can be said that the teachers, who stated that they had difficulties in terms of participation and access, did not think very growth-oriented in their answers to the question “what solutions did they produce” after listening to the problems they experienced.

To illustrate, FOM teacher, who says that she teaches very few students in terms of participation and that the students do not have continuity, says the following:

“Of course, we tell them to the school administration, and we also text to WhatsApp groups. Since there is no obligation or sanction to join the lesson, it is much like up in the air. They were warned. The school opened and closed again for a week or two, and our principal insisted on warning the children that they could not get their diplomas and that their report cards would be a failure, but the children knew very well that it had no sanction. No class failed due to absence in the pandemic process or even now. Alternatively, we note them as absent while taking attendance. They were recorded as here or not. What happened? All passed the class. There was no sanction for absenteeism. It was entirely not about us.” (Interviewee_F6)

Participant F6 added that to overcome the students’ participation problem, she informed the school administration about it and texted Whatsapp groups. While arguing that external factors are substantial, there is no expression at the point of changing and enriching the course content. It does not seem that she thinks of herself as responsible. In

addition, she believes she cannot do anything. Similarly, another respondent stated:

“The Ministry of National Education determined points for internet access, as you know, the EBA points. Therefore, we directed some students there. Moreover, even if it was late, the Ministry distributed tablets and computer-like devices to some of our students.”
(Interviewee_F7)

However, on the other hand, participant G7 found an extraordinary alternative way to increase participation in the lesson, which was very practical. Aiming to increase class participation, the teacher has inspired some teachers around him by projecting and disseminating it. In the interview, the respondent plainly reported:

“Now, I will give an example from my lesson. I saw that students’ interest is gradually decreasing. In other words, participation is low. On the other hand, we also had lessons in merge classes with three or four. Therefore, attendance should have been good.

Nevertheless, the pandemic has created a chaotic atmosphere and tension over time, even at home. Imagine that you are always at home, not going anywhere, and consistently busy with tablets, television, etc. I mean, it affected every aspect of a person’s life. Thus, these get you bored after an hour. Because people need to socialize, but unfortunately, they are locked down; nevertheless, the lessons must be carried out by teachers. After all, life continues. I looked at it from the viewpoint of my course; their interest was falling. So I tried to do activity-based lessons. I started to play the traditional instrument baglama and sing at the beginning of the classes. Besides, I was surveying EBA on which song I should play. I would title two or three folk songs. For example, I would play the most-voted folk song in my classes, which would be great. After that, our lessons were delightful, and participation increased.”
(Interviewee_G7)

In the paragraph above, after mentioning the chaotic atmosphere of the pandemic, interviewee G7 stated that he found an excellent way to

attract students' attention to join the lessons. Likewise, another GOM teacher who has a master's degree expresses what she does to ensure students' participation in the lesson as follows:

"First of all, I asked students to make a Zoom call one by one. I said please, I want to see you for ten minutes. So I had a right to see to whom I was talking. I just chatted with them. It was not English. So, I described myself a little bit. They told a little about themselves. Furthermore, here we tried to establish that contact. At that time, it actually had two meanings. I tried to reach out both as a teacher, and it was actually an environment of uncertainty, and we needed to reach out to each other. I think it is good in both ways. At least, I want to think so. It took some time to meet with so many students individually. I said we could not meet because we needed to know for how long. That is why I said, please make time for me to make a Zoom. We successfully established that relationship to some extent." (Interviewee_G2)

The effort of the interviewee G7 as a teacher to involve students in the lesson and the teacher's success, as a result, is quite remarkable. Therefore, when all things are considered in this paragraph, the result will be fruitful if sufficient effort is made and appropriate steps are taken.

The code *"Limited Improvement in Technology Skills"* refers to the perception of teachers that their technology skills did not improve much as a result of teaching online during the COVID-19 period. The analysis of the data collected from the interviews and surveys shows that this perception is more common among FOM teachers (f=17) than GOM teachers (f=2). The FOM teachers often express that they did not learn new skills or technologies, as the applications they used during online teaching were already familiar to them, or they had no interest in learning new technology. On the other hand, GOM teachers see the opportunity to improve their technology skills while teaching online. In light of the analysis presented in table 4.8, teachers need to see the level of technology they use in the COVID-19 period as an opportunity.

Therefore, expressing that they used elementary applications, the teachers said the following:

"I had not any opportunity to use advanced technology. So I just used EBA and Zoom applications." (F25)

"As I mentioned above, I used Zoom and EBA applications, and they did not improve my technological skills much." (F11)

Participants F25 and F11 stated that the applications for online courses they used were not at an advanced level. Hence, they thought that it could have contributed more to their development. Similarly, participant F7 obviously commented as: *"It did not develop any skills because the programs I used were already elementary"* (F7). As seen, the participant expressed the simplicity of the teaching tools.

On the other hand, it is also understood from the expressions given below that they are unwilling to learn. For example, two FOM teachers (F16 and F8) noted plainly their perceptions as follows:

"And I did not need to develop any of my abilities in using technology. I just used zoom, and it was enough for me." (F16)

"I am not interested in technology, and I do not need to develop my abilities in using technology in general. I just use Instagram and WhatsApp, and using these apps is not so hard that there is no need to be a professional user of technology." (F8)

As evidence, participant F8 clearly states that he has no interest in technology and that the communication applications he utilizes do not have an advanced level. While expressing that he employs the basic applications, he also has no difficulties. Regarding this matter, one of our teachers (F6) framed the following in the interview:

"So I learned to use Zoom; for example, arranging meeting times. What else did we use anyway? Er, hmm, PDF; here is the thing, I learned how to upload and share my pdf sources on my laptop via zoom. However, what else could you learn?" (Interviewee_F6)

Interviewee F6 clarified the point by emphasizing the technology level of the applications used during the COVID-19 period. In addition,

she added that there was nothing else that someone could learn by asking, “What else could you learn?”

In addition, teachers think online education did not enhance them because of the knowledge they had before. FOM teachers expressed that point clearly in their answers to qualitative questions. For example, participant F2 defined it as saying, *“I am already good at using technology; nothing has changed”* (F2). Likewise, another FOM teacher (F15) commented on this subject by saying, *“As the lectures were instructed via zoom. I am afraid I have to disagree with it. Because I have used technology before COVID-19”* (F15). Participant 15 implied that it did not improve his proficiency as he had used it before.

In addition, participant F23 plainly said that he was familiar with the technology before COVID-19, *“Before COVID-19, I was good with technology”* (F23). Nevertheless, participants F17 and F18 remarked that they were good at it and knew how to use technology better than regular people; *“It has not brought any new contributions to my using technology in general. I am already used to those kinds of stuff”* (F17), and *“I already knew how to use technology better than ordinary people”* (F18). So, to summarise, there is no problem with it, but thinking that you know something and not improving yourself can be seen as a problem in learning and teaching.

“As I am already an advanced technology user, yes, in knowledge and skill. On the contrary, I was able to help people. I did not have much of a technical problem. At that time, I became something like a technical support team. Yes. I was helping everyone.” (Interviewee_F2)

As seen above, interviewee F8 defined himself as a professional user. However, when the interview with F8 is analyzed overall, it seems that there is no way of effective teaching: *“I did nothing but regular education. We sent the work we did during the distance education period via WhatsApp groups. They did their homework and sent photos of the task. So that’s how we follow up”* (Interviewee_F2). On this subject, Dweck (2006) stated that FM people, assuming they are more intelligent

and successful than others, avoid trying new things to avoid making mistakes and for fear of being criticized.

4.3.2. Facilities

Table 4.3.2.1. Descriptive analyses of Codes regarding Facilities

Themes	Codes	N	f
Facilities	Content and Design	G=25	10
		F=25	1
	Accessible and Flexible	G=25	10
		F=25	1
	Cheap/Cost-Effective	G=25	4
		F=25	0
	<i>Total</i>	G=25	24
		F=25	2

Descriptive analyses of Table 4.7 picture the codes under the *Facilities* theme as “*Content and Design, Accessible and Flexible, and Cheap/Cost-Effective.*” To begin with, the frequency value of the codes, the order from the most to the least is *Content and Design* (GOM=10, FOM=1), *Accessible and Flexible* (GOM=10, FOM=1), and lastly, *Cheap/Cost-Effective* (GOM=4, FOM=0). In light of the analysis results, some participants with FOM complained about the facilities offered by online teaching; by contrast, GOM teachers mentioned the importance of online teaching facilities. The subsequent sections will provide detailed explanations for these particular points.

Content and Design is the most frequent code of the *Facilities* theme. GOM teachers (f=10) see online teaching as an opportunity regarding lesson format and content; however, FOM teachers (f=1) did not mention online teaching opportunities much more. As an illustration, while expressing his views on content and design in his replies, participant G15 says the following;

“I have used various teaching methods in my online English lessons, from reviewing and reading practice to interactive tests, video lessons, and other useful tools for learners. It can also offer the unique

opportunity to talk to a native English speaker on the other side of the world.” (G15)

The expressions used by participant G15, who made more than one suggestion, such as interactive tests, video lessons, and various teaching methods, give us some details on the course content. He also expressed lesson format with the words reviewing and reading practice. Besides, the following comments by participant G25 highlight the lesson design; *“It was not restrictive at all. You could do whatever you wanted. I mean, sharing all kinds of stuff and evaluating was effective.”* As seen in this response, designing online lessons seems relatively manageable when teachers have a GM. In this respect, participant G6 conveyed the following concerning the content and design;

“There was a library section in our EBA application where students needed to post their thoughts about the book they had read. Then we had language applications, again for students to improve themselves at home; DYNED is an application the state has provided to teachers for us to use. We can follow students up there about their use of DYNED, how many hours they spend, and their procedure. In addition, as soon as they advance their scores through different language applications such as Duolingo, Busuu, and Voscreen, they share them with me by taking screenshots.” (Interviewee_G6)

Interviewee G6, who had been very productive in online teaching, also talked about the applications he used while giving information about his course’s content. In her response, participant G6 highlighted the use of technology and specific applications, such as the EBA library section and language applications like DYNED, Duolingo, Busuu, and Voscreen, as a way for students to enhance their language skills independently at home. The participant also mentioned the ability to track students' progress and usage of these applications. She suggested that the teacher is using technology to support student's self-paced learning, and using technology to track student's progress and engage them in the learning process.

Similarly, interviewee G2 remarked that she has profited from the advantages offered by technology as said:

“There were platforms I never used, like Discord, so it was not a platform I needed. But teaching on those platforms was very motivating for the students. So we tried one of them a couple of times. Students still say, “We did a lesson on Discord. It was cool.” Is there much difference? Indeed, it is not much different. But it was essential for them to, and I used Discord at that time. Significantly, I learned how to use it.”
(Interviewee_G2)

The quote of Interviewee G2 emphasized her experience with using new platforms for online teaching, specifically Discord. The teacher cited that while they did not initially see the need for the platform, it was motivating for the students and they tried it a couple of times. The teacher also noted that while there may not have been a significant difference in the actual teaching experience, it was important for the students, and they learned how to use it. This indicates that the teacher is open to trying new technologies and finding ways to engage and motivate students online rather than sticking to what they were already familiar with. Similarly, interviewee G3 clearly expressed how much the content and method he uses attracts students as follows:

“For example, in terms of videos, some sites are very convenient to teach online. I was using apps like Vocscreen. For instance, after teaching grammar, I utilized them afterward. At least, I thought that the student’s knowledge should be reinforced with the video. Or for example, I was trying to employ something from Quiznet so students could see the test there and at least reply to me. I was trying to benefit from such sites and applications much more. The videos were friendly and funny. Such things attract the attention of the students.” (Interviewee_G3)

Participant G3 expressed a willingness to adapt to the online teaching environment by utilizing different technologies and platforms to enhance their teaching methods. They specifically mention using Vocscreen and Quiznet for grammar reinforcement and student

engagement, respectively. The participant also notes using videos as an effective tool for student engagement, as they are “friendly and funny.” Given this outcome, it can be said that the participant recognized the importance of adapting teaching methods to the online environment and actively seeks ways to improve their teaching through technology.

Online teaching provides a level of *accessibility and flexibility* that traditional classroom teaching cannot match, as seen through the responses of GOM teachers who emphasized the convenience and comfort of online teaching in terms of space and time flexibility. In detail, in light of the analysis results regarding *Accessible and Flexible*, which refers to the benefits of online teaching regarding time and space flexibility as well as the comfort level of students, the frequency value of the GOM teachers is 10, while the frequency value of the FOM teachers is 1. Therefore, based on the evidence, it can be deduced that GOM teachers perceive online teaching as offering greater accessibility and flexibility compared to traditional classroom teaching. Specifically, some GOM teachers gave the following responses;

“As wherever you are in the world, you can easily reach the person or information you want. For example, even if the student is ill, they can take the online course or register later.” (G12)

Participant G12, emphasizing comfort, stated that a student could take the course whenever he wanted; similarly, Participant G15 apparently noted that online teaching provided flexibility in terms of time and space by saying; *“Undoubtedly, being able to do this independently of both space and time provided significant flexibility” (G15)*. On the other hand, the response of participant G22 is the most compelling comment on students’ shyness; *“Students can listen and speak, and they do not see each other, so they can express their opinions without being shy.”* Notably, participant G22 stated that online teaching allowed students to feel more comfortable expressing their thoughts in the classroom environment.

Another participant, G23, clearly remarked that online teaching offered a comfortable environment in the same way; *“It was influential in English because students were relatively more comfortable compared to traditional face-to-face lessons.”* The participant (G23), in his/her response, emphasized that online teaching was more influential in English lessons because students felt more comfortable compared to face-to-face lessons. This signifies that students may have preferred the online learning environment to in-person instruction.

In addition, according to the interviewee G6, the WhatsApp group was a useful tool for communication and sharing information. The participant also mentioned using daily plans and a scheduled program for students to follow. It means that the participant was proactive in organizing and structuring the online learning experience for their students. The statements of interviewee G6 who has given detailed answers are as follows;

“Our WhatsApp groups have been instrumental in all information. I was making daily plans. In these plans, there were things that students had to do daily. For example, by giving specific time or even if I did not set the time, there was a scheduled program that they had to comply with.” (Interviewee_G6)

In the statements above, the interviewee (G6) said that he made daily plans in which the students could make changes; on the contrary, following this plan is even an indication of flexibility, as opposed to the strict program in the school. Meanwhile, on the data of the interviews, one of the FOM participants, (F6), also had a point on this subject. She expressed her ideas as given:

“Or, for example, I had private lessons via Zoom. It was a great convenience for me. For instance, my student was in Ankara, and I was in Muş. He was a language student preparing for university. ... What needs to be done if private lessons are to be given? Either you go to the student’s house, or he comes to your house. The student preparing for university exams already demanded, “Let’s do this through Zoom, my

teacher.” Furthermore, I said, “My dear, I am not in Ankara.” However, he replied: “Let it be, teacher; there is an application called Zoom. We could do it through Zoom.” Of course, it may be challenging for middle school students to accomplish this successfully, but when they are older, online lectures can be done via Zoom.” (Interviewee_F6)

Interviewee F6, in her response, highlighted the convenience and flexibility that online teaching could provide for private lessons, specifically in the context of geographic distance between the teacher and student. The interviewee mentioned that Zoom was used to conduct the private lessons, which allowed for the student to be located in Ankara while the teacher was in Muş. This suggested that online teaching could provide an effective solution for overcoming geographical barriers, and that older students were more capable of adapting to online platforms, like Zoom. Additionally, the interviewee’s comments also implied that some students, like the one they were talking about, were more self-directed and proactive in requesting online learning as a solution to scheduling and distance issues.

The statements of GOM teachers highlighted the flexibility and comfort that online teaching can provide, such as the ability to reach people and information from anywhere in the world and the comfort level of students expressing their thoughts in the classroom environment.

In accordance with the replies of the participants in the study, it appears that online teaching has a significant advantage in terms of accessibility. With this intention, it will be discussed how the data obtained from the interviews suggests that online teaching has an advantage in terms of accessibility, as GOM participants highlighted the convenience and ease of access to individuals and resources through the internet.

Therefore, in light of the data obtained from the interviews, it can be said that online teaching has an advantage in terms of accessibility. As an illustration, in the statement of GOM participant G12, it can be seen how easily one can reach or contact someone through the internet: “As

wherever you are in the world, you can easily reach the person or information you want. For example, even if the student is sick, he or she can take the online course or register for that course.” Likewise, the statement of GOM participant G15 shows how profitable it is to reach a native speaker: *“It can also offer the unique opportunity to talk to a native English speaker on the other side of the world (G15).”* In addition, Participant G22 also emphasizes convenience in terms of access to in-class activities, as he says: *“Because we can easily reach speaking and listening activities with online education (G22).”*

After analyzing the items beneath this code, the frequency value for the *Cheap/Cost-Effective* code revealed for GOM teachers is 4, while the frequency value of the FOM teachers is 0. Hence, we can understand from the following statements that participant G11 regards online education as a time and money-saving process: *“Teaching English online is an important platform. It has many advantages, such as saving money, time, etc.”* In like manner, another participant, G14, contributed by saying: *“Yes, it is effective for saving time and using materials easily, but it is a disadvantage for students in rural areas.”* The participant (G14) pointed out that while online teaching might be beneficial in terms of saving time and allowing for easy access to materials, it might be less accessible for students in remote areas who might have limited access to technology or internet connectivity. Likewise, participant G18 stated that it is a swift, effortless and economical platform; *“Although face-to-face communication is more effective in language learning, there are cases where online education is advantageous because of its faster and easier access.”*

In addition to these compelling arguments, another participant, G20, also highlighted the benefits of online education in terms of time and energy savings. The participant noted that while there were advantages to using online resources and materials, there could also be challenges with student participation; *“Actually, there are both advantages regarding teaching materials and saving time together with*

energy and disadvantages in terms of the students' participation level to our lessons.” (G20)

Likewise, interviewee G7 stated that it is a fast, easy and economical platform: *“We could actually do all of these steps online. It becomes easy. You save time and space. Moreover, it is useful when you learn a little about it. I mean, it takes two hours for someone to go from one place to another sometimes”* (Interviewee_G7). To gain a more comprehensive comprehension of this particular aspect, the response of interviewee G4 was taken part in below as:

“The transition was effortless on those. As there is a computer in front of the child, he uses it immediately, so it does not waste time. In addition, apart from the typical PowerPoint presentation, as I said, there were interactive books; I used interactive books in EBA and YouTube channels.” (Interviewee_G4)

Interviewee G4, in the study, stated that the transition was effortless because the students could engage with them immediately. The participant also noted the efficiency benefit of using the computer in front of students and that the use of technology allowed him to spend less time delivering the content and more time assessing students' understanding.

4.3.3. Development in TPACK

In this section, we will delve into the beliefs of in-service English teachers with either a growth or fixed mindset about the impact of the COVID-19 process on their technological skills and professional development. Through the analysis of responses, the teachers' perspectives will be examined on the three specific areas of focus: technological pedagogical skills, technological skills, and professional development. This examination will provide insights into how these different mindsets view the effect of the COVID-19 process on their ability to integrate technology into their teaching practice and how it has influenced their overall professional development.

Table 4.3.3.1. Descriptive Analyses of Codes Regarding Development

Themes	Codes	N	f
Development in TPaCK	TK	G=25	25
		F=25	13
	PK	G=25	8
		F=25	0
	TPK	G=25	18
		F=25	0
	TCK	G=25	16
		F=25	1
	Total	G=25	74
		F=25	20

Table 4.3.3.1 above shows teachers' frequency scores regarding their development. Under the theme *Development in TPaCK*, four codes have appeared after analysing the results, which are *TK*, *PK*, *TPK*, and *TCK*. In the meantime, it is seen that among the codes, the highest frequency score belongs to the *TK* (GOM=25, FOM=13). It is followed by the code *TPK* (GOM=18, FOM=0). The following codes are *TCK* and *PK* (GOM=16, FOM=1, and GOM=8, FOM=0, respectively).

Table 4.3.3.1 indicates the outcomes of the *Technological Knowledge* code after analyzing the data got from participants. The results show that the frequency of GOM teachers is 25, which is the most frequent code, whereas the frequency of FOM teachers is 13. To demonstrate these findings, the researcher revealed some participants' expressions. As an illustration, participant G4 expressed his thoughts on this issue by saying; "*I met with web 2.0 tools and an e-twinning portal when I started teaching online*" (G4). Furthermore, another participant (G15) said, "*I learned using technology groups such as zoom. During the COVID 19 period, I had to learn about some applications, e-books, and zoom to use in online lessons.*"

These arguments suggest that teachers have optimistic beliefs about technological improvements. One of the most significant comments belongs to participant G5; "*Yes, it increased my technological knowledge to the highest level and provided me with more web 2.0 tools.*" Again, participant G13 highlighted the impact of technology on teachers' ability

to perform specific actions such as sharing, mirroring the screen, and having quick access to resources in their teaching practice by noting as, *“Thanks to technology, I could perform actions such as sharing, mirroring the screen, and having quick access to resources”* (G13). Similarly, participant G25 noted the following comments: *“Yes, it is true because I had to use many different Websites, programs, and applications, giving me more opportunities to use them all.”* The statement shows the positive impact of using technology on the participant’s ability to access and utilize various resources in their teaching practice.

When the teachers’ thoughts are analyzed, GOM participants generally use more specific and high-aware words about *Technological Knowledge* -as can be understood from the terminological expressions related to the field. In contrast, FOM teachers use slightly more general expressions and do not clearly explain what they have learned. Therefore, those who do give more detailed answers are GOM teachers. Hence, the expressions of the FOM teachers will be assessed elaborately by analyzing the level of specificity and depth of understanding demonstrated in their responses. In this respect, participant F13 noted that s/he learned different technological applications: *“I learned different technological applications.”* The response suggests that participant has some knowledge on technology, but their vocabulary and expressiveness is not very specific, indicating that they may not have meta awareness or proficiency in using the technology. Likewise, another participant, F9, highlighted the impact of technology use on the participant's ability to learn new things: *“During the teaching process, I had the chance to use technology almost daily. It helped me to learn new things”* (F9). The participant noted that they had the chance to use technology almost daily and it helped them to learn new things. The statement suggests that the participant has a moderate understanding of the technology and its benefits, but it is not as specific as GOM participants. Similarly, participant F23 noted that *“Thanks to distance education, I had the*

opportunity to discover many helpful sites that I had not discovered” (F23). Although participant 23 stated that he discovered useful sites, he needed to give more specific information about what kind of sites there are. In addition, participant F16 also stated that he learned a lot about technology because he had to be at home but did not write what he mainly learned, which supports the thesis defended by the researcher: *“I learned lots of information about technology because I was at home.” (F16)*

The data analysis from the open-ended items and interviews shows that technological knowledge is such a favored response that many participants indicated that online teaching improved them regarding technology in their expressions. In other words, the quotes by fixed-minded participants demonstrate a moderate knowledge and understanding of technology, and its benefits in their teaching, but it is not as specific as the GOM teachers which can be concluded from the metalanguage and expressiveness.

When the answers given by the participants were examined, it is noteworthy that the frequency value of the GOM teachers was 8, while the frequency value of the FOM teachers was 0 in the *pedagogical knowledge* code. When we look at the expressions used by participant 6, one of the GOM teachers, it will be seen that the teacher’s pedagogical knowledge level has increased as it can be understood from learning new techniques and giving interactive assignments.

Participant G14 underlined the impact of technology use on the ability to learn new teaching techniques by noting as: *“It helped me to learn new teaching techniques. I gave interactive assignments.”* In the statement, the participant noted that it helped them learn new teaching techniques and that they implemented interactive assignments in their teaching. Participant G6 also pointed out the consequence of technology use on the capability to learn more ways to teach: *“I already knew about using technology, so it only helped me to learn more ways to teach” (G6).* In the quote, the participant stated that proficiency in using technology led to an expansion of their teaching methods. As it is seen

that the participants, G14 and G6, stated in their answers that they learned new techniques and methods and used them, though they did not hesitate to state that these were good opportunities.

In addition, participant G15 expressed the need for increased creativity and experimentation with different methods in order to engage students during online classes, which includes using online resources and methods that might not be typical or traditional in a classroom setting in order to make the lessons more interactive and engaging for the students:

“It took more creativity to attract students to the lesson. We also used some online methods we do not normally use in the classroom. Not sticking to the book offers opportunities to do activities and use other methods.” (G15)

The participant also mentioned that not sticking to the book offers opportunities to do activities and use other methods, which led to an increase in creativity, innovation and ways to engage students in their lessons. Additionally, the participant saw technology as a tool to break the routine and bring more flexibility in their teaching approach. This aligns with the overall results of the study, which indicate that GOM teachers have a higher frequency of improved technological knowledge compared to FOM teachers.

When examining Table 4.9, it is clear that GOM teachers ($f=18$) have a much higher frequency of *Technological-Pedagogical Knowledge* than FOM teachers ($f=0$). The point of the study is further highlighted by participant G7, who emphasizes the importance of technology in teaching listening and speaking skills in the pedagogical dimension of language education. Participant G7 states, *“Because teaching a language needs to improve four skills. Without technology, we cannot teach listening and speaking”*, which describes that technology is essential to teaching, and they are aware of the limitations. Likewise, GOM participant, G10, has helped students learn effectively by utilizing the opportunities offered by technology, such as games, materials, and some websites:

“I have started researching how I can teach my lessons online and found a couple of great online websites about teaching English. I discovered amazing games, materials, and techniques during that time. We do not have smart boards in our school, so normally I cannot use online materials.” (G10)

In this statement, participant G10 clearly expressed that during the adjustment to online teaching owing to the pandemic, they had to search and find new resources and methods to adapt their teaching. They mention finding useful websites with games, materials, and techniques for teaching English online. However, they also mention that their school needs smart boards, which limits their ability to use online materials in traditional in-person teaching. This emphasizes the necessity of teachers to adapt to the new environment and find new ways to effectively teach their students.

One of the respondents (G11) remarked on the importance of utilizing various online resources and tools to adapt to the online teaching environment. She also noted that this shift to online teaching led them to discover new ways of teaching and assigning projects and tasks to students. This suggests that the participant has developed a level of technological-pedagogical knowledge in order to teach online effectively:

“Because teaching online is not limited to just seeing the students on the webcam or teaching via online tools. I had to give my students project works and assignments, which led me to discover new ways to teach.” (G11)

The quota underlines the limitations of traditional online teaching methods, such as only seeing students on the webcam or using online tools. Instead, the participant, G11, noted that teaching online also includes giving students project works and assignments, which led to discovering new teaching methods, which suggested that the participant had a deep understanding of the potential of online teaching to go beyond traditional methods, and they are actively seeking new ways to improve their teaching and engage students. Participant G22, furthermore, noted

that online tutorial game sites have been beneficial in helping them learn how to teach online; *"I learned how to teach online. Online tutorial game sites have been beneficial."* The statement from participant G22 suggested that they gained knowledge on how to teach effectively in an online setting. They specifically mentioned that using online tutorial game sites was beneficial in this process. In like manner, one of the interviewee, G5, provided an insight into the participant's experience of integrating English into technology during the COVID-19 pandemic:

"I think I have integrated English into technology enough during the COVID-19 Pandemic. For example, let me give two examples: There was an application called Kahoot and Readlang. I used this for Reading and the Vocabulary course. Students have installed Kahoot on their phones, and in this Kahoot, I have prepared certain questions. The students answered these questions and repeated them as multiple-choice questions after the grammar activities and vocabulary exercises we had done in the previous lessons. By competing, they saw English in technology and liked it more, which is undoubtedly an indication and example of how I organize English into online teaching." (Interviewee_G5)

The interviewee mentioned, in her response, that they have used certain applications such as Kahoot and Readlang for reading and vocabulary courses, and also that by using these applications, the students have been able to compete with each other and found English more enjoyable, which indicates the integration of technology successfully into their teaching. The interviewee (G5) also expressed confidence on their own ability to organize English into online teaching and it aligns with the overall results of the study, which indicate that GOM teachers have a higher frequency of improved technological knowledge compared to fixed-minded teachers and are more open to new opportunities and ways of teaching, which allows them to integrate technology efficiently in their teaching. It also indicates a deeper understanding of how technology can enhance language education and make it more engaging and effective.

TCK refers to the knowledge and understanding of using technology to support teaching and learning a specific subject matter, which includes the ability to select and use appropriate digital tools and resources to enhance student understanding and engagement with the content. It also includes the ability to design and implement technology-enhanced learning activities and assessments. It is an essential aspect of integrating technology in education, as it allows educators to leverage technology to support student learning and improve educational outcomes effectively. Given these points, when analyzing Table 4.9, the frequency value of the GOM teachers is 16, while the frequency value of the FOM ones is 1 in the technological content knowledge code. The participant' (G12) opinion about the code of Technology-Content Knowledge is given as follows; *"I was unaware of online sources at the beginning of COVID 19; after that, many online devices and I learned how to use these online sources"* (G12). The participant mentioned that at the beginning of the COVID-19 pandemic, they were unaware of online sources but later learned how to use them, suggesting that the participant was open to learning and adapting to new technologies and ways of teaching content are characteristic of a GOM. The quote also showed that the individual had to adapt to the new way of teaching during the pandemic by exploring different online sources and tools, which is the theme of technological-content knowledge. Likewise, the quote of participant G21 highlighted the use of technology in teaching English, mentioned that she used certain apps and websites to make teaching English easier, indicating that how technology can be used to enhance their teaching, specifically in teaching the English language; *"I used some apps and websites to teach English in an easier way"* (G21). It showed that the participant had a high level of *technological knowledge* and proficiency in using technology in their teaching, and was actively seeking ways to improve their teaching and engage students using technology.

"Prior to the COVID pandemic, I had never heard of WEB 2.0 tools and other useful apps and websites that make online teaching much easier and more

efficient. Learning and using these tools helped me not only during online lessons but also in the actual classroom environment. Now I have many more tricks in my bag before I enter the classroom, and thanks to that, I never run out of ideas.” (G25)

This quotation is from a GOM teacher discussing their experience with technological-content knowledge. The quote highlights the teacher’s ability to adapt and learn new tools and techniques to improve their teaching, a characteristic of a GOM. Specifically, the teacher mentioned that before the COVID pandemic, they had never heard of WEB 2.0 tools and other useful apps and websites that make online teaching much easier and more efficient. Participant G25 mentioned that learning and using these tools helped them during online and classroom lessons. He also said they have many more ideas and resources for their teaching. The participant also suggested that they had a good collection of strategies and ideas they could use while teaching, which was a sign that they had developed a strong technology integration skills and mindset.

Comparatively, one another participant, G5, indicated that he had a positive experience with technological-content knowledge during the COVID-19 pandemic, *“I found materials like e-books, apps, and programs for teaching English while teaching online during COVID-19. I am still using them now”* (G5). He stated that he discovered new materials, such as e-books, apps, and programs, for teaching English while teaching online during the pandemic. The participant also mentioned that he is still using these materials, suggesting that he found them to be useful and continue to integrate them in his teaching, which proposed that the participant improved his technology-content knowledge and skills during the COVID-19 pandemic, and that he is now able to use these resources to enhance his teaching practice. On the other hand, one of the FOM participants (F4) also indicated that he found information on these web 2.0 tools and were using them to enhance his teaching practice. As he says, *“Because I have had much information about new Web 2.0 tools and prepared new materials for my English classes”* (F4). The

participant acquired knowledge about new web 2.0 tools and used that knowledge to create new materials for their English classes. Moreover, he was aware of the benefits that those tools could bring to his teaching. The use of the phrase "prepared new materials" implied that the participant actively sought out and implemented the use of those tools in their teaching practice, which was a positive indication of their technological-content knowledge.

Participants' responses clearly indicate that GOM teachers generally talk about the rich content provided by the internet and technology. In the same way, interviewee G5, in her interview, talked about the richness of the content and the benefits of it for the students while expressing the way of teaching:

"That is to say, the more cameras are open, the more I say motivating words to our students, the more content and programs that will provide the student with useful resources that they can use in online education, and from these sources their thinking skills, brainstorming, that is, brainstorming. I think I share it, and I think that I have determined my approaches accordingly. I have always tried to be behind the students as a facilitator, the most important effective approach, namely the student-centered approach. Because for example, I can say the following. When a student took the final exam, his internet was cut off, and I did not ignore his exam. I gave him that test again. And this is an example of the student-centred approach." (Interviewee_G5)

Interviewee G5, in her response, mentioned that she used multiple cameras, gave motivating words, and provided students with valuable resources that could be used in online education. She also quoted the importance of brainstorming for students and their role as facilitators, which signified that the interviewee actively seeks ways to engage students in the online classroom and uses technology to support student-centered learning. Although it is clear from the quote that participant G5 sees the value of the student-centered approach and how it can be supported through technology, they also focus on the students' well-being and how they can make the learning experience as smooth as possible.

Furthermore, the interviewee (G5) mentioned how she handled an unexpected situation when a student's internet was cut off during an exam. Interviewee G5 showed flexibility and dedication to her students by giving that student the test again.



5. DISCUSSION AND CONCLUSION

5.1. Overview

The current study highlights the challenges faced by teachers during the online teaching process, which is a crucial aspect of education during the COVID-19 pandemic, and the importance of teachers' mindsets, beliefs, and attitudes towards online teaching, along with their preparedness and training in dealing with technology and delivering online instruction. The mindset, particularly the distinction between a fixed and growth mindset, plays a pivotal role in shaping individuals' approach to challenges and their ability to adapt to new circumstances, as exemplified by the COVID-19 pandemic. Understanding teachers' mindsets and providing support for cultivating a growth mindset can be instrumental in addressing the challenges of online teaching. The study highlights the need for ongoing professional development and training for teachers in online pedagogy and technology use, as well as the importance of support from school administrators and policymakers in facilitating effective online teaching practices.

In this section, an overview of the primary outcomes of the research of the research will be provided, and their implications for teaching and learning will be discussed. Furthermore, the study's limitations will be highlighted, and suggestions for future research will be provided. The discussion section will be organized around the key themes that emerged from the data, and it will be drawn on relevant literature to support our arguments. Ultimately, the intent of the current section is to provide a comprehensive analysis of the research results and their broader significance for the field.

5.2. Teacher Mindset and Beliefs about Online Teaching Process

The section focuses on the relationship between TM and beliefs about online teaching in the period of the COVID-19. The first two research questions addressed in this section explore the beliefs of in-service English teachers with different mindsets (fixed-growth) regarding

online teaching. Specifically, Research Question 1 investigates whether there is a statistically significant difference between the beliefs of in-service English teachers with different mindsets, while Research Question 2 aims to identify the beliefs of in-service English teachers with different mindsets regarding online teaching during the outbreak. The last two research questions addressed in this section delve into the beliefs of in-service English teachers with different mindsets (growth-fixed) regarding the impact of the pandemic on their online teaching practices. Research Question 3 aims to investigate whether there is a statistically significant difference between the beliefs of in-service English teachers with different mindsets about the impact of the pandemic process on their technological skills and professional development in online teaching. Meanwhile, Research Question 4 seeks to identify the beliefs of in-service English teachers with different mindsets about the impact of the COVID-19 process on their technological skills and professional development in online teaching. The answers to these research questions provide valuable insights into the role of TM in shaping beliefs about online teaching practices, which can inform teacher education programs and professional development activities. The following sections will discuss the findings of these research questions and their implications for teaching and learning practices in online settings.

The first research question was *"Is there a statistically significant difference between the beliefs of in-service English teachers with different mindset (fixed - growth) regarding online teaching during the COVID-19 period?"*. The question aimed to investigate the overall score for the fixed and growth mindsets of in-service English teachers and to explore the relationship between mindset types and the teachers' gender, age, professional experience, and graduation status. The data were gathered through a survey instrument, the Teacher Mindset Scale, and analyzed using Mann-Whitney U test, Pearson Chi-Square analysis, Kruskal Wallis H test, and descriptive statistics. The findings showed that the average score for the GOM was higher than the FOM, and there was no

significant difference between gender, graduation status, age, and professional experience in relation to mindset types. Moreover, the results indicated that GM participants showed higher scores in teaching experience during the pandemic. This finding suggests that having a GOM can positively influence positive attitudes toward teaching on the pandemic. Teachers who embrace a GOM may be more willing to adapt to new teaching methods and technologies, which can lead to more effective online teaching practices. This result reinforces the importance of cultivating a GM in education and provides insight into the potential benefits for teachers during challenging times such as the COVID-19 pandemic. The following paragraph will further discuss the implications of these findings.

The results of the study align with the literature on the importance of developing a growth mindset in education. A GOM is associated with higher academic achievement (Zhang, 2017), increased motivation (Rhew et al., 2018), and resilience to challenges (Boullion et al., 2021). According to Dweck (2006), a GM encourages individuals to embrace challenges and persist through obstacles, leading to improved learning and performance. The study exposed that GOM teachers scored higher in the TMS, indicating a stronger belief in the potential to learn and develop their abilities.

In light of the outcomes, the results of the Mann-Whitney U test revealed that there was no significant difference between the gender of the in-service English teachers and their mindset types; conversely, Yılmaz (2020) found a statistically significant difference in terms of genders. Moreover, the Kruskal Wallis H test indicated no significant difference between the graduation variable of in-service English teachers and their mindset levels. Similarly, the findings from the Pearson Chi-Square analysis indicated that there was no statistically significant relationship between the age variable of in-service English teachers and their mindset types. This result is consistent with the study of Yılmaz (2020), which reported that age was not a significant factor in

determining mindset types. Likewise, the Pearson Chi-square analysis found no significant relationship between the professional experience of in-service English teachers and their mindset types, which is consistent with the study of Şimşek (2022). Furthermore, the results of the Kruskal Wallis H test showed that there was no significant difference in the sub-dimensions of mindset types in terms of the experience variable. However, after conducting a thorough thematic analysis and performing descriptive analyses of codes at the second phase of the research, it was uncovered that GOM participants scored higher positive attitudes to teaching experience than FOM participants in the duration of the pandemic. These findings suggest that GOM English teachers may have better adaptation to the challenges presented by the pandemic and online teaching. This could indicate that a GOM may be helpful in facilitating resilience and adaptability in the face of difficult circumstances. Higher scores in teaching experience during the pandemic imply that these teachers were better able to navigate the challenges of online teaching and adapt to the new situation. This result is consistent with the literature that suggests a growth mindset is associated with greater resilience and adaptability in the face of challenges (Dweck, 2006).

The second question, *"What are the beliefs of in-service English teachers with different-mindset (growth-fixed) regarding online teaching during the COVID-19 period?"*, aimed to find out the qualitative results of the study. The qualitative results of the study showed that there was a noticeable difference in the beliefs and perceptions of in-service GOM English teachers compared to those with fixed mindsets regarding online teaching during the COVID-19 period. While the statistical analysis did not disclose much difference between the two groups, the analysis of open-ended items and interviews with teachers showed a prominent difference. In terms of teachers' beliefs about online teaching during the pandemic, the data indicated that GOM teachers had higher frequencies than FOM teachers for items related to the benefits of online teaching. For

instance, GOM teachers were more likely to see online teaching as an opportunity to learn and develop professionally.

The study identified three main themes related to online education on the pandemic: *Issues*, *Facilities*, and *Development*. First of all, regarding the theme of *Issues*, the analysis of interviews with teachers and open-ended questions revealed several challenges and difficulties experienced by teachers during online teaching, including technical problems, lack of student engagement, and difficulties in adapting to the online environment. However, GOM teachers were more possibly to view these challenges as opportunities for growth and development. The findings align with Dweck's study (2006). For example, participant G15 stated that he used various teaching methods and sources for learners. He also added that it was a unique opportunity to talk to native speakers. Then, regarding the theme of *Facilities*, the data showed that GOM teachers tend to have access to the necessary technology, resources, and support for conducting online classes. Participant G25, as an example, emphasized the effectiveness of the lesson design, stating that it was not limiting in any way and allowed for free expression and sharing of various materials for evaluation. They also had a more positive attitude towards the use of technology in the classroom, which may have contributed to their better experience with online teaching. Finally, in terms of *Development*, the study revealed that GOM teachers, obviously, see the transition to online teaching as an opportunity for personal and professional growth. They were more probably to develop their technological and pedagogical knowledge, as well as their TPK and TCK.

The findings of the present study regarding "*Issues*" revealed that the frequency of growth-oriented participants was 9, while that of fixed-oriented participants was 69, which indicated that the FOM participants mentioned more issues than their GOM counterparts. Specifically, FOM participants raised issues related to the lack of interaction and diminished teaching quality due to this factor. In contrast, GOM teachers recognized the limitations of online teaching but still saw it as a helpful tool and

demonstrated a more positive and flexible attitude towards the use of technology in teaching. Furthermore, growth-oriented participants were less likely to mention issues and focused more on the potential benefits of online teaching. They emphasized the importance of face-to-face interaction in language teaching and professional development, but also found ways to adapt to the changes brought about by the pandemic. These findings suggest that mindset plays an important role in how teachers perceive and respond to challenges in online teaching, such as the use of technology and the impact of the COVID-19 pandemic.

Previous research has also shown that mindset affects the behavior and performance of individuals. For instance, Dweck (2006) stated that GM people tend to embrace challenges, persist in the face of obstacles, and seek feedback, while FM ones tend to give up easily, avoid challenges, and ignore feedback. Additionally, teachers' mindsets affect their ability to adapt to changes in the classroom, such as the use of technology in education. Therefore, the findings of the current study are consistent with the previous literature (Dweck, 2014; Gero, 2013), which suggests that mindset plays an essential role in teachers' perceptions and responses to challenges in education.

The study highlighted that the beliefs and attitudes of GOM and FOM teachers differed significantly regarding the impact of the COVID-19 pandemic on online teaching and the use of technology in education. GOM teachers were more likely to embrace the potential of technology and find ways to overcome its challenges, while FOM teachers highlighted the limitations of online teaching. Particularly, the lack of interaction and the absence of an interactive condition caused significant harm to education during the online teaching process. The difficulties experienced by teachers during the online teaching process were related to the lack of participation, feedback, and comprehensive feedback, which made teaching less practical and efficient. The FOM teachers had the belief that the quality of teaching had diminished due to a lack of interaction. For example, an FOM participant expressed concerns about

the effectiveness of online teaching by saying, *"It has not been effective because there is no interaction"* (F5). Another FOM participant also mentioned the lack of interaction as a problem by stating, *"The interaction was very low during teaching"* (F12). On the other hand, GOM teachers believed that although online teaching had limitations, it was still a helpful tool. For instance, a growth-oriented participant recognized the limitations of online teaching but still found it effective, saying, *"teaching online was effective but nothing replaces face-to-face education"* (G10). Moreover, the importance of interaction in online teaching has been emphasized in other studies as well. The findings of the current study are also supported by research that highlights the importance of interaction in online teaching. Furthermore, the importance of face-to-face communication in language teaching was highlighted by the GOM teachers in the current study.

The findings suggest that many in-service English teachers experienced adaptation problems while shifting to online teaching during the COVID-19 pandemic. The code of *Adapting to Online Education* within the Pedagogical sub-theme revealed that most FOM participants faced adaptation problems while teaching online (f=15), in contrast, 1 participant of GOM had difficulties in adaptation problems. These findings were reinforced by the statement of participant F1, who said *"learning becomes difficult for students,"* indicating the challenges of adapting to online teaching. Participant F10 also highlighted the difficulty of not being able to see students during online classes and not receiving responses from them. Additionally, participant F18 reported that most of their students lost discipline due to online teaching during the pandemic, which ultimately caused more problems, even after moving back to traditional teaching, face-to-face. On the other hand, participant F17 adapted well to online teaching by using whiteboard materials, which was usual for her. However, most FOM participants relied monotonously on traditional methods such as notes and PDFs. Participant F5 emphasized the importance of understanding the technological competency of

students and teachers, as well as considering various variables that may affect the adaptation process. He suggested that in an ideal and technologically advanced environment, teachers would be able to adapt to online teaching quickly, but acknowledged that there might be unforeseen variables that make adaptation difficult.

In summary, these findings indicate that many in-service English teachers faced adaptation problems when transitioning from traditional classroom teaching to online teaching during the COVID-19 pandemic. While some teachers adapted well and used new teaching materials, most of them relied on traditional teaching methods. To facilitate adaptation, it may be necessary to provide adequate technological training to both teachers and students and consider various factors that may affect the adaptation process.

In the present study, the findings revealed that *accessibility and attendance* were the most common technical issue themes experienced by teachers during online teaching. The study reported that FOM teachers faced more difficulties regarding access and participation ($f=22$) compared to GOM teachers ($f=2$). While both growth-oriented and fixed-minded teachers faced difficulties in this regard, fixed-minded teachers were more likely to express frustration and concern. For instance, FOM teachers reported experiencing difficulties with participation and access. They felt that students did not attend online lessons, which hindered their ability to teach effectively. As one participant (F11) put it, *"Since my students' internet access is limited, I could not find the opportunity to teach efficiently and effectively."* Another participant (F6) expressed frustration with the low student participation and engagement during online classes, describing it as a "harsh" and "hard" experience. In contrast, GOM teachers were more inclined to approach the issue with a problem-solving mindset. According to Dweck (2016), this is a characteristic of GOM people - they try to find out how to deal with a problem. They embrace challenges and view them as opportunities to learn and grow. Therefore, GOM teachers were more likely to suggest

solutions to the problem of accessibility and attendance. It is worth noting that some FOM teachers expressed a lack of responsibility and a sense of helplessness regarding the issue of participation and access. For example, interviewee F6 believed that external factors were substantial and she could not do anything. In contrast, GOM teachers took responsibility for the issue and suggested solutions. For example, one participant (G2) adopted a unique way of engaging students by asking them to make a Zoom call one by one to establish contact and to increase student engagement during online classes. Another GOM teacher, G7, inspired other colleagues around him to increase class participation.

In general, the results indicate that teachers' mindsets have a significant impact on their opinions and feelings about teaching online. Teachers who have a growth mindset are more inclined to approach online teaching with a perspective of problem-solving and consider it as a chance for development and learning. On the other hand, those with a fixed mindset are more likely to feel frustrated and worried, and experience a sense of powerlessness. Consequently, the study emphasized the significance of teachers' mindsets in dealing with the obstacles encountered in online teaching.

The findings of the *limited improvement in technological skills* showed that was the most common belief among the teachers. This perception was more prevalent among FOM teachers (f=17) than GOM teachers (f=2), as FOM teachers often expressed that they did not learn new skills or technologies, whereas GOM teachers saw the opportunity to improve their technology skills while teaching online. FOM teachers reported using basic web tools and applications, which they were already familiar with, and expressed no interest in learning new technology. Some FOM teachers stated that they did not need to develop their technology abilities, as they were already proficient in using basic communication applications like Instagram and WhatsApp. They, additionally, noted that they were already good at using technology and nothing had changed with the online teaching. In contrast, GOM teachers were more open to

learning new technology skills during online teaching. Furthermore, the perception of being a professional user of technology and not improving oneself was seen as a problem in learning and teaching. As an illustration, one FOM teacher stated, *"I had not any opportunity to use advanced technology. So I just used EBA and Zoom applications"* (F25). Another FOM teacher added, *"I am not interested in technology, and I do not need to develop my abilities in using technology in general"* (F8). However, it is worth noting that this lack of interest in technology may hinder their teaching effectiveness, regarding FM people. Moreover, many FM teachers thought that online education did not enhance them because of the knowledge they had before. As participant F2 mentioned, *"I am already good at using technology; nothing has changed"* (F2). This mindset may prevent them from trying new things and improving themselves.

In summary, while GM teachers saw online teaching as an opportunity to improve their technology skills, FM teachers did not feel the need to do so. The latter group may be limiting their teaching effectiveness by not embracing new technologies and learning opportunities. As such, it is crucial to provide ongoing professional development opportunities to help teachers enhance their skills and stay up-to-date with the latest technology advancements.

It was disclosed in the study that online teaching facilities can be classified into three codes: *"Content and Design," "Accessible and Flexible,"* and *"Cheap/Cost-Effective."* According to the analysis, *"Content and Design"* is the most frequently mentioned code by both FOM and GOM teachers. GOM teachers (f=10) see online teaching as an opportunity to improve the lesson format and content, while FOM teachers (f=1) did not mention this aspect much. This is supported by participant G15, who stated that online teaching allows for the use of various teaching methods such as interactive tests, video lessons, and other useful tools for learners. Moreover, online lesson design is relatively manageable when teachers have a growth mindset, and it was

also not restrictive and allowed for sharing and effective evaluation. Notably, the study showed that when teachers have a growth mindset, designing online lessons seems relatively manageable. In the interviews, participant G6 highlighted the use of technology and specific applications, such as the EBA library section and language applications like DYNED, Duolingo, Busuu, and Vocscreen, as a way for students to improve their language skills independently at home. The participant also mentioned the ability to track students' progress and usage of these applications. Participant G3 also mentioned using specific applications such as Vocscreen and Quiznet for grammar reinforcement and student engagement, respectively. The study also found that using videos, interactive tests, and various teaching methods can enhance student engagement and motivation. The findings of the study are consistent with previous studies that emphasized the importance of using technology in online teaching to enhance the learning experience (Akram et al., 2021; Hofer et al., 2021).

In light of these findings, it can be suggested that having a growth mindset is advantageous for online teaching, as it allows for more flexible and innovative teaching approaches. The use of technology and various applications mentioned by the participants supports the idea that online teaching can provide unique opportunities for learning and engagement. As participant G3 noted, videos and other interactive tools can attract the attention of students and reinforce their knowledge. These findings reinforce the importance of TM in online teaching and highlight the need for ongoing professional development to ensure effective teaching practices in the online environment.

In the present study, the findings of the thesis suggest that GOM teachers perceived online teaching as offering greater *accessibility and flexibility* (f=14) compared to FOM teachers (f=1). The responses from GOM teachers highlighted the convenience and comfort of online teaching in terms of time and space flexibility. One participant emphasized the ability to easily reach people or information from

anywhere in the world, stating, *"As wherever you are in the world, you can easily reach the person or information you want. For example, even if the student is ill, they can take the online course or register later"* (G12). Another participant highlighted the significant flexibility provided by online teaching, stating, *"Undoubtedly, being able to do this independently of both space and time provided significant flexibility"* (G15). Furthermore, GOM teachers emphasized the comfort of students in expressing their thoughts in the online learning environment. One participant noted, *"Students can listen and speak, and they do not see each other, so they can express their opinions without being shy"* (G22). Another participant remarked that online teaching was more influential in English lessons because students felt more comfortable compared to face-to-face lessons (G23). These findings suggest that online teaching may have created a more comfortable environment for students to participate actively and express themselves. Additionally, GOM teachers demonstrated proactive approaches to organizing and structuring the online learning experience. One participant mentioned using WhatsApp groups as a useful tool for communication and sharing information, along with providing daily plans and a scheduled program for students to follow (G6). This indicates that GOM teachers actively embraced the flexibility of online teaching by adapting their instructional methods and utilizing various online tools.

Overall, the findings reinforce the notion that online teaching provides a level of accessibility and flexibility that traditional classroom teaching cannot match. The quotes from GOM participants illustrate the advantages of online teaching in terms of reaching individuals and resources from anywhere in the world and the comfort level of students expressing their thoughts. These discoveries reinforce prior studies that highlight the advantages associated with online instruction. For example, a research by Danchikov et al. (2021) exposed that online education offers learners increased flexibility and convenience, enabling them to easily access course materials (Sadeghi, 2019), and have the freedom to finish

tasks according to their preferred speed and personal timetable. (Yu, 2020). Additionally, online learning can help to overcome geographic barriers (Nimavat et al., 2021), allowing learners to access courses (Castro & Tumibay, 2021) and resources from anywhere in the world (Vershitskaya, 2020). The study's results suggest that GOM participants highlighted the convenience and ease of access to individuals and resources through the internet.

Based on the findings related to the *Cheap/Cost-Effective* code, it is clear that in-service English teachers with different mindsets have varying beliefs with regard to online teaching during the COVID-19 period. GOM teachers seem to view online teaching as a time and money-saving process (f=4), different from FOM teachers (f=0). Online education is viewed as a cheap and cost-effective platform by most of GOM participants. For example, participant G11 stated, *"Teaching English online is an important platform. It has many advantages, such as saving money, time, etc."* Similarly, participant G18 stated that online education is a swift, effortless, and economical platform. Interviewee G7 emphasized the time and space-saving benefits of online education, while Interviewee G4 highlighted the efficiency benefit of using computers in front of students, which allowed more time for assessing students' understanding. These findings align with the previous studies on the benefits of online education in terms of cost-effectiveness and accessibility. According to a study by Goyal (2012), online education offers a more economical alternative to traditional classroom teaching, as it eradicates the necessity of physical facilities and minimizes expenses associated with travel. Furthermore, Hastuti et al. (2021) stated that online education could provide more opportunities for students who face geographical or physical barriers to traditional education. Moreover, the findings also suggest that the accessibility of online education could still be a challenge for some students, particularly those in remote areas with limited access to technology and internet connectivity, which is similar the those of Ferri et al., 2020.

The third research question aimed to identify statistically any significant disparities in the perceptions and attitudes of teachers with different mindsets towards the effects of online teaching during the pandemic; *“Is there a statistically significant difference between the beliefs of in-service English teachers with different mindsets (growth-fixed) about the impact of the COVID-19 process on their technological skills and professional development (technological pedagogical skills, technological skills, and professional development) for online teaching?”*. The findings from the analysis of responses provide insight into how these different mindsets perceive the influence of the COVID-19 process on their ability to incorporate technology into their teaching practices and its impact on their overall professional development.

The results presented in Table 4.3.3.1 provide a descriptive analysis of the codes related to development in teachers' TPaCK. Four codes emerged from the analysis, namely *TK*, *PK*, *TPK*, and *TCK*. Among these codes, the highest frequency score was observed for *TK*, with a score of GOM=25 and FOM=13, indicating that both growth and fixed mindset teachers recognized the significance of enhancing their technological skills during the COVID-19 process.

The code *TPK* also received a considerable frequency score, with GOM=18 and FOM=0, suggesting that GOM teachers acknowledged the importance of developing their technological pedagogical skills. On the other hand, it is worth noting that teachers with a fixed mindset did not report any instances of developing their *TPK*. This finding implies that GOM teachers were more inclined to perceive the COVID-19 process as an opportunity for enhancing their pedagogical approaches through technology integration.

Regarding *TCK* and *PK*, the analysis revealed a moderate frequency score of GOM=16 and FOM=1, and a lower frequency score of GOM=8 and FOM=0, respectively. These findings indicate that teachers, regardless of their mindset, recognized the importance of acquiring technological content knowledge to support their online teaching

practices. However, it is noteworthy that only one teacher with a fixed mindset reported developing their pedagogical knowledge, suggesting a potential gap in their perception of the role of pedagogical development in the context of online teaching during the COVID-19 process.

Overall, the results indicate that GOM teachers were more receptive to the opportunities presented by the COVID-19 process in terms of developing their technological skills and professional growth. They recognized the importance of technological knowledge and technological-pedagogical knowledge, which are crucial for effective online teaching. In contrast, FOM teachers demonstrated a relatively lower engagement in professional development activities related to technology integration.

The researcher aimed to explore the teachers' beliefs about their technological skills and professional development for online teaching with the fourth research question: *“What are the beliefs of in-service English teachers with different mindsets (growth-fixed) regarding the impact of the COVID-19 process on their technological skills and professional development (technological pedagogical skills, technological skills, and professional development) for online teaching?”*

According to the findings of the study, in-service English teachers' beliefs about the impact of COVID-19 on their technological skills and professional development differ based on their mindset. The teachers' perspectives on technological pedagogical skills, technological skills, and professional development were examined, and the results showed that GOM teachers were to view the COVID-19 process as an opportunity for professional development, while FOM teachers tended to view it as a challenge to their existing skills.

Furthermore, the results indicated that the highest frequency score among the TPaCK codes belonged to the Technological Knowledge (TK) code, followed by the Technological-Pedagogical Knowledge (TPK) code. This suggests that teachers' technological knowledge is an

important factor in their ability to integrate technology into their teaching practice.

TK uses high-level digital technologies such as computers, the Internet, software, mobile phones, web 2.0 tools, or digital videos, as well as traditional technologies such as notebooks, books, pencils, blackboards, chalk, or worksheets. In addition to this, the field of TK provides knowledge regarding the setup, configuration, and record keeping of hardware and software of computers and how to execute particular tasks related to documents (Mishra and Koehler, 2006). Further, in our study, the findings indicate that English language teachers generally have positive beliefs about the impact of the COVID-19 process on their technological skills and professional development. Specifically, the data analysis shows that the majority of participants, particularly those with growth mindsets, reported an increase in their technological knowledge and the utilization of Web 2.0 tools during online teaching. For instance, participant G4 stated, *"I met with web 2.0 tools and an e-twinning portal when I started teaching online"*. Similarly, participant G15 reported that *"During the COVID-19 period, I had to learn about some applications, e-books, and Zoom to use in online lessons"* which shows the teachers' willingness to adapt and learn new skills. These comments suggest that GOM teachers tend to view technology as an opportunity for growth and development. Conversely, FOM teachers had more general expressions and did not explain their learning as much as the growth mindset teachers. For example, participant F13 stated, *"I learned different technological applications"* which implies that F13 has some knowledge of technology but is not as specific as growth mindset teachers. Moreover, some FOM teachers noted that they learned about technology during the COVID-19 process but did not specify what they learned. For instance, participant F16 stated, *"I learned lots of information about technology because I was at home"* (F16). The data analysis also shows that FOM teachers tended to use less specific

language and terminology related to technological knowledge compared to GOM teachers.

To sum up, the results of this study suggest that teachers' beliefs about technology and their willingness to learn and adapt to new technologies depend on their mindset. Teachers with growth mindsets are more likely to view technology as an opportunity for growth and development, while fixed-mindset teachers may have a less specific and in-depth understanding of technology. These findings are supported by the statements of participants such as G5, who reported that technology has increased their knowledge to the highest level, and G13, who noted that technology has enabled them to perform specific actions such as sharing, mirroring the screen, and accessing resources quickly.

Banks et al. (2005) described *pedagogical knowledge* (PK) as understanding methods, teaching strategies, and general curriculum knowledge together with understanding learners' difficulties and assessment details, independent of any field such as mathematics, science, and social studies. Further, according to Koehler and Mishra (2009), *PK* is teachers' comprehensive understanding of the procedures and techniques or teaching and learning methods. In addition, teachers contain general educational objectives, aims, and values. Moreover, *PK* provides comprehension of theories related to learning and development as well as learning theories; social and cognitive, in addition to their application to students within the classroom setting. Thus, an educator possessing comprehensive *PK* comprehends the process through which students cultivate ways of thinking and favorable attitudes towards gaining proficiency and creating knowledge (Koehler & Mishra, 2009).

The findings related to pedagogical knowledge indicate that the GOM teachers have a higher frequency of improvement in their pedagogical knowledge compared to FOM teachers. Moreover, the GOM teachers reported an increase in their pedagogical knowledge by learning new techniques and giving interactive assignments. For instance, participant G14 stated that "it helped me to learn new teaching

techniques. I gave interactive assignments." Similarly, participant G6 stated that *"I already knew about using technology, so it only helped me to learn more ways to teach."* These findings suggest that the use of technology has contributed to the professional development of GOM teachers in terms of improving their pedagogical knowledge.

In addition, the participants mentioned the importance of creativity and experimentation with different methods to engage students during online classes. As participant G15 pointed out, *"It took more creativity to attract students to the lesson. We also used some online methods we do not normally use in the classroom. Not sticking to the book offers opportunities to do activities and use other methods."* The use of technology helped the participants to break the routine and bring more flexibility in their teaching approach, leading to an increase in creativity, innovation and ways to engage students in their lessons. These findings suggest that technology can serve as a valuable instrument to amplify pedagogical practices, particularly in an online teaching environment.

Overall, the findings related to pedagogical knowledge suggest that the GOM teachers have a higher frequency of improvement in their pedagogical knowledge compared to FOM teachers. Moreover, the use of technology has facilitated the learning of new teaching techniques and innovative pedagogical practices among the participants. The findings also highlight the importance of creativity and experimentation with different methods to engage students during online classes.

The study also found that technology use had a positive impact on the pedagogical knowledge level of the participants, which corroborated Horzum's (2013) findings. For instance, participant G14 stated that technology helped them learn new teaching techniques and that they implemented interactive assignments in their teaching. This finding aligns with the Mouza's study (2002). Furthermore, it was found in the study that technology can bring more flexibility in the teaching approach, which was stressed by Peimani and Kamalipour (2021). Additionally, the study

revealed that GOM teachers have a higher frequency of improved technological knowledge compared to FOM teachers.

TPK refers to integrating technology with pedagogical knowledge and includes understanding technology's benefits from a pedagogical perspective, such as facilitating learning, increasing permanence, and concretization. For instance, even though widespread software, web 2.0 tools, and some applications are prepared for the business world, they become crucial in education with technological pedagogical knowledge (Koehler & Mishra, 2009). Additionally, Harris et al., (2009) stress that understanding how educators can effectively apply and assess their TK in a pedagogical context within the classroom setting.

The results of this study indicate that GOM teachers have a higher frequency of Technological-Pedagogical Knowledge than FOM teachers. Participant G7, as well as other GOM teachers, emphasizes the importance of technology in teaching listening and speaking skills. Furthermore, the study also suggests that GOM teachers, like participant G10, have adapted well to the shift to online teaching due to the pandemic, by researching new resources and techniques, utilizing opportunities offered by technology, and finding new ways to effectively teach their students. Participant G11's remarks further underline the need for teachers to develop technological-pedagogical knowledge to teach online effectively, which includes giving students project works and assignments and discovering new ways of teaching. The use of online tutorial game sites, as mentioned by participant G22, has also been beneficial in helping teachers learn how to teach online effectively. Participant G5's success in integrating technology into teaching, as seen in the use of applications like Kahoot and Readlang, is another example of how GOM teachers have a deeper understanding of how technology can enhance language education and make it more engaging and effective. Furthermore, the findings reinforce the importance of a growth-oriented mindset for teachers, who are open to new opportunities and ways of teaching, and have a deeper understanding of the potential of technology

to enhance language education. As participant G7 put it, "*Without technology, we cannot teach listening and speaking.*" Therefore, teachers consider it essential to develop TPK to adapt well to the new teaching environment and discover innovative methods for engaging students in language education. The success of GOM teachers in this study provides evidence of the benefits of a growth-oriented mindset for professional development and the impact of COVID-19 on their technological skills and professional development in online teaching.

In the light of these explanations, it can be shortly said that *TCK* is teachers' capability to utilize technology in general. Mishra and Koehler (2006) defined it as knowledge stemming from the field and technology's interdependent and mutual interaction. On that point, Slough and Connell (2006) summarized the *TCK* in the theoretical framework by emphasizing the intersection between technology and content. Therefore, it is essential for the teacher to decide which technology needs to be used to teach the course content.

The findings of this study suggest that the COVID-19 pandemic has had a significant impact on the technological skills and professional development of English language teachers. The participants, who were both growth and fixed mindset teachers, shared their experiences of using technology to teach English online during the pandemic. In terms of Technological-Content Knowledge, the growth mindset teachers showed a significantly higher frequency value ($f=16$) compared to the fixed mindset teachers ($f=1$). The quotes from participants G12, G21, G25, and F4 revealed that teachers with a growth mindset were open to learning and adapting to new technologies and ways of teaching content. They actively sought out and implemented the use of digital tools and resources to enhance their teaching, while also acknowledging the benefits that those tools could bring to their teaching practice. Besides, participant G25, for example, discussed their experience with technological-content knowledge and how they had never heard of WEB 2.0 tools before the COVID-19 pandemic. Learning and using these tools helped them not

only during online lessons but also in the actual classroom environment. This quote highlights the teacher's ability to adapt and learn new tools and techniques to improve their teaching, a characteristic of a growth mindset. Similarly, participant G5 found new materials such as e-books, apps, and programs for teaching English while teaching online during the pandemic, and they are still using them now, indicating that they improved their technology-content knowledge and skills during the pandemic.

Furthermore, the participants recognized the importance of using technology to engage students and improve educational outcomes. Participant G5 talked about the richness of content and the benefits of it for students, while expressing the way of teaching. It is essential to note that the participants did not solely talk about the tools and resources they used, but also their pedagogical strategies and teaching methods to enhance student learning.

In general, the results suggest that the COVID-19 outbreak has given English language instructors a chance to enhance their technical abilities and career advancement. It is clear that teachers who possess a growth mindset were more receptive to acquiring new technologies and teaching techniques, which are key attributes of successful teaching. On the other hand, FOM people were less likely to do so. Therefore, it is important to create training programs that encourage the development of technological skills and foster a growth mindset in teachers to effectively incorporate technology into their teaching methods.

Overall, the study highlights the importance of having GM towards technology and a willingness to learn and adapt to new tools and techniques to improve teaching practice. The results of this study align with earlier research and carry significant consequences for the improvement of teacher preparation and ongoing growth in utilizing technology within the field of education.

5.3. Pedagogical Implications

The findings of this study have several pedagogical implications for teachers, school administrators, and teacher educators. To begin with,

the study implies the importance of promoting growth mindsets among teachers to foster a positive learning environment for students. This can be achieved by providing professional development opportunities that focus on mindset theory, the benefits of adopting a growth mindset, and strategies for promoting growth mindsets in the classroom.

Furthermore, the research highlights the importance of teachers' mindset that can affect the way they teach, such as their expectations of students, their feedback, and their instructional strategies. They need to engage in ongoing self-reflection and self-assessment to identify areas where they can improve their mindset and teaching practices.

In conclusion, the pedagogical implications of this study demonstrate the importance of promoting growth mindsets among teachers, being reflective practitioners, and using a mixed-methods approach to research. These implications provide valuable insights into how to create a positive learning environment that fosters growth and development for both teachers and students.

5.4. Suggestions for Further Research

Upon analyzing the outcomes of this study, numerous suggestions for further research can be made. It is advised to reproduce this investigation utilizing a more extensive and varied group of participants, in order to maintain consistency in findings and enhance inclusivity to ensure the generalizability of the results. Second, further studies ought to explore the correlation existing between TM and student academic achievement using objective measures, such as standardized test scores. Third, future studies could explore the impact of mindset interventions on TM and their teaching practices. Fourth, research could focus on exploring the relationship between TM and other variables, such as teacher burnout and job satisfaction. Finally, it would be beneficial to conduct longitudinal studies to investigate the stability and change of TM over time and the potential impact on student outcomes.

5.5. Conclusion

In conclusion, the study findings indicate that TM plays a pivotal role in shaping the learning environment of students. Teachers who have a growth mindset tend to adopt positive and constructive feedback to improve their teaching practices and students' learning outcomes. On the other hand, FOM teachers tend to focus on student ability and performance rather than fostering their learning and growth. These findings are significant as they shed light on the importance of teacher professional development programs to promote a growth mindset and help teachers overcome their fixed mindset beliefs. In turn, this could positively impact student learning outcomes and promote a more positive and constructive classroom environment. Overall, it is essential to continue research in this area to better understand how TM can be developed and promoted to enhance the teaching and learning process.

REFERENCES

- Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, 2(1), 45-51.
- Aguilar, S. J., Galperin, H., Baek, C., & Gonzalez, E. (2020). When school comes home: How low-income families are adapting to distance learning.
- Akram, H., Yingxiu, Y., Al-Adwan, A. S., & Alkhalifah, A. (2021). Technology integration in higher education during COVID-19: An assessment of online teaching competencies through technological pedagogical content knowledge model. *Frontiers in psychology*, 12, 736522.
- Al-Arimi, A. M. A. K. (2014). Distance learning. *Procedia-Social and Behavioral Sciences*, 152, 82-88.
- Al Musawi, A. S. (2011). Blended learning. *Journal of Turkish Science Education*, 8(2), 3-8.
- Ali, I., Narayan, A. K., & Sharma, U. (2021). Adapting to COVID-19 disruptions: student engagement in online learning of accounting. *Accounting Research Journal*, 34(3), 261-269.
- Alhamami, M. (2019). Learners' beliefs about language-learning abilities in face-to-face & online settings. *International Journal of Educational Technology in Higher Education*, 16, 1-23.
- Alhojailan, M. I., & Ibrahim, M. (2012). Thematic analysis: A critical review of its process and evaluation. *West east journal of social sciences*, 1(1), 39-47.
- Altunel, İ. (2019). Bridging the Gap: A Study on the Relationship between Mindset and Foreign Language Anxiety. *International Online Journal of Education and Teaching*, 6(3), 690-705.
- Amiti, F. (2020). Synchronous and asynchronous E-learning. *European Journal of Open Education and E-Learning Studies*, 5(2).
- Angeli, C., & Valanides, N. (Eds.). (2014). *Technological pedagogical content knowledge: Exploring, developing, and assessing TPACK*. Springer.
- Archambault, L. M., & Barnett, J. H. (2010). Revisiting technological pedagogical content knowledge: Exploring the TPACK framework. *Computers & Education*, 55(4), 1656-1662.

- Avsheniuk, N., Seminikhyna, N., Svyrydiuk, T., & Lutsenko, O. (2021). ESP students' satisfaction with online learning during the COVID-19 pandemic in Ukraine. *Arab World English Journal (AWEJ) Special Issue on COVID*, 19.
- Bates, A. T. (2005). *Technology, e-learning and distance education*. Routledge.
- Bai, B., & Wang, J. (2023). The role of growth mindset, self-efficacy and intrinsic value in self-regulated learning and English language learning achievements. *Language teaching research*, 27(1), 207-228.
- Baier, F., & Kunter, M. (2020). Construction and validation of a test to assess (pre-service) teachers' technological pedagogical knowledge (TPK). *Studies in Educational Evaluation*, 67, 100936.
- Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special?
- Banks, F., Leach, J., & Moon, B. (2005). New understandings of teachers' pedagogic knowledge. In *Teaching, learning and the curriculum in secondary schools* (pp. 90-99). Routledge.
- Barbour, M., & Plough, C. (2009). Helping to make online learning less isolating. *TechTrends*, 53(4), 57.
- Barcelos, A. M. F. (2003). Researching beliefs about SLA: A critical review. *Beliefs about SLA: New research approaches*, 7-33.
- Bayyurt, Y. (2006). Non-native English language teachers' perspective on culture in English as a foreign language classroom. *Teacher Development*, 10(2), 233-247.
- Bedford, S. (2017). Growth mindset and motivation: A study into secondary school science learning. *Research papers in education*, 32(4), 424-443.
- Berge, Z. L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it. *Online Journal of Distance Learning Administration*, 1(2), 2.
- Bergland, C. (2012). The neuroscience of music, mindset, and motivation. *Psychology Today*.
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A

- longitudinal study and an intervention. *Child Development*, 78(1), 246-263.
- Boaler, J. (2015). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. John Wiley & Sons.
- Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of organizational behavior*, 36(1), 3-15.
- Borg, S. (2003). Teacher cognition in grammar teaching: A literature review. *Language awareness*, 12(2), 96-108.
- Borg, S., & Burns, A. (2008). Integrating grammar in adult TESOL classrooms. *Applied linguistics*, 29(3), 456-482.
- Borg, S., & Al-Busaidi, S. (2012). Teachers' beliefs and practices regarding learner autonomy. *ELT journal*, 66(3), 283-292.
- Boullion, A., Withers, M. C., & Lippmann, M. (2021). Mindsets: investigating resilience. *Personality and Individual Differences*, 174, 110669.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Brinkmann, S. (2015). Learner-centred education reforms in India: The missing piece of teachers' beliefs. *Policy Futures in Education*, 13(3), 342-359.
- Broen, M. P., Moonen, A. J., Kuijf, M. L., Dujardin, K., Marsh, L., Richard, I. H., ... & Leentjens, A. F. (2015). Factor analysis of the Hamilton Depression Rating Scale in Parkinson's disease. *Parkinsonism & related disorders*, 21(2), 142-146.
- Burnette, J. L., Hoyt, C. L., Russell, V. M., Lawson, B., Dweck, C. S., & Finkel, E. (2020). A growth mind-set intervention improves interest but not academic performance in the field of computer science. *Social Psychological and Personality Science*, 11(1), 107-116.)
- Burns, A. (1992). Teacher beliefs and their influence on classroom practice. *Prospect*, 7(3), 56-66.
- Calderhead, J. (1996). Teachers: Beliefs and knowledge.

- Calo, M., Peiris, C., Chipchase, L., Blackstock, F., & Judd, B. (2019). Grit, resilience and mindset in health students. *The Clinical Teacher*, 16(4), 317-322.
- Caluori, N. (2014). Mindset and motivation. *Center for Teaching Excellence*.
- Caniëls, M. C., Semeijn, J. H., & Renders, I. H. (2018). Mind the mindset! The interaction of proactive personality, transformational leadership and growth mindset for engagement at work. *Career development international*.
- Castro, M. D. B., & Tumibay, G. M. (2021). A literature review: efficacy of online learning courses for higher education institution using meta-analysis. *Education and Information Technologies*, 26, 1367-1385.
- Chai, C. S., Koh, J. H. L., & Tsai, C. C. (2010). Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK). *Journal of Educational Technology & Society*, 13(4), 63-73.
- Chakraborty, P., Mittal, P., Gupta, M. S., Yadav, S., & Arora, A. (2021). Opinion of students on online education during the COVID-19 pandemic. *Human Behavior and Emerging Technologies*, 3(3), 357-365.
- Chan, E. (2006). Teacher experiences of culture in the curriculum. *Journal of Curriculum Studies*, 38(2), 161-176.
- Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences*, 113(31), 8664-8668.
- Conrad, R. M., & Donaldson, J. A. (2011). *Engaging the online learner: Activities and resources for creative instruction*. John Wiley & Sons.
- Cutumisu, M., & Lou, N. M. (2020). The moderating effect of mindset on the relationship between university students' critical feedback-seeking and learning. *Computers in Human Behavior*, 112, 106445.
- Danchikov, E. A., Prodanova, N. A., Kovalenko, Y. N., & Bondarenko, T. G. (2021). The potential of online learning in modern conditions and its use at different levels of education. *Linguistics and Culture Review*, 5(S1), 578-586.

- De Kraker-Pauw, E., Van Wesel, F., Krabbendam, L., & Van Atteveldt, N. (2017). Teacher mindsets concerning the malleability of intelligence and the appraisal of achievement in the context of feedback. *Frontiers in Psychology*, 8, 1594.
- Delibalta, M. A. (2020). *The relationship between mindset and causal attribution in the EFL context* (Master's thesis, Çağ Üniversitesi Sosyal Bilimler Enstitüsü).
- Depaepe, F., Verschaffel, L., & Kelchtermans, G. (2013). Pedagogical content knowledge: A systematic review of the way in which the concept has pervaded mathematics educational research. *Teaching and teacher education*, 34, 12-25.
- D'errico, F., Paciello, M., De Carolis, B., Vattani, A., Palestra, G., & Anzivino, G. (2018). Cognitive emotions in e-learning processes and their potential relationship with students' academic adjustment.
- Donnelly, R., & Patrinos, H. A. (2021). Learning loss during COVID-19: An early systematic review. *Prospects*, 1-9.
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of personality and social psychology*, 92(6), 1087.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American psychologist*, 41(10), 1040.
- Dweck, C. (1988). Two mindsets. *Artikkelissa Mindset Works: The Impact of a Growth Mindset. Why Do Mindsets Matter.*
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review*, 95(2), 256.
- Dweck, C.S. (1999). *Self-theories: Their Role in Motivation, Personality, and Development (1st ed.)*. Psychology Press.
- Dweck, C.S. (2000) *Self-Theories: Their Role in Motivation, Personality, and Development*. Philadelphia: Psychology Press.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random house.
- Dweck, C. S. (2008). Brainology: Transforming students' motivation to learn. *Independent school*, 67(2), 110-119.

- Dweck, C. (2014). Teachers' Mindsets: "Every Student has Something to Teach Me" Feeling overwhelmed? Where did your natural teaching talent go? Try pairing a growth mindset with reasonable goals, patience, and reflection instead. It's time to get gritty and be a better teacher. *Educational horizons*, 93(2), 10-15.
- Dykman, C. A., & Davis, C. K. (2008). Online education forum-part three: A quality online educational experience. *Journal of Information Systems Education*, 19(3), 281.
- Elshami, W., Taha, M. H., Abuzaid, M., Saravanan, C., Al Kawas, S., & Abdalla, M. E. (2021). Satisfaction with online learning in the new normal: perspective of students and faculty at medical and health sciences colleges. *Medical Education Online*, 26(1), 1920090.
- Emily Rhew, Jody S. Piro, Pauline Goolkasian & Patricia Cosentino | (2018) The effects of a growth mindset on self-efficacy and motivation, *Cogent Education*, 5:1, 1492337,
- Erdogan, A., & Sahin, I. (2010). Relationship between math teacher candidates' technological pedagogical and content knowledge (TPACK) and achievement levels. *Procedia-Social and Behavioral Sciences*, 2(2), 2707-2711.
- Ergen, S. (2019). *Exploring the relationship between teachers' mindset and their technology self-efficacy among the secondary school efl teachers* (Master's thesis, Başkent Üniversitesi Eğitim Bilimleri Enstitüsü).
- Farrah, M., & Jabari, S. (2020). Interaction in Online Learning Environment during COVID-19: Factors behind Lack of Interaction and Ideas for promoting it.
- Ferede, T., Melese, E., & Tefera, E. (2013). A descriptive survey on teachers' perception of EFL Writing and their practice of teaching writing: preparatory schools in Jimma zone in focus. *Ethiopian Journal of Education and Sciences*, 8(1), 29–52.

- Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 86.
- Fives, H., & Buehl, M. M. (2008). What do teachers believe? Developing a framework for examining beliefs about teachers' knowledge and ability. *Contemporary Educational Psychology*, 33(2), 134-176.
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the “messy” construct of teachers' beliefs: What are they? Which have been examined? What can they tell us?
- Foo, C. C., Cheung, B., & Chu, K. M. (2021). A comparative study regarding distance learning and the conventional face-to-face approach conducted problem-based learning tutorial during the COVID-19 pandemic. *BMC medical education*, 21, 1-6.
- Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: Interaction is not enough. *The American journal of distance education*, 19(3), 133-148.
- Gatbonton, E. (2008). Looking beyond teachers' classroom behaviour: Novice and experienced ESL teachers' pedagogical knowledge. *Language teaching research*, 12(2), 161-182.
- Gemmell, I., & Harrison, R. (2017). A comparison between national and transnational students' access of online learning support materials and experience of technical difficulties on a fully online distance learning master of public health programme. *Open Learning: The Journal of Open, Distance and e-Learning*, 32(1), 66-80.
- Gero, G. P. (2013). *What drives teachers to improve? The role of teacher mindset in professional learning* (Doctoral dissertation, The Claremont Graduate University).
- Ghaith, G. (2004). Correlates of the implementation of the STAD cooperative learning method in the English as a foreign language classroom. *International Journal of Bilingual Education and Bilingualism*, 7(4), 279-294.

- Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design, 10*(1), 20-30.
- Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest research-to-Practice Conference in Adult, Continuing, and community education.
- Godwin-Jones, R. (2007). Tools and trends in self-paced language instruction.
- Goldstein, S., Brooks, R., & DeVries, M. (2013). Translating resilience theory for application with children and adolescents by parents, teachers, and mental health professionals. *Resilience in children, adolescents, and adults: Translating research into practice*, 73-90.
- Gottfredson, R. K., & Reina, C. S. (2021). Illuminating the foundational role that mindsets should play in leadership development. *Business Horizons, 64*(4), 439-451.
- Goyal, S. (2012). E-Learning: Future of education. *Journal of Education and Learning (EduLearn), 6*(4), 239-242.
- Gustiani, S. (2020). Students' motivation in Online Learning During Covid-19 Pandemic Era: A Case Study. *Holistics (Hospitality and Linguistics): Jurnal Ilmiah Bahasa Inggris, 12*(2).
- Gutshall, C. A. (2013). Teachers' mindsets for Students with and Without Disabilities. *Psychology in the Schools, 50*(10), 1073-1083.
- Gutshall, C. A. (2020). When Teachers Become Students: Impacts of Neuroscience Learning on Elementary Teachers' Mindset Beliefs, Approach to Learning, Teaching Efficacy, and Grit. *European Journal of Psychology and Educational Research, 3*(1), 39-48.
- Haimovitz, K., & Dweck, C. S. (2017). The origins of children's growth and fixed mindsets: New research and a new proposal. *Child development, 88*(6), 1849-1859.
- Hamilton, L., & Gross, B. (2021). How Has the Pandemic Affected Students' Social-Emotional Well-Being? *A Review of the Evidence to Date*. Center on Reinventing Public Education.

- Haney, J. J., Czerniak, C. M., & Lumpe, A. T. (1996). Teacher beliefs and intentions regarding the implementation of science education reform strands. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, 33(9), 971-993.
- Harasim, L. (1996). Online education. *Computer networking and scholarly communication in the twenty-first-century university*, 203-214.
- Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of research on technology in education*, 41(4), 393-416.
- Hastuti, K. P., Angriani, P., Alviawati, E., & Arisanty, D. (2021, May). The perspective of geography education students on the implementation of online learning during COVID-19 pandemic. In *IOP Conference Series: Earth and Environmental Science* (Vol. 747, No. 1, p. 012012). IOP Publishing.
- Hochanadel, A., & Finamore, D. (2015). Fixed and growth mindset in education and how grit helps students persist in the face of adversity. *Journal of International Education Research (JIER)*, 11(1), 47-50.
- Hofer, S. I., Nistor, N., & Scheibenzuber, C. (2021). Online teaching and learning in higher education: Lessons learned in crisis situations. *Computers in Human Behavior*, 121, 106789.
- Horzum, M. B. (2013). An investigation of the technological pedagogical content knowledge of pre-service teachers. *Technology, Pedagogy and Education*, 22(3), 303-317.
- Hrastinski, S. (2019). What do we mean by blended learning?. *TechTrends*, 63(5), 564-569.
- Huang, J. (2020). Successes and challenges: Online teaching and learning of chemistry in higher education in China in the time of COVID-19. *Journal of Chemical Education*, 97(9), 2810-2814.

- İlhan Beyaztaş, D., & Hymer, B. (2016). An analysis of Turkish students' perception of intelligence from primary school to university. *Gifted Education International*, doi, 10(0261429416649041).
- Johnson, K. E. (1992). The relationship between teachers' beliefs and practices during literacy instruction for non-native speakers of English. *Journal of reading behavior*, 24(1), 83-108.
- Johnson, K. E. (1994). The emerging beliefs and instructional practices of preservice English as a second language teachers. *Teaching and teacher education*, 10(4), 439-452.
- Kagan, D. M. (1992). Implication of research on teacher belief. *Educational psychologist*, 27(1), 65-90.
- Kaya, S., & Karakoc, D. (2022). Math Mindsets and Academic Grit: How Are They Related to Primary Math Achievement? *European Journal of Science and Mathematics Education*, 10(3), 298-309.
- Kaya, S. & Yüksel, D. (2022). Teacher Mindset and Grit: How do They Change by Teacher Training, Gender, and Subject Taught? *Participatory Educational Research*, 9 (6), 418-435. DOI: 10.17275/per.22.146.9.6
- Kelchtermans, G. (1993). Getting the story, understanding the lives: From career stories to teachers' professional development. *Teaching and teacher education*, 9(5-6), 443-456.
- Khader, F. R. (2012). Teachers' pedagogical beliefs and actual classroom practices in social studies instruction. *American international journal of contemporary research*, 2(1), 73-92.
- Kim, M. S., & Park, S. (2021). Growth of fixed mindset from elementary to middle school: Its relationship with trajectories of academic behavior engagement and academic achievement. *Psychology in the Schools*, 58(11), 2175-2188.
- Kirschner, P., Strijbos, J. W., Kreijns, K., & Beers, P. J. (2004). Designing electronic collaborative learning environments. *Educational technology research and development*, 52(3), 47-66.
- Kleickmann, T., Richter, D., Kunter, M., Elsner, J., Besser, M., Krauss, S., ... & Baumert, J. (2015). Content knowledge and pedagogical content

- knowledge in Taiwanese and German mathematics teachers. *Teaching and Teacher Education*, 46, 115-126.
- Knight, H., Carlisle, S., O'Connor, M., Briggs, L., Fothergill, L., Al-Oraibi, A., ... & Blake, H. (2021). Impacts of the COVID-19 pandemic and Self-Isolation on students and staff in higher education: A qualitative study. *International journal of environmental research and public health*, 18(20), 10675.
- Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of educational computing research*, 32(2), 131-152.
- Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary issues in technology and teacher education*, 9(1), 60-70.
- Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of education*, 193(3), 13-19.
- Koehler, M. J., Mishra, P., Akcaoglu, M., & Rosenberg, J. M. (2013). The technological pedagogical content knowledge framework for teachers and teacher educators. *ICT integrated teacher education: A resource book*, 2-7.
- Knowles, J. G. (1992). Models for teachers' biographies. In I. Goodson (Eds.), *Studying teachers' lives* (pp. 99-152). New York: Teachers College Press.
- Kouzes, T. K., & Posner, B. Z. (2019). Influence of managers' mindset on leadership behavior. *Leadership & Organization Development Journal*.
- Krauss, S., Brunner, M., Kunter, M., Baumert, J., Blum, W., Neubrand, M., & Jordan, A. (2008). Pedagogical content knowledge and content knowledge of secondary mathematics teachers. *Journal of educational psychology*, 100(3), 716.
- Kunt, N. (1997). *Anxiety and beliefs about language learning: A study of Turkish-speaking university students learning English in North Cyprus*. The University of Texas at Austin.

- Kupari, P. (2003). Instructional practices and teachers' beliefs in Finnish mathematics education. *Studies in Educational Evaluation*, 29, 243–257
- Lachner, A., Backfisch, I., & Stürmer, K. (2019). A test-based approach of modeling and measuring technological pedagogical knowledge. *Computers & Education*, 142, 103645.
- Lewis, C. C., & Abdul-Hamid, H. (2006). Implementing effective online teaching practices: Voices of exemplary faculty. *Innovative Higher Education*, 31(2), 83-98.
- Listiawan, T., As'ari, A. R., & Muksar, M. (2018, November). Mathematics teachers technological content knowledge (TCK) in using dynamic geometry software. In *Journal of Physics: Conference Series* (Vol. 1114, No. 1, p. 012121). IOP Publishing.
- Lochmiller, C. R. (2021). Conducting Thematic Analysis with Qualitative Data. *Qualitative Report*, 26(6).
- Macalister, J. (2012). Pre-service teacher cognition and vocabulary teaching. *RELC journal*, 4(1), 99-111.
- MacDonnell Mesler, R., Corbin, C. M., & Harker Martin, B. (2021). Teacher Mindset Is Associated with Development of Students' Growth Mindset. *Grantee Submission*, 76.
- Mahyoob, M. (2020). Challenges of e-Learning during the COVID-19 Pandemic Experienced by EFL Learners. *Arab World English Journal (AWEJ)*, 11(4).
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers college record*, 115(3), 1-47.
- Mercer, S., & Ryan, S. (2010). A mindset for EFL: Learners' beliefs about the role of natural talent. *ELT journal*, 64(4), 436-444.

- Miller, H. B., & Srougi, M. C. (2021). Growth mindset interventions improve academic performance but not mindset in biochemistry. *Biochemistry and Molecular Biology Education*, 49(5), 748-757.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers college record*, 108(6), 1017-1054.
- Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning, and distance learning environments: Are they the same?. *The Internet and higher education*, 14(2), 129-135.
- Moser, J. S., Schroder, H. S., Heeter, C., Moran, T. P., & Lee, Y. H. (2011). Mind your errors: Evidence for a neural mechanism linking growth mind-set to adaptive posterror adjustments. *Psychological science*, 22(12), 1484-1489.
- Mouza, C. (2002). Learning to teach with new technology: Implications for professional development. *Journal of Research on Computing in Education*, 35(2), 272-289.
- Mowbray, B. K. (2014). Transformation of teacher beliefs regarding intelligence theory (pp. 75–123).(publication no. 3704120)[doctoral dissertation, cardinal Stritch University].
- Mrazek, A. J., Ihm, E. D., Molden, D. C., Mrazek, M. D., Zedelius, C. M., & Schooler, J. W. (2018). Expanding minds: Growth mindsets of self-regulation and the influences on effort and perseverance. *Journal of Experimental Social Psychology*, 79, 164-180.
- Muijs, D., & Reynolds, D. (2002). Teachers' beliefs and behaviors: What really matters? *The Journal of Classroom Interaction*, 3-15.
- Murphy, E., Rodríguez-Manzanares, M. A., & Barbour, M. (2011). Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers. *British Journal of Educational Technology*, 42(4), 583-591.
- Murphy, L., & Thomas, L. (2008, June). Dangers of a fixed mindset: implications of self-theories research for computer science education. In *Proceedings*

- of the 13th annual conference on Innovation and technology in computer science education (pp. 271-275).
- Murphy, M. C., & Reeves, S. L. (2019). Personal and organizational mindsets at work. *Research in Organizational Behavior*, 39, 100121.
- Nalla, R. C. (2022). Lived Experiences, Challenges, and Coping Mechanisms of Teachers on the Current Paradigm Shift in Education: A Phenomenological Study. *Online Submission*, 1(1), 1-11.
- Ng, B. (2018). The neuroscience of growth mindset and intrinsic motivation. *Brain sciences*, 8(2), 20.
- Nimavat, N., Singh, S., Fichadiya, N., Sharma, P., Patel, N., Kumar, M., ... & Pandit, N. (2021). Online medical education in India—different challenges and probable solutions in the age of COVID-19. *Advances in medical education and practice*, 237-243.
- Okaz, A. A. (2015). Integrating blended learning in higher education. *Procedia-Social and Behavioral Sciences*, 186, 600-603.
- Oldaç, B. (2022). Teachers' Mindsets in Foreign Language Classrooms. (Master's Thesis, Istanbul Medeniyet University).
- Oliver, M., & Trigwell, K. (2005). Can 'blended learning' be redeemed? *E-learning and Digital Media*, 2(1), 17-26.
- Ortiz Alvarado, N. B., Rodriguez Ontiveros, M., & Ayala Gaytán, E. A. (2019). Do mindsets shape students' well-being and performance? *The Journal of psychology*, 153(8), 843-859.
- Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of educational psychology*, 86(2), 193.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of educational research*, 62(3), 307-332.
- Parylo, O. (2012). Qualitative, quantitative, or mixed methods: An analysis of research design in articles on principal professional development (1998–2008). *International Journal of Multiple Research Approaches*, 6(3), 297-313.

- Peacock, M. (1999). Beliefs about language learning and their relationship to proficiency. *International Journal of Applied Linguistics*, 9(2), 247-263.
- Peacock, M. (2001). Pre-service ESL teachers' beliefs about second language learning: A longitudinal study. *System*, 29(2), 177-195.
- Pehkonen, E., & Pietilä, A. (2003, February). On relationships between beliefs and knowledge in mathematics education. In *Proceedings of the CERME-3 (Bellaria) meeting* (pp. 1-8).
- Peimani, N., & Kamalipour, H. (2021). Online education and the COVID-19 outbreak: A case study of online teaching during lockdown. *Education Sciences*, 11(2), 72.
- Philipp, R. A. (2007). Mathematics teachers' beliefs and affect. *Second handbook of research on mathematics teaching and learning*, 1, 257-315.
- Poon, J. (2013). Blended learning: An institutional approach for enhancing students' learning experiences. *Journal of online learning and teaching*, 9(2), 271.
- Purwanto, A., Asbari, M., Fahlevi, M., Mufid, A., Agistiawati, E., Cahyono, Y., & Suryani, P. (2020). Impact of work from home (WFH) on Indonesian teachers' performance during the COVID-19 pandemic: An exploratory study. *International Journal of Advanced Science and Technology*, 29(5), 6235-6244.
- Radu, M. C., Schnakovszky, C., Herghelegiu, E., Ciubotariu, V. A., & Cristea, I. (2020). The impact of the COVID-19 pandemic on the quality of educational process: A student survey. *International journal of environmental research and public health*, 17(21), 7770.
- Rahardi, F., & Dartanto, T. (2021). Growth mindset, delayed gratification, and learning outcome: evidence from a field survey of least-advantaged private schools in Depok-Indonesia. *Heliyon*, 7(4), e06681.
- Rahimi, M., & Pourshahbaz, S. (Eds.). (2018). English as a Foreign Language Teachers' TPACK: Emerging Research and Opportunities: Emerging Research and Opportunities.

- Raymond, A. M. (1997). Inconsistency between a beginning elementary school teacher's mathematics beliefs and teaching practice. *Journal for research in mathematics education*, 28(5), 550-576.
- Rhew, E., Piro, J. S., Goolkasian, P., & Cosentino, P. (2018). The effects of a growth mindset on self-efficacy and motivation. *Cogent Education*, 5(1), 1492337.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. *Handbook of research on teacher education*, 2(102-119), 273-290.
- Rhode, J. (2009). Interaction equivalency in self-paced online learning environments: An exploration of learner preferences. *The international review of research in open and distributed learning*, 10(1).
- Saiyad, S., Virk, A., Mahajan, R., & Singh, T. (2020). Online teaching in medical training: Establishing good online teaching practices from cumulative experience. *International Journal of Applied and Basic Medical Research*, 10(3), 149.
- Saunders, S. A. (2013). *The impact of a growth mindset intervention on the reading achievement of at-risk adolescent students*. University of Virginia.
- Schommer, M. (1993). Comparisons of beliefs about the nature of knowledge and learning among postsecondary students. *Research in higher education*, 34, 355-370.
- Schreiber, J. B. (2008). Pilot study. *The SAGE encyclopedia of qualitative research methods*, 2, 624-625.
- Serrano, D. R., Dea-Ayuela, M. A., Gonzalez-Burgos, E., Serrano-Gil, A., & Lalatsa, A. (2019). Technology-enhanced learning in higher education: How to enhance student engagement through blended learning. *European Journal of Education*, 54(2), 273-286.
- Slough, S., & Connell, M. (2006, March). Defining technogogy and its natural corollary, Technogogical Content Knowledge (TCK). In Society for Information Technology & Teacher Education International Conference (pp. 1053-1059). Association for the Advancement of Computing in Education (AACE).

- Smith, T. F., & Capuzzi, G. (2019). Using a mindset intervention to reduce anxiety in the statistics classroom. *Psychology Learning & Teaching*, 18(3), 326-336.)
- Stott, P. (2016). The perils of a lack of student engagement: Reflections of a “lonely, brave, and rather exposed” online instructor. *British Journal of Educational Technology*, 47(1), 51-64.
- Su, D. N., Johnson, L. W., & O’Mahony, B. (2020). Analysis of push and pull factors in food travel motivation. *Current Issues in Tourism*, 23(5), 572-586.
- Subedi, D. (2016). Explanatory sequential mixed method design as the third research community of knowledge claim. *American Journal of Educational Research*, 4(7), 570-577.
- Susannah Bedford (2017) Growth mindset and motivation: a study into secondary school science learning, *Research Papers in Education*, 32:4, 424-443, DOI: 10.1080/02671522.2017.1318809
- Şimşek, A. İ. (2022). Teacher mindset and subjective wellbeing: Primary teachers sample [MA thesis]. Kocaeli University.
- Taber, K. S. (2018). The use of Cronbach’s alpha when developing and reporting research instruments in science education. *Research in science education*, 48, 1273-1296.
- Tanrıverdi, Y. (2022). *Effects of an Online Growth Mindset Intervention On the Mindset and Teacher Efficacy of Primary School Teachers Working with Gifted and Talented Students and Opinions of Teachers Regarding the Program* (Master’s Thesis, Bahçeşehir University).
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- Teodorescu, D., Aivaz, K. A., & Amalfi, A. (2022). Factors affecting motivation in online courses during the COVID-19 pandemic: the experiences of students at a Romanian public university. *European Journal of Higher Education*, 12(3), 332-349.
- Trei, L. (2007). New study yields instructive results on how mindset affects learning. *Stanford University*. Retrieved February, 21, 2022.

- Tseng, H., Kuo, Y. C., & Walsh, E. J. (2020). Exploring first-time online undergraduate and graduate students' growth mindsets and flexible thinking and their relations to online learning engagement. *Educational Technology Research and Development*, 68, 2285-2303.)
- Tu, C. H., & McIsaac, M. (2002). The relationship of social presence and interaction in online classes. *The American journal of distance education*, 16(3), 131-150.
- Van de Vord, R., & Pogue, K. (2012). Teaching time investment: Does online really take more time than face-to-face?. *International Review of Research in Open and Distributed Learning*, 13(3), 132-146.
- Van Ha, X., & Murray, J. C. (2021). The impact of a professional development program on EFL teachers' beliefs about corrective feedback. *System*, 96, 102405.
- Van Driel, J. H., Bulte, A. M., & Verloop, N. (2007). The relationships between teachers' general beliefs about teaching and learning and their domain specific curricular beliefs. *Learning and instruction*, 17(2), 156-171.
- Verberg, F., Helmond, P., Otten, R., & Overbeek, G. (2019). Mindset and perseverance of adolescents with intellectual disabilities: Associations with empowerment, mental health problems, and self-esteem. *Research in Developmental Disabilities*, 91, 103426.
- Vershitskaya, E. R., Mikhaylova, A. V., Gilmanshina, S. I., Dorozhkin, E. M., & Epaneshnikov, V. V. (2020). Present-day management of universities in Russia: *Prospects and challenges of e-learning*. *Education and Information Technologies*, 25, 611-621.
- Voogt, J., Fisser, P., Pareja Roblin, N., Tondeur, J., & van Braak, J. (2013). Technological pedagogical content knowledge—a review of the literature. *Journal of computer assisted learning*, 29(2), 109-121.
- Vurdien, R. (2019). Videoconferencing: Developing students' communicative competence. *Journal of Foreign Language Education and Technology*, 4(2), 269-298.

- Wang, S. (1996). *A study of Chinese college English majors' beliefs about language learning and their learning strategies*. Northern Illinois University.
- Webb, M. B. (2015). Exploring the correlation between teachers' mindset and judgment accuracy to reveal the cues behind teachers' expectations.
- Werang, B. R., & Leba, S. M. R. (2022). Factors Affecting Student Engagement in Online Teaching and Learning: A Qualitative Case Study. *Qualitative Report*, 27(2).
- Williams, M., & Burden, R. (1997). Motivation in language learning: A social constructivist approach. *Cahiers de l'APLIUT*, 16(3), 19-27.
- Xu, L. (2012). The Role of Teachers' Beliefs in the Language Teaching-learning Process. *Theory & Practice in Language Studies*, 2(7).
- Yalin, C. (2014). Mindset, future and the family: interactions between context and belief in change in predicting self-efficacy and goal orientations (Master's thesis, Sosyal Bilimler Enstitüsü).
- Yan, Z., King, R. B., & Haw, J. Y. (2021). Formative assessment, growth mindset, and achievement: examining their relations in the East and the West. *Assessment in Education: Principles, Policy & Practice*, 28(5-6), 676-702.
- Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C., ... & Dweck, C. S. (2019). A national experiment reveals where a growth mindset improves achievement. *Nature*, 573(7774), 364-369.
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational psychologist*, 47(4), 302-314.
- Yılmaz, A. (2020). The Relationship Between In-Service Teachers' Mindset Types and Their Efficacy Beliefs in Instructional Strategies. *İZÜ Eğitim Dergisi*, 2 (4), 191-203.
- Yu, E. (2020). Student-Inspired Optimal Design of Online Learning for Generation Z. *Journal of educators online*, 17(1), n1.

- Zarrinabadi, N., & Afsharmehr, E. (2022). Teachers' Mindsets about L2 Learning: Exploring the Influences on Pedagogical Practices. *RELC Journal*, 00336882211067049.
- Zeinali Nejad, M., Golshan, M., & Naeimi, A. (2021). The effect of synchronous and asynchronous computer-mediated communication (CMC) on learners' pronunciation achievement. *Cogent Psychology*, 8(1), 1872908.
- Zhang, J., Kuusisto, E., & Tirri, K. (2017). How teachers' and students' mindsets in learning have been studied: research findings on mindset and academic achievement. *Psychology*.
- Zhang, J. W., Kessler, E., & Braasch, J. L. (2021). Self-compassion mindsets can predict statistics course performance via intelligence mindsets and statistics anxiety. *Learning and Individual Differences*, 90, 102047.

APPENDICES

Appendix 1. The Participants' Background Information

Dear participants,

My name is Ömer IŞIK and I am studying on a master's degree program in English Language Teaching at Hakkari University. This research's aim is to investigate the relationship between teachers' mindsets and their beliefs about online teaching during COVID-19. You can decide whether you participate in this study or not. You can be sure that your demographic information will be kept confidential, only the results of the research will be published. It may take approximately 5-10 minutes to finish this questionnaire. After analysing Likert scale data, we may need to contact you for the next part which is an interview. The participant will be chosen by the results of the questionnaire. Your participation will be greatly appreciated. If you have any concerns or questions you can contact the researcher, Ömer IŞIK, Thanks in advance for your support.

Do you agree to the above terms? By clicking Yes, you consent that you are willing to answer the questions in the survey.

☐ Yes ☐ No

A. DEMOGRAPHIC INFORMATION

1. Did you teach during COVID-19?

☐ Yes ☐ No

2. What is your gender?

☐ Male ☐ Female

3. Which age range do you belong to?

☐ 22-25 ☐ 26-35 ☐ 36+

4. How long have you been teaching?

☐ Less than 3 year ☐ 4-6 ☐ 7+

5. What is your graduate degree?

☐ Bachelor's Degree ☐ Master Degree and Doctoral

6. What type of school do you work at?

☐ State school ☐ Private school

7. Which city do you teach in?

☐ Hakkari ☐ Muş



Appendix 2. Teacher Mindset Scale

C. TEACHER MINDSET SCALE

	1	2	3	4	5	6
Please read each sentence below and then mark the corresponding box that shows how much you agree with each sentence. There are no right or wrong answers.	<i>Strongly</i>	<i>Disagree</i>	<i>Mostly Disagree</i>	<i>Mostly Agree</i>	<i>Agree</i>	<i>Strongly Agree</i>
13) The kind of teacher someone is, is something very basic about them and can't be changed very much.	☐	☐	☐	☐	☐	☐
14) Some teachers really don't benefit from professional learning because they have a natural ability.	☐	☐	☐	☐	☐	☐
15) Teachers can change the way they teach in the classroom, but they can't really change their teaching ability.	☐	☐	☐	☐	☐	☐
16) Some teachers will be ineffective no matter how hard they try to improve.	☐	☐	☐	☐	☐	☐
17) No matter how much natural ability you have, you can always find important ways to improve.	☐	☐	☐	☐	☐	☐
18) Every teacher, no matter who they are, can significantly improve their teaching ability.	☐	☐	☐	☐	☐	☐
19) Teachers can contribute to improving their practice throughout their careers.	☐	☐	☐	☐	☐	☐

Appendix 3. Teaching Experience Items

B. TEACHING EXPERIENCE ITEMS

Please indicate your opinion about each of the questions below. The responses ranging from (1) “Strongly Disagree” to (6) “Strongly Agree” represent a degree on the continuum.

9. a) Teaching online in COVID-19 helped me to develop my skills in using technology for teaching English.

☐ 1. Strongly Disagree

☐ 2. Disagree

☐ 3. Mostly Disagree

☐ 4. Mostly Agree

☐ 5. Agree

☐ 6. Strongly Agree

9. b) Why do you think so? Explain briefly, please (You can answer in Turkish):

.....

10. a) Teaching online in COVID-19 helped me to develop my skills in using technology in general.

☐ 1. Strongly Disagree

☐ 2. Disagree

☐ 3. Mostly Disagree

☐ 4. Mostly Agree

☐ 5. Agree

☐ 6. Strongly Agree

10. b) Why do you think so? Explain briefly, please (You can answer in Turkish):

.....

11.a) Teaching online in COVID-19 is an opportunity for my professional development as an English teacher.

☐ 1. Strongly Disagree

☐ 2. Disagree

☐ 3. Mostly Disagree

☐ 4. Mostly Agree

☐ 5. Agree

☐ 6. Strongly Agree

11. b) Why do you think so? Explain briefly, please (You can answer in Turkish):

.....

12.a) Teaching English online in COVID-19 was an effective platform.

☐ 1. Strongly Disagree

☐ 2. Disagree

☐ 3. Mostly Disagree

☐ 4. Mostly Agree

☐ 5. Agree

☐ 6. Strongly Agree

12. b) Why do you think so? Explain briefly, please (You can answer in Turkish):

.....

Appendix 4. Interview Questions

D. INTERVIEW QUESTIONS

First of all, I need to record this interview to increase reliability of the research. Whenever you want, you can renounce the interview. Please, feel free to answer these questions.

1. How did the COVID-19 affect your teaching?
2. What were the challenges (if there was any) you have experienced during COVID-19?
3. How did you deal with these challenges?
4. Do you believe that online teaching is a chance for your professional development?
5. Do you think that you adapt to teaching online in a short time?
6. Do you believe that you could learn technology easily?
7. Do you think that you have improved your technology skills during Covid-19? How could you solve your own technical problems in online teaching?
8. Do you believe that you have sufficiently integrated English into technology during the COVID-19 pandemic? How did you organize your teaching online? Do you have a specific example?
9. Do you think that you have selected effective teaching approaches to guide student thinking and learning in teaching online in COVID-19? What kind of effective teaching approaches were they?
10. Did teaching online in pandemic cause you to think critically about how to use technology in your current classrooms. How? Could you share some of your experiences.
11. Do you believe that teaching online during COVID-19 contributed your classroom management? Are there any changes in your organizing and maintaining lessons at present?
12. Do you think that teaching online in COVID-19 helped you develop your skills in using technology for teaching English? Why do you think so? Can you share some of your experiences with me?

13. Do you think that teaching online in COVID-19 helped you to develop your skills in using technology in general? Why do you think so, can you come up with some experiences that you make think so? Why do you think so? Can you share some of your experiences with me?

14. Do you think that teaching online in COVID-19 is an opportunity for your professional development as an English teacher? Why do you think so? Can you share some of your experiences with me?



Appendix 5. Code System

Code System	Frequency
Code System	185
Issues	0
Pedagogical Issues	0
Interaction	19
Adapting to Online Education	16
Technical issues	0
Accessibility/Attendance	24
Limited Improvement in Technology Skills	19
Facilities	0
Content and design	11
Accessible and Flexible	11
Cheap/Cost-Effective	4
Development in TPaCK	0
Technological (TK)	38
Pedagogical (PK)	8
Tech-Pedag (TPK)	18
Tech-Content (TCK)	17

Appendix 6. Ethics Committee Approval



CURRICULUM VITAE

PERSONAL INFORMATION

Name Surname : Ömer IŞIK

Place and Date of Birth: :

EDUCATIONAL BACKGROUND

High-school Diploma : Muş High School (Foreign Language High School)

Bachelor's Degree : Department of Foreign Language Education,
Kocaeli University

Master Degree : Department of Foreign Language Education
English Language Teaching, Hakkari University

Foreign Languages : English

WORK EXPERIENCES

2015- Present : English Language Teacher

CONTACT INFORMATION

E-Posta Adresi :

Tarih :.././....