

**EXPLORING IN-SERVICE ENGLISH TEACHERS' BELIEFS  
ABOUT USING WEB 2.0 TOOLS AND TELECOLLABORATION  
IN LANGUAGE TEACHING AND LEARNING PROCESS**



**Rumeysa YÜCEL**

**JANUARY 2020**

**EXPLORING IN-SERVICE ENGLISH TEACHERS' BELIEFS  
ABOUT USING WEB 2.0 TOOLS AND TELECOLLABORATION  
IN LANGUAGE TEACHING AND LEARNING PROCESS**

**A THESIS SUBMITTED TO THE  
GRADUATE SCHOOL OF EDUCATIONAL SCIENCES  
OF  
BAHÇEŞEHİR UNIVERSITY**

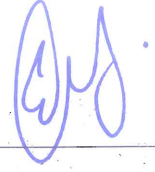
**BY**

**RUMEYSA YÜCEL**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR  
THE DEGREE OF MASTER OF ARTS  
IN THE DEPARTMENT OF ENGLISH LANGUAGE TEACHING**

**JANUARY 2020**

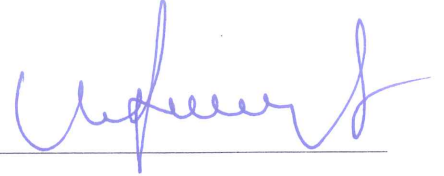
Approval of the Graduate School of Educational Sciences



Assoc. Prof. Enisa MEDE

Director

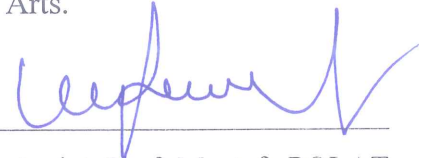
I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Arts.



Assist. Prof. Mustafa POLAT

Coordinator

This is to certify that we have read this thesis and in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.



Assist. Prof. Mustafa POLAT

Supervisor

### Examining Committee Members

Assoc. Prof. Enisa MEDE

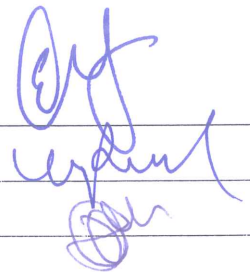
(BAU, ELT)

Assist. Prof. Mustafa POLAT

(BAU, ELT)

Assist. Prof. Tuncer Can

(IUC, ELT)



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

Name, Last Name : Rumeysa YÜCEL

Signature :



## **ABSTRACT**

### **EXPLORING IN-SERVICE ENGLISH TEACHERS' BELIEFS ABOUT USING WEB 2.0 TOOLS AND TELECOLLABORATION IN LANGUAGE TEACHING AND LEARNING PROCESS**

YÜCEL, Rumeysa

Master's Thesis, Master's Program in English Language Education

Supervisor: Assist. Prof. Mustafa POLAT

January 2020, 92 pages

This qualitative study explored in-service teachers' behavioral, normative, and control beliefs regarding their intentions to use Web 2.0 tools and telecollaboration in their classrooms. The theory of planned behavior (TPB) was used as the theoretical framework (Ajzen, 1991) to explain these beliefs and justify in-service English teachers' intentions to use telecollaboration and Web 2.0 tools in language learning and teaching process. According to TPB, teachers' attitude towards the outcomes of using telecollaboration and Web 2.0 tools is related to behavioral beliefs, the normative beliefs that depend on support and pressure from surroundings of teachers to use telecollaboration and Web 2.0, and the control beliefs lay the foundation of perceived behavioral control over using telecollaboration and Web 2.0 in a classroom. Data were collected via semi-structured interviews (n=10) and reflection papers that participants submitted through the 6-week implementation process (n=10). Findings suggest that in-service teachers' intentions to use telecollaboration and Web 2.0 tools are related to their beliefs about the value of these technologies for fostering engagement with content, its compatibility (behavioral beliefs), its ability to meet the expectations of 21<sup>st</sup> century students (normative beliefs), the participants' high self-efficacy in use and integration with anytime/anywhere access to learning and interaction (control beliefs). From these results, it can be recommended that

teacher training programmers should consider these beliefs while designing trainings for in-service teachers.

**Keywords:** In-Service English Teachers, Technology in Education, Teacher Education, Professional development, Beliefs and Intentions, Web 2.0, Technology Integration, Telecollaboration, Technology in In Service Teacher Education



## ÖZ

# PLANLI DAVRANIŞ TEORİSİ İLE İNGİLİZCE ÖĞRETMENLERİNİN UZAKTAN İŞBİRLİĞİNE DAYALI ÖĞRENME ORTAMI VE WEB 2.0 ARAÇLARINI DİL ÖĞRENİM VE ÖĞRETİM SÜRECİNDE KULLANIM NİYETLERİNİ ETKİLEYEN FAKTÖRLERİN İNCELENMESİ

YÜCEL,Rumeysa

Yüksek Lisans, İngiliz Dili Eğitimi Yüksek Lisans Programı

Tez Yöneticisi: Dr. Öğr. Üyesi Mustafa POLAT

Ocak 2020, 92 sayfa

Bu nitel araştırmada öğretmenlerin davranışsal, normatif ve kontrol inançları sınıflarda Web 2.0 araçları ve uzaktan işbirliği kullanımları açısından incelenmektedir. Bu inançları açıklamakta ve İngilizce öğretmenlerinin uzaktan işbirliği ve Web 2.0 araçlarını dil öğrenme ve öğretme sürecinde kullanma niyetlerini gerekçelendirmede kuramsal çerçeve olarak planlı davranış teorisi kullanılmıştır. Planlı davranış teorisine göre, uzaktan işbirliği ve Web 2.0 araçlarını kullanmanın sonuçlarına yönelik öğretmenlerin tutumu davranışsal inançlar ile ilgilidir. Normatif inançlar uzaktan işbirliği ve Web 2.0 kullanımında öğretmenlere yönelik çevresel destek ve baskılara bağlıdır. Kontrol inançları ise, sınıfta uzaktan işbirliği ve Web 2.0 kullanımı üzerine algılanan davranışsal kontrolün temelini oluşturmaktadır. Veriler yarı yapılandırılmış görüşmeler (n=10) ve katılımcıların 6 haftalık süreçte yazdığı yansıtma raporu (n=10) yoluyla toplanmıştır. Bulgular, öğretmenlerin uzaktan işbirliği ve Web 2.0 araçlarını kullanma niyetlerinin dört madde ile olan ilişkilerini arttırmadaki değerine dair inançlarıyla ilgili olduğunu göstermektedir. Bu maddeler

içerik, uyumluluk (davranışsal inançlar), 21. yüzyıl öğrencilerinin beklentilerini karşılama yeteneği ve katılımcıların öğrenme ve etkileşime her zaman/her yerde erişim ile entegrasyon ve kullanımdaki yüksek öz yeterliliği (kontrol inançları)dir.Bu sonuçlar doğrultusunda,öğretmen eğitimi programlayıcılarının bu çalışma sonucunda ortaya çıkan inançları,hizmetiçi öğretmen eğitimi hazırlarken göz önünde bulundurmaları gerektiği tavsiye edilir.

**Anahtar Kelimeler:** Hizmet İçi İngilizce Öğretmenleri, Eğitimde Teknoloji, Öğretmen Eğitimi, Mesleki Gelişim, Öğretmen Eğitiminde Teknoloji Kullanımı, İnançlar ve Niyetler, Web 2.0 Araçlarının Entegrasyonu





*To Nazlı who has shown me that there is always hope*

## ACKNOWLEDGEMENTS

First and the most important of all, I would like to thank to my advisor Assist. Prof. Mustafa POLAT who has given the freedom to pursue my wishes in this study and guided and encouraged me with his generous support during the process.

I want to express my sincere thanks to my thesis committee: Assoc. Prof. Enisa MEDE who provided invaluable suggestion for my study and Asst. Prof. Dr. Tuncer CAN who has helped and inspired me with his words, mindset, works and continuous encouragement throughout my years of study.

I would like to express the deepest appreciation to my participants for their patience, sacrifices and active participation during the process. Without you, I wouldn't have completed this study.

Special thanks to my dear colleagues; Büşra YILDIZ and Rabia DİNÇER, without whom I wouldn't have stayed strong and motivated.

I owe thanks to my friends and grandparents who supported me spiritually during the process.

Saving the best to last, I must express my very profound gratitude to my parents, Neşe and Erdal YÜCEL and my sister Sümeyye YÜCEL for their endless support and patience.

## TABLE OF CONTENTS

ETHICAL CONDUCT .....	II
ABSTRACT .....	V
ÖZ .....	VII
ACKNOWLEDGEMENTS .....	X
TABLE OF CONTENTS .....	XI
LIST OF TABLES .....	XVI
LIST OF FIGURES .....	XVII
LIST OF ABBREVIATIONS .....	XVIII
CHAPTER 1 .....	1
INTRODUCTION .....	1
1.1 Theoretical Framework.....	1
1.2 Statement of the problem.....	2
1.3 Purpose of the study .....	5
1.4 Research Questions.....	5
1.5 Significance Of The Study.....	5
1.6 Definitions.....	7
Chapter 2 .....	8
Literature Review.....	8
2.1 Technology into L2 Teacher Education.....	8
2.1.1 Teacher education and ICT integration.....	8
2.1.1.1 Rationales for integrating ICTs in teacher education.....	10
2.1.1.2 Computer assisted language learning for language teachers.....	11
2.1.1.3 Mobile-assisted language learning in teacher education.....	11
2.1.1.4 Technology enhanced language learning in teacher education.....	12
2.1.2 E-learning environments.....	12
2.1.2.1 Synchronous learning in teacher education.....	13

2.1.2.2 Asynchronous learning in teacher education. ....	13
2.1.2.3 Telecollaboration.....	14
2.1.2.4 Telecollaboration in teacher education .....	16
2.1.2.5 Web 2.0 technologies in education. ....	17
2.1.2.6 Adoption of web 2.0 in teacher education. ....	18
2.1.2.7 The use of web 2.0 technologies in EFL/ESL classrooms.....	21
2.1.3 Teachers' technological competencies.....	22
2.1.3.1 Techno-Pedagogical competence.....	22
2.1.3.2 Techno-Constructivism.....	22
2.2 User Intention Theories (TRA, TPB, DTPB).....	23
2.2.1 Theory of diffusion of innovations. ....	23
2.2.2 Theory of reasonable action (TRA). ....	24
2.2.3 Technology acceptance model (TAM).....	25
2.2.4 The theory of planned behavior. ....	26
2.2.5 Decomposed theory of planned behavior (DTPB).....	27
2.2.5.1 Attitude.....	27
2.2.5.2 Subjective norms.....	28
2.2.5.3 Perceived behavioral control.....	28
Chapter 3 .....	30
Methodology .....	30
3.1 Research Design.....	30
3.2 Setting and Participants .....	31
3.2.1 Demographics .....	33
3.3 Procedures .....	33
3.3.1 Data collection instruments.....	34
3.3.1.1 Interviews.....	34
3.3.1.2 Reflection papers.....	34
3.3.2 Data collection procedure .....	35
3.3.3 Data analysis procedures.....	39
3.3.4 Establishing trustworthiness of qualitative data.....	40
3.4 Limitations.....	41

Chapter 4.....	42
Findings.....	42
4.1 Research Question 1: What are in-service English teachers’ perspectives on the advantages and disadvantages of telecollaboration in language teaching and learning?.....	42
4.1.1 Advantages of telecollaboration in language teaching and learning process.....	42
4.1.1.1 Behavioral beliefs.....	42
4.1.1.1.1 intrinsic motivation and compatibility. ....	42
4.1.1.1.2 Promoting self-directed learning.....	43
4.1.1.1.2 Normative Belief.....	44
4.1.1.1.2.1 Need to meet the needs of digital age students. ....	44
4.1.1.1.2.2 Knowledge exchange among colleagues. ....	44
4.1.1.1.3 Control Beliefs. ....	45
4.1.1.1.3.1 Anytime /anywhere easy access to learning and interaction.....	45
4.1.1.1.3.2 Increasing self-efficacy for managing online learning environments. ....	46
4.1.2 Disadvantages of telecollaboration in language teaching and learning process.....	47
4.1.2.1.1 Decrease in use of paralinguistic features.....	47
4.1.2.2 Control Beliefs. ....	47
4.1.2.2.1 Restricted access to computers and internet.....	47
4.1.2.2.2 Difficult to arrange mutual time because of different time zones... 48	
4.2 Research Question 2: What are the underlying reasons for in-service English teachers’ transformational changes in getting classes in online platform in terms of behavioral, normative and control beliefs?.....	48
4.2.1 Beliefs towards Telecollaboration.....	48
4.3 Research Question 3: What are the underlying reasons for in-service English teachers’ transformational changes in using web2 tools in their classrooms in terms of behavioral, normative and control beliefs?.....	52
4.3.1 Beliefs towards using Web 2.0 tools.....	52

4.3.1.1 Behavioral Beliefs.....	52
4.3.1.1.1 Practicality.....	52
4.3.1.1.2 Facilitate Intrinsic Motivation and Engagement.....	52
4.3.1.2 Normative Belief.....	53
4.3.1.3 Control Belief.....	54
Chapter 5.....	56
Discussion and Conclusion.....	56
5.1 Discussion of Findings for Research Questions.....	56
5.1.1 Discussion of findings for the RQ1: What are in-service English teachers’ perspectives on the advantages and disadvantages of telecollaboration in language teaching and learning?.....	56
5.1.2 Discussion of findings for the RQ2: What are the underlying reasons for in-service English teachers’ transformational changes in getting classes in online platform in terms of behavioral, normative and control beliefs?.....	57
5.1.3 Discussion of findings for the RQ3: What are the underlying reasons for in-service English teachers’ transformational changes in using web2 tools in their classrooms in terms of behavioral, normative and control beliefs?.....	59
5.2 Pedagogical Implications.....	61
5.3 Conclusion.....	62
5.4 Recommendation.....	62
References.....	64
Appendices.....	78
A. Tables.....	78
Appendix 1.....	78
Advantages and Disadvantages of Telecollaboration in Language Teaching and Learning Depend on the Theory of Planned Behavior.....	78
Appendix 2.....	79
Changes in Behavioral, Normative and Control Beliefs within 6 Weeks.....	79
Appendix 2.1.....	81
Appendix 2.2.....	82
Appendix 2.3.....	83

Appendix 3.....	85
Changes in Behavioral, Normative and Control Beliefs within 6 Weeks..	85
Appendix 3.1.....	87
Appendix 3.2.....	88
Appendix 3.3.....	89
B. Consent form of semi-structured interview.....	90
C. Curriculum Vitae.....	91



## LIST OF TABLES

### TABLES

Table 1 Research Questions, Methods, and Instruments Used in the Study .....	30
Table 2 Participants' profile: In-service English teachers from Indonesia and Turkey.....	32
Table 3 Demographics of Participants: Gender.....	33
Table 4 Demographics of Participants: Age.....	33
Table 5 A Summary of the Procedures Followed in the Present Study.....	38
Table 6 Summary of emerging themes during 6-week process about telecollaboration.....	51
Table 7 Summary of emerging themes during 6-week process about Web 2.0 tools.....	54

## LIST OF FIGURES

### FIGURES

Figure 1 Adopter categorization on the basis of Innovativeness.....	24
Figure 2 Theory of reasoned action.....	25
Figure 3 Technology acceptance model.....	26
Figure 4 Theory of planned behaviour.....	27
Figure 5 Decomposed theory of planned behavior.....	29

## **LIST OF ABBREVIATIONS**

ELT	English Language Teaching
EFL	English as a Foreign Language
CALL	Computer Assisted Language Learning
MALL	Mobile Assisted Language Learning
ICT	Information and Communication Technologies
TELL	Technology Enhanced Language Learning

## **Chapter 1**

### **Introduction**

This study aims to identify which factors best predict in-service English teachers' intentions to use telecollaboration and web 2.0 tools in their language classroom, using theory of planned behavior (TPB). Through weekly sessions, it explores in-service English teachers' perspectives from Indonesia and Turkey towards telecollaboration and Web 2.0 technologies in terms of language teaching and their self-development process as well. This study also focuses specifically on training in-service English teachers on using and creating telecollaboration sessions and integrating Web 2.0 tools into their language teaching process. The current chapter focuses on, first, the background that constructs the study, and then the statement of the problem, the purpose of the study, research questions, the significance of the study eventually followed by several operational definitions.

#### **1.1 Theoretical Framework**

As a theoretical framework, theory of planned behavior (TPB) model was employed in this research to explore the factors that best predict in-service English teachers' intention to use and adopt telecollaboration and Web 2.0 tools in their professional development training and language teaching process. Ajzen (1985) put forward the TPB. Later, Ajzen and Madden (1986) developed it as a theory that predicts the behavior of people against a certain stimulus. TPB sheds light on understanding the reasons for the belief that in-service teachers have about using Web 2.0 technologies and telecollaboration. TPB was chosen in this study because it is a widely used and postulated theory that focuses on people's intentions to perform an act (Ajzen, 1991). According to the TPB, a volitional act of a human is determined by intention. Behavioral intention is guessed by three constructs, which are the attitude toward the behavior (AB), subjective norm (SN), and perceived behavioral control (PBC). The personal variable, attitude toward behavior deals with positive or negative perceptions of teachers towards outcomes of using technology in the classroom. The social variable called subjective norms refers to opinions of

significant others and how these opinions affect the perceptions of teachers about integrating technologies into the language classrooms. Perceived behavioral control refers to the direct determinants of feelings of strength to perform a behavior (Ajzen, 1985). Each of those three constructs is gathered under three indirect determinants, which are behavioral beliefs, normative beliefs and control beliefs. In this sense, normative beliefs refer to social support and social pressure; such that teachers are being influenced integrating web 2.0 technologies into their classes, by their colleagues. The strength of this belief motivates teachers to comply with the ideas of other important colleagues, which is called control beliefs. The significance of control beliefs is determined by the power of people who are considered as significant others, so their guidance depending on the situation can impede or facilitate the behavior (Sadaf, Newby, & Ertmer, 2012).

## **1.2 Statement of the Problem**

With the innovations to technology, the educational technological field has undergone remarkable developments. As a result, language pedagogy needs to adjust to the various technological innovations because the application of technology has increased within language classrooms and this leads to the problem of teachers' technological competence (Tondeur, Pareja Roblin, Van Braak, Voogt, & Prestridge, 2016). Therefore, new approaches have been put forward to train teachers on how they can integrate technological tools into their lessons (Barrett , 2002). For example, Nesselhauf and Tschichold (2002) conducted research within the scope of Computer Assisted Language Learning to teach German vocabulary to English students through 'vokabeltrainer '. With this program, students can memorize words with pronunciation, synonyms, and collocations. The results show that teachers were not able to integrate this program into their lessons effectively. Instead of using this tool as supplementary material, they focused on completing activities with it, without adding context to the vocabulary. Learners thus concluded that 'vokabeltrainer' is effective for self-study, but during the lesson, it didn't give them a chance to interact with their classmates. Similarly, Coryell and Chlup (2007) conducted a qualitative study on CALL implementation in a language class. According to the results of a focus group interview, on the challenges and experiences of instructors, determined that Internet connectivity and computer labs play key roles in implementing Web 2.0

tools. At the same time, seeing other teachers integrate these tools into their lessons with high levels of competency inspired others to do the same. Within the scope of that research, instructors got a 5-day seminar on the introduction of supplementary online tools. However, according to the statements of instructors, they needed to learn the process of integrating Web 2.0 tools into their lessons. As a result, we may conclude that control and normative beliefs have important effects on teachers' intentions to adopt Web 2.0 technologies.

As stated in the research studies above, enhancing the use of technology in language lessons depends on teachers' technological competence and intention. For example, according to a language education report in Thailand, the failure of English language learning was mainly a result of unqualified and poorly trained teachers. They had heavy teaching loads and classrooms equipped with insufficient technological tools (Dhanasobhon, 2006; ONEC, 2003). Subsequently, Noom Ura (2013) suggests that in the 21st century, teachers are expected to be multifaceted because their learner groups mostly consist of digital natives and not having these skills makes the teaching process challenging for them. They need to use ICT tools in an effective way and integrate them into the lessons, catering for different learners. To solve the problems Thai teachers have, the Ministry of Education in Thailand has founded 88 English Resource Instruction Centres (ERIC) in several school districts and held professional development sessions for teachers, but teachers' needs have not been examined in a detailed way, so sessions have not been effective despite active teachers' participation Noom Ura (2013). In this regard, Ertmer, Addison, Lane, Ross, and Woods (1999) express that if educators and researchers investigate the reasons for teachers' struggle in using and incorporating technological tools into their lessons, with regards to their current practices, they can produce more effective solutions. Ertmer (1999) classifies the main struggles into two categories: extrinsic (first-order) and intrinsic (second-order) barriers. Extrinsic barriers include elements of normative and control beliefs, such as inadequate teacher training for using and integrating technological tools and insufficient technological sources and support. Intrinsic barriers involve behavioral beliefs facilitated by normative and control beliefs such as visions concerning technological integration, views about teaching, learning, and knowledge. That's why Hall, Fisher, Musanti, and Halquist (2006) and

Hubbard (2008) indicate that insufficient use of technology in the classroom is a sign that teachers have not received enough training with technology integration in their teacher preparation programs. In this sense, according to the study of Başıal (2015), English teachers in Turkey have suffered from important deficiencies of instructional support. Furthermore, the number of technology courses in pre-service teacher programs is insufficient for giving candidate teachers the foundations necessary for technological competence. Teacher educators who deliver these lessons also have difficulties in integrating technologies into the lessons because challenges arise, when allowing candidate teachers to practice the possible uses of the technological tools. Another issue that is put forward by Sarıtepeci, Durak and Seferođlu (2016) is tuning technology education and the integration of technology in teacher training programs. Within the FATİH project, which is Movement of Enhancing Opportunities and Improving Technology, the national education ministry of Turkey has held 30-hour technology-training seminars for in-service teachers. According to the study of Sarıtepeci, Durak and Seferođlu (2016), in seminars, the main focus areas are finding and creating materials and using smart boards. However, little time is given for the adaptation and evaluation of online tools into the lessons. The results of this study show that in-service teachers need to learn effective use of online materials, depending on the topic of the lessons and engage students with educational technological tools as an active way. In this sense, research on teacher education and technology integration are quite wide, but the investigation of in-service language teachers' intentions to use Web 2.0 tools and telecollaboration in their classes and their opinions are not described in the literature. In this sense, teachers should be trained to change attitudes or show how easy it could be to use technology rather than just focusing on the qualities of a specific digital tool/device. Similarly, telecollaboration plays an important role for teachers to share their experience with each other, especially across cultures and different contexts rather than just listening to lectures as done in training sessions. This study is going to explore the factors that predict in-service English language teachers' intentions to use Web 2.0 tools and telecollaboration, in their classes and to investigate their opinions about experiencing telecollaboration.

### **1.3 Purpose of the Study**

With the above-mentioned background information and the need for this research, the purpose of this study is twofold; to explore which factors best predict in-service English teachers' intentions to use Web 2.0 tools in their classes and to explore in-service English teachers' perspectives towards telecollaboration. This study aims to explore the advantages and disadvantages of telecollaborative teacher training and the integration of Web 2.0 tools into language lessons. Transformational changes in each in-service English teacher in this study were also examined step by step through 6 week telecollaborative sessions. Furthermore, this study specifically aimed at using online environments in in-service English teacher training. In this way, teachers' intentions towards using technological tools can be understood and observed how they have practiced what they have learnt so far. At this point, this study can shed lights on the needs of in-service English teachers and offer implications for teacher training programmers.

### **1.4 Research Questions**

Based on current research and place of telecollaboration and Web 2.0 tools in in-service teacher education, this study focuses on the following research questions:

1. What are in-service English teachers' perspectives on the advantages and disadvantages of telecollaboration in language teaching & learning?
  - a) What are the underlying reasons for in-service English teachers' transformational changes in getting classes on online platforms in terms of behavioral, normative and control beliefs?
2. What are the underlying reasons for in-service English teachers' transformational changes in using web 2.0 tools in their classrooms in terms of behavioral, normative and control beliefs?

### **1.5 Significance of the Study**

The integration of technology into language teaching and learning has always been studied. Research conducted in educational technology settings demonstrate that using technology in language lessons fosters learners' motivation and facilitates their active participation in the lesson (Levy, 1997). Most of the teachers willingly integrate technology into their instructions, since it eases the teaching process for

them. At this point, teachers' technological competence and techno-pedagogical competence play an important role, as everyday new technological tools are presented in the 21st century and teachers need to manage these technological tools by integrating and adopting them into their lessons. In this context, if teachers can experience the learning process through technology, they can use it more effectively.

This research study is unique in 4 perspectives. The first one is that it is one of the few studies that employ the theory of planned behavior in language pedagogy. Moreover, TPB model has not been employed in the studies conducted on the training of in-service English teachers in the literature. The second unique aspect of this study is that it creates a platform where participants had a chance to collaborate with each other in spite of their distant locations, Turkey and Indonesia, via telecollaboration. Furthermore, participants are expected to create lesson plans incorporated with Web 2.0 technologies and hold telecollaboration sessions with their students. The third unique aspect of this study that it is quite exemplary in the sense that it provides an in-depth and qualitative perspective into beliefs of in-service English teachers showing their changes in a detailed way through the process. The other unique aspect of this study is that it reveals in-service English teachers' perspectives on potential advantages and disadvantages of telecollaboration in language learning and teaching. This study also offers a very comprehensive literature review on telecollaboration and Web 2.0 tools in teacher education for language learning and teaching. As a result, the researcher aims to contribute to foreign language education literature by investigating in-service English teachers' intentions to use telecollaboration and Web 2.0 tools and determining their advantages and disadvantages of them from the viewpoint of in-service English teachers. Furthermore, in the literature, telecollaboration projects have been conducted mostly on pre-service English teachers among European countries. This study was conducted with in-service English teachers who live in different parts of Turkey and Indonesia. In this sense, the present study may guide teachers, teacher trainers, and teacher education curriculum planners.

## 1.6 Definitions

**Computer-Assisted Language Learning (CALL):** “the search for and study of application on the computer in language teaching and learning” (Levy, 1997, p.1).

**User Intention Theories:** Initially developed in the area of social psychology, user intention theories aim to predict one’s actual behavior in adopting a specific technology or innovation.

**Information and Communication Technologies (ICTs):** It is “a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information” (Blurton, 1999).

**Mobile-Assisted Language Learning (MALL):** It “exploits key mobile technologies for language learning such as pocket electronic dictionaries, personal digital assistants, mobile phones, MP3 players, and tablet PCs” (Zhao, 2005, p. 447).

**Web 2.0 tools:**It is “a wide array of web-based applications which allow users to collaboratively build content and communicate with others across the world” (Butler’s 2012,p. 139).

**Telecollaboration:** “Telecollaboration as an online environment in which internationally scattered learners can learn languages through asynchronous discussion boards and synchronous chat” (Belz, 2003, p.12).

## Chapter 2

### Literature Review

This chapter provides a detailed overview of telecollaboration and Web 2.0 tools in terms of their integration in teacher education and language learning process by supporting with references to its' advantages and disadvantages .

#### 2.1 Technology Integration into L2 Teacher Education

Language teaching is mainly teaching and the development of four skill areas that are speaking, listening, reading and writing. For teaching these, methods being used by instructors can determine the effectiveness of the teaching and learning process. In this sense; Becker (2000) expresses that computer technology can be regarded as a tool for facilitating four skills and if teachers can prepare sufficient online materials and integrate this into the lesson plan, students may have a chance to feel that language learning is a process that they can practice in their everyday use of computer. Similarly, Johnson (2002) emphasizes that like in language teaching, modeling computer-supported learning in teacher education heralds confident and motivates FL teachers who are able to use and adapt necessary tools in their lessons. In other words, Başal (2015) claims that "the success in the integration of technology into language learning process heavily depends on qualifications of language teacher" (p. 1497). That's why language teacher training programs should include requirements of computer-assisted learning (CALL) and mobile assisted learning (MALL) into their curriculum by developing their techno-pedagogical competence.

**2.1.1 Teacher education and ICT integration.** The presence of technology in people's daily life in 21<sup>st</sup> century has increased dramatically. With the advent of new innovations, people have tried to update themselves to keep up with the trends. Education is one of the most affected fields by technology, as new generations want to see real-life things in their educational settings. In this sense, educational systems all around the world are under growing pressure to use innovative methodologies and incorporate ICTs in the teaching and learning system to acquire students the qualities of 21<sup>st</sup> century of 21<sup>st</sup> century. Blurton (1999) defines information and communication technologies (ICTs) "as a diverse set of technological tools and

resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony" (p. 4). In the same way, Daniels (2002) describes ICTs as one of the basic pillars of 21<sup>st</sup> century. When ICTS are used in the classroom with effective teaching methodologies, they promote active learning process. As stated by Tinio (2003), ICTs can be a portal into the world, giving students the chance to gain experience beyond the classroom setting and he (2003) adds that "As learning shifts from the teacher-centered model to a learner-centered model, the teacher becomes less the sole voice of authority and more the facilitator, mentor, and coach—from "sage on stage to guide on the side" (p. 22). So, if the teachers are equipped with the necessary ICTs knowledge, they can integrate and use ICTS in a most efficient way in the classroom settings. That's why many countries have regulated teacher education programs based on mastering the concept of ICTs. Similarly, Reinders (2009) points out the importance of ICTs education in teacher education program as follows "the success of using technology in education relies to a great extent on the teacher, and the teacher's ability in turn relies to a great extent on the amount and type of training and support available" (p. 15). Additionally, Goktas (2009) emphasizes that ICTs education is necessities of 21<sup>st</sup> century and readiness of pre and in-service teachers in implementing ICTs are vital part of education. He (2009) believes that teacher education programs don't currently support required skills, competencies and experiences for teachers to be able to use ICTs .At this point, institutions of teacher education programs should take part in preparing teachers to become proficient in the integration of ICTs into the current curriculum. In this sense, Foulger (2016) supports this view by giving an example from the report of the US 2016 National Education Technology Plan. As stated in this plan, teacher education programs are required to establish a curriculum about teaching with technology and develop their students' ability and motivation to prepare ICT based lessons. The main idea behind this desire of integrating ICTs into the teacher education program is not only to show teachers how they can access teaching materials on the Internet but also train them on how they can create tools to help them in their lessons. In the same way, Polly (2010) considers ICTs integration

in teacher education programs as merit to get acknowledged with technological tools by experiencing technology-enhanced learning situations.

**2.1.1.1 Rationales for integrating ICTs in teacher education.** Integration of computers in educational settings has been figured by educationalists and accepted as an inevitable part of the teaching and learning process. Similarly, Slewyn (1999) argues that "it has been continually argued over the past 30 decades that the development of new information technologies will inevitably change education as we know it" (p. 76). In this sense, to determine the main reasons for technology use, Hawkrige (1990) lists four categories about the need for technology use, which are social, vocational, pedagogical and catalytic rationales. Social and vocational rationales are about preparing students for the demands of industrial society such as getting familiar with some software programs. He (1990) states that if the teachers use technology in the classroom, students can be computer literate. In this context, he (1990) explains pedagogic and catalytic rationales as follows:

The pedagogic rationale, which states that computer-assisted instruction offers advantages over other teaching methods in subjects such as physics and art (among many others); and the catalytic rationale, which states that computers help children become less dependent on the teacher as expert and will enable change in education to occur (Hawkrige, 1990,p. 1).

Furthermore, Tondeur (2007) also uses the same rationales while expressing the policies of ICTs. He (2007) thinks that for creating digital literate generations, the first step is focusing on education of teachers. In this sense, he (2007) focuses on catalytic rationale expressing that ICTs can be a supportive tool for innovative educational changes and be a source of lifelong learning as teachers especially in-service teachers can up -to- date themselves by getting online training about recent trends. Furthermore, Leach (2005) supports the idea that ICTs facilitate information flow for teachers by enhancing pedagogical practices with ICTs planned lessons. In this sense, via networking, teachers can share their lesson plans with their colleagues and they can contribute to each other's production collaboratively.

**2.1.1.2 Computer assisted language learning for language teachers.** The use of computers in the education of teachers is becoming a necessity in today's world. Since, 21<sup>st</sup> century learners are defined as digital natives who are born into the world endowed with technology like the Internet, computers and mobile devices. In this sense, teachers need to equip themselves with computer skills and get prepared for students who are digital natives. That's Computer Assisted Language Learning should be integrated into teacher education. Levy (1997) defined CALL as “the search for and study of application on the computer in language teaching and learning” (p. 1). Namely, CALL is a language learning or teaching supported by computers. Otto (1996) argues that teachers are to internalize diversity of technological tools and expected to design curricula based on CALL and in this process teachers need to get new roles as 'assessor, manager, and tutor'. Therefore, Hubbard (2004) explains the benefits of using CALL by teachers by expressing that teachers can collaborate with other teachers around the world using internet and design online activities for their classrooms. Similarly, Hong (2010) puts forward that the ultimate purpose of CALL teacher education is raising teachers who are confident about techno-pedagogy because language teachers play essential roles in choosing appropriate CALL applications and how they are going to implement them in the classrooms. Additionally, Wildner (2000) explains the benefits of CALL that connecting a myriad of real-life materials supported by multimedia resources affects students' intrinsic motivation towards languages. That's why, based on the survey conducted by Braman and Rhodes (1998) foreign language teachers tend to integrate CALL into their lessons more than other teachers.

**2.1.1.3 Mobile-assisted language learning in teacher education.** Mobile devices consist of a huge part of our lives besides computers. In this sense, the focus in technology integration into education has shifted from CALL to mobile-assisted learning (MALL). Kukulska-Hulme and Shield (2008) define MALL as the use of personal and portable devices such as handheld devices and mobile phones that facilitate the learning process. Similarly, Traxler (2007) explains MALL as accessing rich sources regardless of time or place by teachers and students. Stockwell (2008) points out that the popularity of mobile devices among language learners will increase day by day because language learning applications such as memrise,

dualingo are getting rise as well. At this point, teachers need to be endowed with the skills of integrating applications into the language lessons in a meaningful way. Otherwise, he (2008) claims that students may not find the lesson effective if they observe that their teachers don't share the same technological competence with them. That's why, Tai(2011) emphasizes that instead of focusing on teachers' knowledge about mobile technology because of the fact that prevalence of mobile devices is known by almost everyone, teacher educators must focus on how mobile devices can be considered as a tool for language teaching. Nambisan (1999) orders features that teachers need to acquire as follows 'technology cognizance (TC)', 'ability to explore (AE)', and 'intention to explore a technology (IE)'. In this sense, he (1999) claims that to achieve these features, in teacher training programs, teachers are supposed to be exposed to CALL and MALL via e-learning environments.

#### ***2.1.1.4 Technology enhanced language learning in teacher education.***

Technology Enhanced Language Learning (TELL) covers any language learning activity that technological tools are used in an effective way. It facilitates motivation and engagement of learners because of its flexible learning style (Zho, 2016). In this sense, Chapelle (2009) puts forward that TELL enhances interactive situations in language learning and gives learners chance of practice in target language. That's why, Salaberry's (2001) claims that the important issue of implementing of TELL is that teachers need to combine pedagogical objectives with technological tools. In this way, technology can be used effectively in classroom. In this sense, teachers need to be endowed with the knowledge of pedagogy of implementing technology based teaching.

**2.1.2 E-learning environments.** E-learning mainly entails online learning and teaching process through network technologies. Welsh (2003) describes e-learning as follows: "the use of computer network technology, primarily over an intranet or through the Internet, to deliver information and instruction to individuals" (p. 246). E learning fosters collaboration between learners via e-mail discussion or real-time brainstorming. Similarly, Kambourakis (2007) notes that learners don't share physically the same class but in a common e-learning environment learners can get a chance to build a relationship with other learners and also teachers with the help

of telecommunication infrastructure. Furthermore, Deperlioglu (2012) points out the fact that interactive e-learning applications are as significant as effective e-learning environments owing to the fact that in real-time or delayed sessions, students can contribute to the lesson in an easy way and they also choose activities which are appropriate for their needs.

**2.1.2.1 Synchronous learning in teacher education.** Synchronous learning is a part of distance education and defined by Marjanovic (1999) as a system that enables 'same-time, same-place' or 'same-time, any-place' collaboration. Synchronous learning makes closer teachers and learners who are physically distant from each other via multimedia tools and online environments (Bower, 2011b; Chen et al., 2005; Norberg as cited in Bower et al., 2014). In the same way, Phelps (2019) explains that it provides learners to get education and have collaboration, even if they are geographically separated from each other, in a shared real-time via interactive platforms such as 'Adobe Connect', 'Zoom' or 'Blackboard Collaborate'. In this regard, for using necessary tools for synchronous learning, Bower (2011a) stresses that facilitators are required to manage learning environments by being sure that learners can express themselves and immerse into the lesson so they need to have enough experiences before getting started to the lessons. He (2011a) also adds that to hinder technical interferences, teachers can show more technological accuracy than their learners especially using 'didactic tools'. That's why, to train teachers for synchronous learning environment, The International Society for Technology in Education (2008) has worked on to deal with issue of improving technological competence of teachers by putting into new qualifications in teacher education programs, which entail designing and adapting lesson plans appropriate for digital age providing necessary supports to achieve this. According to The Association of Universities and Colleges of Canada (2011), although most of the Canadian institution implements synchronous learning, they suffer from lacking of instructors who are capable of conducting synchronous lessons incorporating with distance learning strategies. That's why; they (2011) educate their teachers via synchronous learning and provide opportunities for them to experience giving lesson online.

**2.1.2.2 Asynchronous learning in teacher education.** Asynchronous learning happens when learners and teachers don't share the same physical place and time.

Thakur (2012) defines asynchronous e learning as a process supported by online tools such as e-mail and discussion boards, and teachers and learners communicate with each other at a different time via using these tools. She (2012) also puts forward that asynchronous e learning can be integrated into a teacher education program with three strategies, which are as follows: "1. By integrating asynchronous learning in extension activities. 2. Through distance mode 3. Through self-leadership" (p. 9). The strategy of through distance learning mode is explained that college websites should present options of training carried asynchronously and in-service teachers depending on their deficiency must choose and complete one of them (Thakur, 2012). Furthermore, as a part of a chosen lesson, teachers can be part of the discussion group and via commenting on online blogs and e-mails, they can communicate with each other any time to exchange ideas and getting feedback from each other (Thakur, 2012). Moreover, Hrastinski (2008) notes that asynchronous learning increases flexibility and individuality in education by fostering 'cognitive participation' of learners. Johnson (2006) and Simpson (2006), for example, observe in their studies that in pre-service teacher education programs, using an asynchronous discussion board (ADB) helps candidate teachers learn how to conduct innovative lessons which include instruction in ADB rather than face-to-face meeting in the class. In this regard, Ajayi (2009) indicates that emerging technologies and new millennial generation may necessitate that teacher training programs must prioritize the technological competence of teachers.

**2.1.2.3 Telecollaboration.** Belz (2003) defines telecollaboration as an online environment in which internationally scattered learners can learn languages through asynchronous discussion boards and synchronous chat. In the same way, Sadler and Dolly (2016) as a 'dialogic process' that provides interaction and exchange of information for the participants who are geographically are not together via a/synchronous communication so participants can construct shared knowledge based on mutual objectives. Additionally, Dolly (2017) explains the importance of telecollaboration in terms of the educational context that telecollaboration entails social interaction, intercultural communication which is also key components of language learning. The underlying theory of telecollaboration is sociocultural theory, which provides for learners developing their language abilities through social

interaction (Dolly, 2017). Furthermore, Taskıran (2019) has found from the results of her study that telecollaboration can be effective way of language learning for engaging learners with meaningful real-life based interaction. Apart from developing interaction and collaboration, telecollaboration fosters intercultural communicative competence (ICC) which is the ability to understand one's own culture and target culture including paralinguistic features of that language and culture as well (Liaw & Bunn-Le Master, 2010). Similarly, Kinginger (2016) claims that via telecollaboration, students are exposed to ideologies that they can face abroad such as negotiations of stereotypes and linguistic varieties. In this sense, there are many telecollaboration projects, which have been conducted mainly between European countries. Anikina and colleagues (2015) indicate that telecollaboration projects have a significant role as they provide students a multicultural environment supported by innovative tasks by educators. One of the telecollaboration projects is 'e-Tandem', for example, focuses on linguistic competence. In this project, each learner has a pair from partner countries and via asynchronous discussion boards; they give feedback for each other's writings. Another project is 'CULTURA' in which teachers give students materials about their cultural values and students are expected to share their ideas with their partner countries through web tools (Furstenberg et al., 2001). In a different study, Müller-Hartmann (2000) carried research with German high school students. Within the project, German students send e-mails to their American partners based on the topics by teachers from both side and this study shows that learners demonstrate progress on intercultural learning and writing competence. In the same way, Anikina and colleagues (2015) conducted an 8-week telecollaboration project and she (2015) observed that telecollaboration increases students' motivation and cultural awareness by developing their linguistic competence as well. Likewise, another project is based on online communication between Chinese and American university students via video calls and asynchronous discussion boards. This project shows that students have developed not only cross-cultural awareness but also Chinese students improve their speaking ability by decreasing their speaking anxiety (Angelova & Zhao, 2016). Furthermore, Dooley (2018) states that these projects engage learners with virtual connections from different geographical locations through synchronous and asynchronous communication but at that point, the problem

of choosing appropriate tasks occurs. In this sense, for helping teachers who have never had experience about telecollaboration, she (2018) suggests that teachers can provide projects of 'UNICollaboration' or 'EVALUATE' whose websites presents many tasks for a different level of student.

**2.1.2.4 Telecollaboration in teacher education.** Developing video conferencing facilities and online tools presents a more effective synchronous and asynchronous environment for the professional development of teachers. Clark (2005) expresses that on e-learning environments, interactions between instructors and students are getting technically better in terms of quality of audiovisual materials, so language schools tend to conduct online courses through telecollaboration. In this regard, for gaining technology-enhanced teaching practices, language teachers need to equip with challenges of synchronous and asynchronous communication. Guichon (2009) puts forward that for managing telecollaboration sessions, teachers are supposed to have three competencies which are 'socio-affective regulation', 'pedagogical regulation' and 'multimedia regulation'. The competency of socio-affective regulation is about the ability to facilitate a strong relationship between learners by building group identity in spite of the distance. Marchand and Loisier (2005) emphasize the significance of strong relationships by expressing that most students incline to give up attending distance learning courses because they lose their motivation if they don't feel bound with classmates and instructors. The competency of pedagogical regulation refers to overcome psychological challenges caused by distance. Guichon (2008) teachers need to use online tools on e-learning to engage learners emotionally and cognitively and give feedback to every student depending on their needs thus students can feel an attachment to the course. The competence of multimedia regulation deals with the ability of teachers about how they manage multimedia resources and how they integrate them into their lessons. At this point, Peraya (2000), collocates the competence of multimedia regulation with techno-semio- pragmatic competency, that is to say that teachers need to have adequate semiotic knowledge about the target language and technological knowledge to achieve the purpose of teaching second language. In the same way, Waldman (2016) orders the required skills for telecollaboration that need to be acquired for language teachers such as organizing,

designing, and assessing online tools for an e-learning environment. To achieve those skills mentioned above, in a training program of pre-service and in-service teachers need to experience online education. Waldman and Harald (2015), for instance, conducted a telecollaboration project for pre-service English teachers from Germany and Israel. Within the scope of the project, candidate teachers get SLA course through telecollaboration which consists of three stages; 'information exchange', 'comparison' and 'collaboration'. In the first stage, candidate teachers share personal information and cultural information about their cities with each other. Following lessons, candidate teachers are divided into groups such as three Israeli and two German students and they work collaboratively on philosophy based language teaching (PBLT) by analyzing how PBLT is implemented in German and Israeli context. As a last part, they prepare online poster cooperatively and present their poster about findings. In this project, Waldman and Harald (2015) give an opportunity for participants to choose their digital tools for synchronous (Skype, WhatsApp) and asynchronous environments (E-mail, Google Docs), and also participants are required to search ways for problems that they encounter. In this way, candidate teachers can be aware of alternative methods of language teaching and get familiarity with the e-learning environment. Accordingly, the results of this project demonstrate that the process of telecollaboration is a meaningful experience for candidate teachers and through experiential learning; they show a higher sense of self-efficacy towards technology use at the end of the project. Furthermore, it is observed that the abilities of candidate teachers about collaboration with partners and choosing appropriate digital tools have improved. In this regard, telecollaboration exchange should be part of teacher education programs (Waldman & Harald, 2015).

**2.1.2.5 Web 2.0 technologies in education.** Technologies like television and radio contain one -way communication and lack of sufficient interaction and collaboration between users. That's why, the term Web 2.0 is presented as changes the way users can do contrary to static webs (Reilly, 2005). Similarly, D'Souza (2006) indicates that Web 2.0 cannot be just considered as programming language; it is a web, which enables flowing of ideas by its learners. As noted by Usluel (2009), users in those tools labeled as Web 1.0 are juxtaposed as passive learners. In this sense, to fulfill the need of exchanging of information in an active way between

learners, Web 2.0 comes to the stage, which is defined as 'second generation of World Wide Web allowing people to work together and share information online in an easy way (Basal & Aytan, 2014). Kapp and Driscoll (2010) and Čarapina(2013) also state that Web 2.0 tools affect e-learning environment in an important way because it enables people to study cooperatively by creating and sharing data and can be used in educational settings such as wikis, podcasts, and blogs. In this regard, web 2.0 tools constitute opportunities such as conducting interactive and creative lesson plan incorporated with online tools for digital native students who are accustomed to accessing information as fast as possible (Ljubić, 2012). Web 2.0 tools are classified into 6 categories by Orehovacki (2009) in terms of using in education based on their functional use which are 'photo management and sharing', 'social networking' and communication, 'learning materials development', 'replacement for standard desktop applications', 'learning management systems', and 'collaboration and creative learning services'. Communication and social networking tools include basic networking services on which learners can exchange information with each other. Čarapina (2013) explains that those kinds of tools present facilities for text messaging and video conferencing such as Facebook. Collaboration and creative learning services entail online tools, which facilitate cooperation among multiple users and provide tools for improving quality of materials. Replacement for standard desktop applications includes tools for preparing presentations involving diagrams such as Xwiki and Writeboard (Čarapina, 2013). Learning management system is a web-based computer program, which enables controlled access to materials, dynamic class lists and grade books, online management of assignments (e.g., Web delivery, grading, follow-up), and links to the student information system via a web browser as explained by Van de Pol (2001).

**2.1.2.6 Adoption of web 2.0 in teacher education.** With the developing technologies, educational methods can be redesigned in line with the effects of Web 2.0 (Thompson, 2007) because Web 2.0 represents a new generation and new challenges that teachers need adjust themselves (Bates, 2010). In this regard, Albion (2008) puts forward that in teacher education, Web 2.0 has two main roles. The first one is preparing teachers for enhancing their teaching by using Web 2.0 and the other is fostering self-directed learning between teachers in terms of their professional

development. At this point, Atwell (2007) observes that in-service teachers during typical school days don't have enough chance to communicate with their peers by negotiating about their weaknesses and sharing experiences with each other. That's why, Schlager and Fusco (2003) express that via Web 2.0 teachers can reach online communities around their country and world and can talk about their problems and giving advice to each other. In this case, Evans and Powell (2007) conducted research about 'e-portfolios in teacher education. They designed an online community for teachers and through google documents; they tracked what teachers have uploaded based on the syllabus. According to their research, Web 2.0 have an effect on encouraging social interaction among teachers and promoting practice for the development of digital artifacts. Within their study, they observed that teachers who were familiar with Web 2.0 from their undergraduate study intended to attend social interaction and engage with Web 2.0 materials for integrating them into their lesson more. In this regard, Albion (2008) states that directing teachers for choosing appropriate activities by using Web 2.0 for in-service teaching program can be huge challenge for teacher educators. Hence, the most suitable approach is giving lesson in undergraduate program incorporated with Web 2.0 tools. As an example of this approach, in undergraduate level technology integration course, candidate teachers were asked to complete activities through Google Docs and Spreadsheets and also they were required to prepare multimedia presentations about Web 2.0 tools that they preferred to use mostly using CMap Tools which enable classify documents. Also, using Web 2.0 in this fashion provides teacher authentic experience about how these tools could support learning process (Oliver, 2007). In this regard, one of the embedding method for integrating Web2.0 tools into teacher education is 'participatory pedagogy' (Park, 2009). The process participatory pedagogy can be divided into 5 categories. First one is gaining familiarity for technological tools. In this sense, candidate teachers, as in the example above, are assigned to prepare lesson plans supported by Web 2.0 tools. Second one is directing candidate teachers to consider target students 'profile and choose appropriate Web 2.0 depending on their age and level. Another important category is keeping learners engage with the course by using technology instead of keeping engage them with technology (Grandon, 2005) and (DePietro, 2013). For example for teacher training course is

using social bookmarking tools which allow users create and share contents easily for preparing lesson plans. However, this time research was conducted by in-service teachers who have no prior knowledge and experience for integrating technology into their lessons. In this sense, teachers were divided into pairs and each pairs were supposed prepare lesson plan using social bookmarking tools. At this point, Voithofer (2007) observes three important challenges for teacher educators. The first one is tuning balance of teaching the technology and teaching integration of technology. Another challenge is changing in-service teachers' point of view about technology integration because especially experienced teachers consider technology integration as a wasting of time. The last one is gaining them awareness of choosing appropriate web 2.0 tools depending on their purposes. In this regard, Gilbert (2002) introduces the term of 'low threshold applications' which deals with the easiness of using Web 2.0 tools. Low threshold applications can be considered as simple to learn and use by teachers and students. They don't require any prior knowledge in terms of technical aspects and teachers can reach these tools in a quick way. Similarly, Oliver (2007) puts forward that the theories behind low threshold applications are based on cognitivism and constructivism. They allow both teachers and students to focus on the content of the material rather than tool. In the study of Oliver (2007), candidate teachers are asked to design instructional units as a self-directed way with 'Trailfire' that is one of the social bookmarking services allowing to share content and trail students in pre-service teacher education courses. According to the study, candidate teachers try to find the most appropriate source for the lesson content considering ease of use and access. Similarly, Leigh (2010) expresses the project of 'Internet and Project Competence', which is called IPC. This project has conducted in pre-service teacher education programs in Spain, German and USA. The goal of the project is to gain candidate teachers to communicative competence through Web 2.0 tools by getting connection with their peer from other universities around the world. Within the project, candidate teachers get contact with their partners through blogs, discussion boards and then they choose research topic about Web 2.0 tools as a pair from different countries. During seven weeks, they use tools that they have chosen with their leaners. Results of the project show that candidate teachers' knowledge about using and integration of Web2.0 have been increased during the process

because they are both using Web 2.0 as a part of their course and their teaching practice.

**2.1.2.7 The use of web 2.0 technologies in EFL/ESL classrooms.** The language teaching process is getting highly digitalized with the use of Web 2.0 technologies, which enables an open learning system when learners participate in the learning process in an active way. In this sense, activities conducted in the lesson have become more flexible giving space for students' contribution and creation rather than traditional class (Shishkovskaya, 2005). Similarly, materials implemented in traditional classes are generally regarded as static text-based materials such as course books and handouts (Cruz, 2012). However, in language learning process, students need to practice target language by speaking, listening, writing and reading in authentic settings. At this point, Web 2.0 allows dynamic real life based materials in line with constructivist approach for language teachers (Basal, 2013). The study of Luo (2013) implemented to investigate use of Web 2.0 tools in language learning and teaching, for example, shows that Web 2.0 tools facilitate 'affective and collaborative learning' and foster metacognitive learning process among L2 learners. Furthermore; Jee (2011) expresses that easy access to Web 2.0 tools such as blogs or wikis through mobile devices and computers enables learners to expose to meaningful input everywhere by giving them chance to communicate with native speakers of target language. Accordingly, many language learning websites such as 'Palabea (<http://www.palabea.net>), Live Mocha (<http://www.livemocha.com>), and Babbel (<http://www.babbel.com>)' offer learner opportunities to interact directly with speaker of target language, which is called 'e-Tandem'. In this way, learners not only can improve speaking skills but also via text messaging and audiovisual tools, they can develop paralinguistic features of the language. For example, English and Spanish students who want to learn each other's languages through those kinds of websites can have roles of teacher and student as well during online exchange of languages (Stevenson, 2013). Apart from speaking skills, Chang and colleagues (2012) mention that Web 2.0 tools help foreign language learners to focus on linguistic and cultural aspects of target language in a detailed way by enriching vocabulary knowledge and encouraging critical thinking between target language culture and learners' own culture. Similarly, the study of Kovacic (2012) puts

forward that teaching grammar integrated with Web 2.0 tools such as ‘mind-mapping tools (Bubbl.us; Mindomo)’, ‘block diagrams (Gliffy),’ ‘online cartoons from Flickr photos (Bubblr),’ ‘adding audio to slide presentations (SlideSix),’ and ‘the tagging of video or audio files (Veotag)’ enhances students’ metalinguistic skills by giving them chance to interpret grammar topics from authentic context. Additionally, this kind of Web 2.0 integration with language skill area provides personalized learning for students who share their class with having different English proficiency students (Kovacic, 2012).

**2.1.3 Teachers’ technological competencies.** The ability of integrating and adopting technological tools into the lessons depends on the teachers’ techno-pedagogical competence and techno constructivism.

**2.1.3.1 Techno-Pedagogical competence.** Technological pedagogical knowledge deals with how teachers integrate technology into their teaching process. Niess (2005) defines techno-pedagogical knowledge as three dimensions, which are planning, applying and assessing based on technological and pedagogical contents. Technological content encompasses the latest technologies such as computers and the Internet and pedagogy entails strategies and practices teachers can use in the teaching process. Thakur (2015) summarizes the concept of techno-pedagogy as "the hybrid method of teaching in which ICT is being used for teaching-learning situation" (p. 183). Therefore; in language teacher education, She (2015) suggests that both in-service and pre-service programs, online lessons should be added to the program. In that way, teachers can practice using online communication by having experience it. Furthermore, Vijaya (2017) claims that techno-pedagogy facilitates universal access to education. For example, language teachers can meet on webinars and discuss methods and strategies that they use in their teaching process by improving their language skills as well. Additionally, she (2017) expresses that teachers who have techno-pedagogy can foster "self-learning ability of the students by directing the students towards MOODLE, MOOC and various online courses" (p. 5).

**2.1.3.2 Techno-Constructivism.** Techno-constructivism mainly deals with the process of initiating content knowledge using technological tools and getting

feedback from students using technology again. It is mostly used in language teaching because of the fact that teachers need to create an authentic environment for their students to practice the language that they will learn. In this sense, Spodark (2005) explains techno-constructivism as enhancing cooperative learning by supporting various technological tools in the classroom. Techno-Constructivist teachers can deliver online courses utilizing internet resources. Furthermore; they are eager to embed themselves into technology and allow their students to communicate them via e-mails, learning management systems (LMS).

## **2.2 User Intention Theories (TRA, TPB, DTPB)**

Technology has been a part of education since 1960s (Warschauer & Healey, 1998). Many studies have been conducted on the integration of technology into language teaching and learning process. In this sense, teachers' attitudes and intentions are consists of important aspects of studies. Gauld and Shotter (1977) state that although it is not possible to define intentions as a single word, it can be described as the readiness of a person to show an action about a specific case. That's why; the factors that affect intentions and lead them to act in a particular way have been currently searched use (Wu et al., 2008) and many theories have been asserted to figure out teachers' intention and acceptance to use technologies in their self-development and teaching process.

**2.2.1 Theory of diffusion of innovations.** Theory of diffusion of innovations has been considered as one of the oldest theories in social psychology and it deals with how a specific issue can diffuse among certain population (Rogers, 1995). In other words, the diffusion of innovation is explained as the process that people adopt new trends and try to use them in their daily lives or working areas (Kaminski, 2011). Furthermore; Rogers (1995) explains the process of diffusion that innovators 'spread the word' and day by day this word is heard by more and more people and this leads to the development of 'saturation point'. At this point, the most important thing is to know the general characteristic feature of the population. To understand the tendency of population, five established adopter categories are set. The majority of people fall into middle class whereas %13.5 of people are considered as early adopters who are ready for taking risks and creating new ideas and getting a leader

role because of joy of sharing information with others. People who are considered as early majority are inclined to accept innovations before it spread to general population and they control the effectiveness of innovation. Late majority people are suspicious of trying out innovations. They show a tendency to use technological tools if it is accepted and adopted by the majority of people. The people who are very prejudiced against innovation are called as Laggards. These people are the hardest group in terms of accepting the use of new technological tools (Roger, 2003).

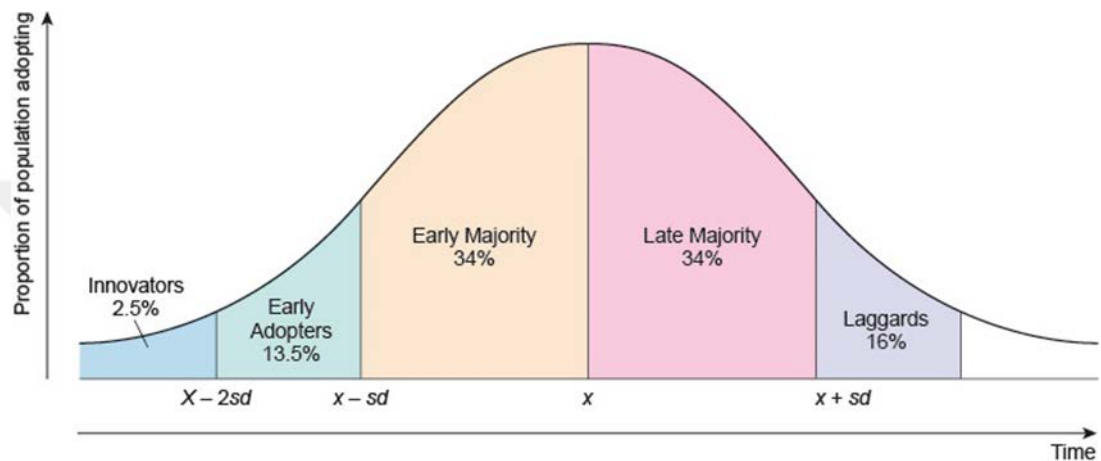


Figure 1. Adopter categorization on the basis of innovativeness (Rogers, 2003).

**2.2.2 Theory of reasonable action (TRA).** The Theory of Reasonable Action (TRA) defines the reasons of beliefs, attitudes, norms, intentions, and behaviors of individuals (Fishbein & Ajzen, 1975). TRA focuses on that the effect of attitudes on behavior can be controlled by some factors. Attitude is defined as showing tendency towards certain manner in a consistent way (Fishbein & Ajzen, 1975). In TRA; behavioral intention can be placed between ‘attitude prediction’ and ‘actually predicting behavior’ and it is determined by attitude and subjective norm which is one’s evaluation criteria of ordering important things (Hale & Householder, 2002). In this sense, Davis and colleagues (1989) conduct a research using TRA and TAM for investigating how students’ intention to use word processing program change within the process and results of the research show that TRA and TAM help predict behavioral intention of students and also demonstrate that perceived

usefulness that is defined as level of a person's belief about particular system is useful for them or not.

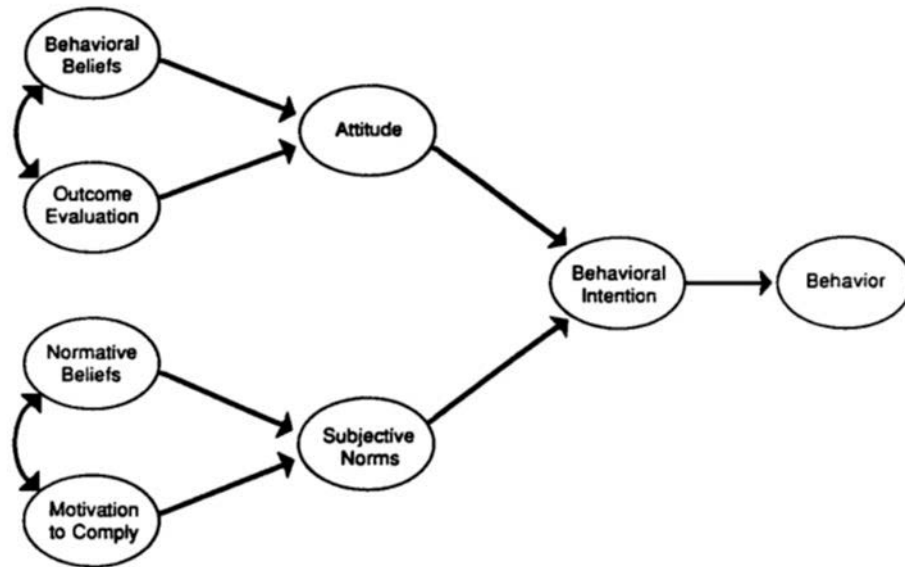


Figure 2. Theory of reasoned action (Davis, 1989).

**2.2.3 Technology acceptance model (TAM).** Technology Acceptance Model deals with the reasons of users' potential intention to accept technological innovations (Davis et al., 1989). This model has been used by many multi-disciplinary studies and the first version of TAM developed by Davis (1989) and Venkatesh and Davis (2000) developed TAM 2 which is composed of two parts named 'perceived usefulness' and 'perceived ease of use'. Furthermore, Venkatesh and Bala (2008) developed TAM 2 in terms of determinants of perceived ease of use and the new model called TAM 3. It includes 'the individual differences', 'system characteristics', 'social influence', and 'facilitating conditions' which play key roles determining perceived usefulness and perceived ease of use. In TAM3 model, perceived ease of use and perceived ease of use to behavioral intention are determined by experiences of users (Lai, 2017).

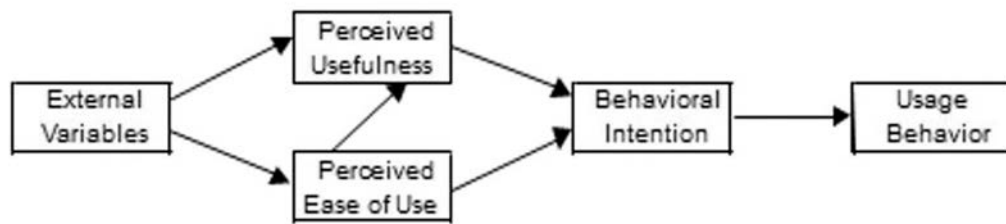


Figure 3. Technology acceptance model (Venkatesh & Davis, 1996).

**2.2.4 The theory of planned behavior.** The theory of Planned Behavior explains why people perform certain behavior at a specific time and place and it investigates reasons behind the intentions of behaviors (Ajzen & Madden, 1986). Knowing factors behind the intentions enables to predict potential use in the future. Theory of Planned Behavior (TPB) consists of 6 constructs, which are attitudes, behavioral intention, subjective norms, social norms, perceived power and perceived behavioral control (Ajzen, 1985, 1991). Personal and social variables can be umbrella terms for these six constructs. Personal variables demonstrate teachers 'positive or negative personal beliefs considering the integration of technology into language lessons to get favorable outcomes. Social variables explain how much other people', who are important for teachers, thought and utterance affect teachers' perceptions about whether they should use technology in their lessons or not. Moreover, the role of TBP in the literature is to determine the intentions of teachers for certain behaviors (Ajzen, 1991). Pre-service teachers 'intention toward Web 2.0 technologies in their future K-12 classrooms was investigated by Sadaf and colleagues (2012) and they found that pre-service teachers believed that the integration of Web 2.0 technologies into the teaching and learning environment is beneficial and has positive effects on language learning. Additionally, as the results of the study of Lei (2009), findings demonstrate that according to pre-service teachers, Web 2.0 technologies easy to use for their own personal needs but as for incorporating them into the lesson is still challenging for pre-service teachers. In this sense, using Web 2.0 technologies may have a positive effect on pre-service teachers' intentions whereas their perceived difficulty of integrating them into the lesson can consist of a negative effect on their intentions.

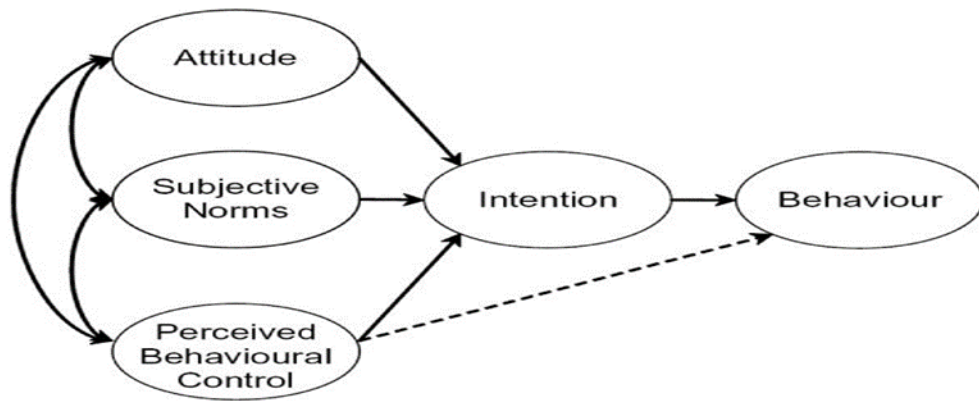


Figure 4. Theory of planned behavior (Ajzen, 1991).

**2.2.5 Decomposed theory of planned behavior (DTPB).** The Decomposed Theory of Planned Behavior (DTPB) is used for making sense of a group of people's intentions when they are about to use technological tools and this theoretical framework is developed by (Taylor & Todd, 1995). It is originally extended version of the theory of planned behavior (TPB) which deals with the prediction of one's intention and behavior in reply to this intention by considering effects of attitude, subjective norms, and perceived behavior control (Ajzen, 1991). The DTPB investigates attitudes, subjective norms, and perceived behavioral control by decomposing them into several subcategories. In this way, it provides extensive explanation and precise comprehension for certain behavior patterns (Taylor & Todd, 1995).

**2.2.5.1 Attitude.** Attitude is defined as a stance and reaction of individuals while performing certain behaviors (Ajzen, 1991). There are three attitudinal components: perceived ease of use, perceived usefulness, and compatibility. Ease of use refers to the degree of easiness of technology. If technologies are considered as user-friendly in terms of being less complex, they consist of huge potential for being used and accepted by the majority of users. Perceived usefulness can be defined as one's own judgments about the benefits of innovations in terms of affecting their own performance (Rogers, 2003). Compatibility is about how teachers can integrate new technological tools into their lessons by considering the needs of learners (Roger, 2003).

**2.2.5.2 Subjective norms.** Subjective norms describe pressures that a person gets from other people about a specific topic and in turn, that person constitutes thoughts about whether s/he should perform particular behavior or not behavior (Ajzen, 1991). Within an educational context, teachers' decisions to integrate technology into their lessons can be determined by the opinions and suggestions of other people they consider as important (Ma et al., 2005). Under subjective norms, there are 3 groups named as superiors, peers, and students and they all have an influence on a person for deciding to perform a certain behavior. Student influence is the effects on students on their teachers such as giving feedback for technology use in the class to their teachers. Peer influence refers to the effect of colleagues or lecturers, who are important for them, on teachers. Similarly, superior influence refers to the influence of superiors such as administrators on teachers. For example, Administrators think that the adoption of Web 2.0 tools enhances students' language learning in the study of Ajjan and Hartshorne (2008) and teachers show a tendency to use Web 2.0 tools in their classes.

**2.2.5.3 Perceived behavioral control.** Perceived behavioral control is described as people 'own thoughts about comparing their ability with the degree of easiness or difficultness of behavior (Ajzen, 1991). In this sense, the teachers who are considered as autonomous and have self-confidence about technological knowledge are intended to incorporate technological tools into their lessons more (Ertmer, 2005; Teo, 2009; Yushua, 2006). Perceived behavioral control is divided into self-efficacy, the facilitative conditions of technology and facilitative conditions of resources. Self-efficacy is the perception of a person about how much they can perform well in acting certain behavior (Bandura, 1982). Facilitating condition- resources and technology refer to available resources that teachers can use. If obstacles about technological tools are getting fewer, teachers can feel huge control over integrating technologies according to the results of the study of Taylor and Todd (1995).

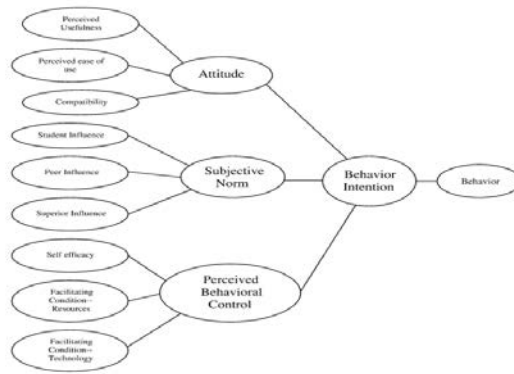


Figure 5. Decomposed theory of planned behavior (Taylor & Todd, 1995).

In conclusion, there have been various user intention theories conducted in literature. Within time these user intention theories have been adopted and adjusted to emerging problems, in turn, they are exposed to various changes.

## Chapter 3

### Methodology

This chapter aims to detail the methodology of the study by describing the research design, setting, demographics and participants and limitations. Within the part, pertaining to the procedures of the study, data collection instruments, data collection procedures, and data analysis methods are elaborated.

#### 3.1 Research Design

In this study, the exploratory case study design was utilized. An exploratory case study design makes use of qualitative data collection and analysis approaches to investigate the topic with greater depth (see table 1). It also attempts to find answers for questions that are framed by the pronoun 'what' (Yin, 2014).

The reason to apply an exploratory case study design in this study was to support examine the participants' transformational change and to have a greater insight into in-service English teachers' intention to use Web 2.0 tools and telecollaboration in their classes along with their perspectives toward it.

**Table 1**

*Research Questions, Methods, and Instruments Used in the Study*

Research Question	Instrument	Analysis Method(s) & Procedure(s)
1) What are in-service English teachers' perspectives on the advantages and disadvantages of telecollaboration in language teaching & learning?	Semi-structured Interviews Reflection Paper	Content Analyses (Axial and Selective Coding) & Constant-comparison method
a) What are the underlying reasons for in-service English teachers' transformational changes in getting classes in online platform in terms of behavioral, normative and control beliefs	Semi-structured Interviews and Reflection Papers	Content Analyses (Axial and Selective Coding) & Constant-comparison method

Table 1 (cont'd)

Research Question	Instrument	Analysis Method(s) & Procedure(s)
2) What are the underlying reasons for in-service English teachers' transformational changes in using web2 tools in their classrooms in terms of behavioral, normative and control beliefs?	Semi-structured Interviews and Reflection Papers	Content Analyses (Axial and Selective Coding)& Constant-comparison analyses

### 3.2 Setting and Participants

This research was conducted with ten in-service English teachers from Banjarnegara, Banyumas, Pemasang and Purwokerto in Indonesia and Istanbul, Gaziantep, Van, Şanlı Urfa and Mardin in Turkey. Participants are selected according to their teaching group, which are middle and high school students. The reason to select teachers from different settings is to represent diverse educational background, language levels, and technology acceptance. Furthermore; for this study, maximal variation sampling technique was utilized and teachers were chosen from Indonesia because Turkey is geographically adjacent to European countries which have good educational and social qualities, such as: Germany, the Netherlands, and France. Likewise, Indonesia has neighboring countries, such as: Singapore, Malaysia, China, and Japan. This situation facilitates two countries to develop their educational quality through curriculum adjustments, scholarship for students' exchange and giving attention to teachers' education, so that they are equal to their neighboring countries (Sugandi & Delice 2014).

Teachers were mostly aged between 24-40 years old and graduated from the English language-teaching department. Turkish in-service teachers got ICT lessons in their undergraduate study, while Indonesian in-service teachers had no background in ICT. Participants have 6 year teaching experience on average and participants have bachelor degrees in English language teaching (ELT) and two of them have master degree on ELT .Six participants teach English in state high schools to pre-intermediate learners. Four participants teach English in state primary schools to elementary level learners. Less than half of the participants described their technological knowledge category as early adopters who use the technology after seeing its benefits. Three participants described their technological knowledge category as mass followers who adopt technology after being proven its benefits.

Two of the participants described their technological knowledge category as late adopters who cautiously start using new technology after seeing a lot of people use it. One of the participants described her technological knowledge category as innovator who can take risk and explore a new technology before others (see table 2).

In the current study, it was aimed to reach Indonesian and Turkish teachers at the same time for telecollaboration via Google hangouts by considering the time zone of both countries, so the number of participants was limited to 5 per country. It is also crucial to have a minimum of 10 participants per predictor variable (VanVoorhis & Morgan, 2007).

**Table 2**

*Participants' profile: In-service English teachers from Indonesia and Turkey*

Participant Name	Years; Teaching Experience	Age	Educational Background	Tech Category
Cecil	19	42	Bachelors	Late adopter
Tuluğ	2	24	Bachelors	Early adopter
Ahmed	6	31	Masters	Early adopter
Riri	15	40	Bachelors	Mass follower
Rama	3	24	Masters	Mass follower
Melda	2	24	Bachelors	Early adopter
Sema	2	24	Bachelors	Mass follower
Emily	2	24	Bachelors	Late adopter
Diana	2	26	Bachelors	Innovator
March	9	36	Bachelors	Early adopter

### 3.2.1 Demographics

In the following tables, gender, and age demographics of in-service English teachers partaking in this study are presented (see table 3 and 4). The total number is 10 participants involved in the study. The number of female participants was 9 and the number of male participants was 1.

Table 3

*Demographics of Participants: Gender*

	Frequency	Percent
Female	9	90.0
Male	1	10.0
Total	10	100,0

Table 4

*Demographics of Participants: Age*

	Frequency	Percent
24-30	7	70.0
31-38	3	30.00
Total	10	100,0

### 3.3 Procedures

The procedures section of this study examines data collection instruments, data collection procedures, and data analysis procedures.

### **3.3.1 Data collection instruments**

In this research study; (a) semi-structured pre and post interviews and (b) reflection papers have been used as data collection instruments.

**3.3.1.1 Interviews.** Before conducting 6-week sessions, participants were asked to attend semi-structured interview about the use of web 2.0 tools and telecollaboration in language teaching and teacher training programs. Questions were prepared under 3 categories, which were Behavioral Belief, Normative Belief, and Control Belief according to the study of constructing a TPB questionnaire (Ajzen, 2002). Similarly, weekly reflection paper questions and post-interview questions were also prepared to depend on TPB. To provide an in-depth analysis for the qualitative data, semi-structured interviews were conducted with all of the participants regarding their perspectives and intention of use toward Web 2.0 tools and telecollaboration in language teaching. Firstly, before the sessions, participants were asked to answer 9 questions, which were constructed to gain a general understanding of in-service teachers' knowledge and belief regarding telecollaboration. Similarly, participants answered 13 questions that were prepared to explore the existing knowledge and beliefs about using Web 2.0 tools. Additionally, questions in post semi structured interview part were prepared to make participants evaluate the 6 week process in terms of the fact that which points they could improve their self-efficacy and how their attitudes and beliefs changed, and which points they like and dislike about telecollaboration and Web 2.0 tools.

Moreover, interviews conducted with participants provided insightful data, since it allowed them to talk about the things that they observed within the 6-week process. For the post-interview part, the interviewer met the participant one by one via hangouts to create a non-threatening atmosphere in terms of preventing peer pressure.

**3.3.1.2 Reflection papers.** Teachers were also told to write a reflection paper weekly upon the topic of the week by mentioning their experiences and beliefs about the use of Web 2.0 tools and telecollaboration in their classes. At this point, four participants expressed that they hadn't written any reflection paper before. In this sense, researcher firstly showed examples of reflection paper and sent outline of an assigned reflection paper to those participants and guided them about which point

they need to mention and which order they need to follow. In this way, they could express the factors that might facilitate or hinder their use to deeply analyze the data. In this sense, participants' behavioral, normative and control beliefs' change were analyzed in a detailed way. In this participants change of behavioral, normative and control beliefs' change were analyzed in a derailed way.

### **3.3.2 Data collection procedure**

The data collection process started on the 29<sup>th</sup> of September via Google Hangouts, which is video conferencing tool. It consisted of 6 weeks and two hours in a week. Indonesia and Turkey don't share the same time zone and Indonesia is 4 hours ahead of Turkey, so sessions were held on Sunday at 3.30 pm for Turkey time zone and 7.30 pm for Indonesia time zone. Before implementation, participants were expected to attend semi structured interview that was constructed based on TPB about telecollaboration ,which is consist of 9 questions and using Web 2.0 tools which is consist of 13 questions, in EFL classes. Following that, all participants introduced themselves on Padlet, which is online bulletin board by sharing information about their city, teaching experiences and teaching groups. This allowed participants to get to know each other a little. For the first session, all participants were asked to log into Google Hangouts and the researcher and participants came together in face-to-face mode. Following that, researcher using the screen share feature on Google Hangouts introduced syllabus for 6-week process and the first-week topic. It was the introduction of telecollaboration platforms and projects conducted by European unions and synchronous and asynchronous learning environments. The purpose was in that session to show participants how telecollaborative projects implemented around the world in a synchronous and asynchronous way. In this sense, to localize that kind of project in their contexts, participants were asked to write reflection paper answering these questions based on the weekly readings:

- Firstly; write your first impression about our first sessions (what would make it better? What did you like most?)
- Considering your student's profile, what are the predictable reactions you can get from your students about e-learning environments (synchronous/asynchronous learning)?

- If you are designing telecollaborative sessions for your students, what kind of topics do you focus on more? (Intercultural awareness/speaking or listening skills) and which country would you choose as a partner country?

For the second week, the topic was integrating web 2.0 tools to facilitate listening and speaking skills. In that session, main goal was introducing and showing which Web 2.0 tools participants can use for improving speaking and listening skills and how they can integrate those tools into their English lessons. In this sense, participants were asked to write a reflection paper answering these following questions based on the weekly readings:

- Please choose one or more applications below and try to use in your classroom and share the positive and negative parts that you have encountered with your student
- What are the opportunities and challenges that today language teachers have while teaching languages; listening and speaking skills?
- What are the opportunities and challenges that language learners in the 21<sup>st</sup> century have while learning a language; listening and speaking skills?

For the third week, the topic was integrating web 2.0 tools to facilitate listening and speaking skills. In that session, main goal was introducing and showing which Web 2.0 tools participants can use for improving reading skill and how they can integrate those tools into their English lessons. In this sense, participants were asked to write a reflection paper answering these following questions based on the weekly readings:

- Do you find effective for teaching reading skills integrating with technological tools, and why?
- Which Web 2.0 tools that mentioned during the sessions would you use more in your class? And why?

- Please choose applications mentioned during the session and try to use in your classroom and share the positive and negative parts that you have encountered with your student

At the beginning of the 4th-week session, one participant attended the workshop about teaching writing skills and she shared what she had learnt. After that, the researcher introduced the Web 2.0 tools for facilitating writing skills in language teaching. Another topic was technology integration frameworks such as the SAMR model which is The Substitution Augmentation Modification Redefinition model showing how technology influenced learning and teaching process, and 21<sup>st</sup>-century skills fashion. With this session, participants were informed about how and which Web 2.0 tools they could integrate into the lessons for teaching reading, writing, listening and speaking skills. In this sense, participants were asked to categorize Web 2.0 tools that they have learnt and explored through the sessions, based on SAMR or 21<sup>st</sup>-century skill framework as a pair. While consisting of pairs, the researcher paid attention to match one Indonesian participant with one Turkish participant for the sake of facilitating collaboration among them. The purpose of preparing I-pedagogy wheel, which is categorization of Web 2.0 tools, based on certain frameworks was to facilitate participants to choose appropriate tools for each skill area.

In the 5<sup>th</sup> session, each pair presented their I-pedagogy poster and explained why they preferred those tools and that framework and discussed about their pair work process in terms of difficulties and advantages because of sharing distant locations and different time zones. Another point in this session was to show participants examples of Web 2.0 tools integration on a unit chosen from the course book. In this sense, they were told to choose a course book and adapt only one full unit by integrating Web 2.0 tools on I pedagogy wheel that they created, according to the language level that they chose. Also, they needed to focus at least two skills in that unit while preparing a plan for integrating Web 2.0 tools.

In the 6<sup>th</sup> session, firstly each pair presented units integrated with technological tools and other participants evaluated them in terms of relevance to the target skills, engagement of students, usability, and practicality. After the 6<sup>th</sup> week ,participants

were asked to attend post interview which is consist of 21 questions about using and integrating Web 2.0 tools and telecollaboration in teaching and learning process.

Moreover; participants were asked to conduct a telecollaborative session with their students at least one in a week during three weeks from starting week 4. To enhance their knowledge about Web 2.0 tools and gain experience about other telecollaborative sessions, participants were asked to attend three webinars about virtual learning environments, 21st skills and online teaching and learning process.

Additionally, two weeks later from final session, participants were asked to evaluate themselves as pre and post sessions by completing the Likert scale which was constructed from existing themes of interviews and reflection papers. In this way, how participants can apply Web 2.0 tools and telecollaboration in their classes can be reflected by their own experiences and the change they got through can be observed in a detailed way(see table 3).

Table 5

*A Summary of the Procedures Followed in the Present Study*

Weeks	Descriptions
The week before the sessions	-Pre semi structured interview was conducted and participants shared information about themselves on Padlet.
Week 1	-Syllabus for 6 <sup>th</sup> week session was introduced and first week topic, which was the introduction of telecollaboration platforms, and projects conducted by European unions and synchronous and asynchronous learning environments was covered by researcher on Google Hangouts. -Participants were asked to write reflection paper based on weekly readings about the topic of the week
Week 2	-The topic, which was integrating web 2.0 tools to facilitate listening, and speaking skills was covered on Google Hangouts. -Participants were asked to write reflection paper based on weekly readings about the topic of the week
Week 3	-The topic, which was integrating web 2.0 tools to facilitate listening, and speaking skills was covered on Google Hangouts. -Participants were asked to write reflection paper based on weekly readings about the topic of the week

Table 5(cont'd)

<b>Weeks</b>	<b>Descriptions</b>
<b>Week 4</b>	-The researcher introduced the Web 2.0 tools for facilitating writing skills in language teaching and technology integration frameworks -Participants were asked to prepare I pedagogy wheel as pairs
<b>Week 5</b>	-Participants presented their I-pedagogy poster and explained why they preferred those tools and that framework and discussed about their pair work process in terms of difficulties and advantages because of sharing distant locations and different time zones. - Participants were told to choose a course book and adapt only one full unit by integrating Web 2.0 tools on I pedagogy wheel that they created, according to the language level that they chose.
<b>Week 6</b>	-Participants as pairs presented units integrated with technological tools and other participants evaluated them in terms of relevance to the target skills, engagement of students, usability, and practicality.
<b>The week after the final session</b>	Post semi structured interview was conducted
<b>Two weeks after the final session</b>	Participants evaluated their change within the process by completing Likert scale questionnaire

### **3.3.3 Data analysis procedures**

The exploratory case study design is applied for acquiring qualitative data to observe and see the transformational change that is change of intentions in behavioral, normative and control beliefs of participants. The qualitative data were gathered through semi-structured interviews and the reflection papers written by in-service English teachers weekly. Interviews are one of the data collection tools for qualitative research, also used in educational research, for acquiring data such as motivations, feelings, attitudes, accomplishments, and experiences of people (Gall,

Borg, & Gall, 1997). Semi-structured interviews were conducted with a total number of 10 in-service English teachers. Participants' real names were not presented in the study. The qualitative data was analyzed based on two data analysis methods. The first one is qualitative content analysis, which is defined, by Hsieh and Shannon (2005) as follows “*a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns*” (p.1278). Similarly, Zhang and Wildemuth (2009) describe qualitative content analysis as the process of inductive examination of topics and themes in addition to interferences deducted from data. Furthermore, the qualitative content analysis focuses on themes that show ‘the range of the meanings of the phenomenon rather than the statistical significance of the occurrence of particular texts or concepts’ (Berg, 2001). In this study, all the data was transcribed and read to have a general sense of it, and then, similar responses were gathered under categories for each belief of behavioral, normative, and control and their frequencies were noted. Related text segments were assigned under certain code labels as well. After the primary coding process, the second analysis method, which was constant comparison, was used. It is the data analysis method to use for comparing incidents with others and examining the properties of each category (Strauss & Corbin, 1998). So, after the content analysis, the researcher compared each code and theme with one another, within cases and beyond the cases as well to reduce repetitions and see final categories to be reported.

#### **3.3.4 Establishing trustworthiness of qualitative data**

According to Lincoln and Guba (1985) and Patton (2002), reliability and validity in qualitative studies determine the trustworthiness and credibility of any qualitative research. Firstly, in this study, data were gathered by means of triangulation of findings, by receiving different data sources such as reflection reports and semi-structured interviews. Peer review and investigator triangulation techniques including the use of multiple researchers for data analysis provide a reduction of personal prejudice and an increase in validity. Finally, the researcher asked each participant to review the report that they had written within the process and give feedback. The feedback they gave increased the reliability of the study through member checking.

### **3.4 Limitations**

As Arslanoğlu (2015) expressed, despite how well conducted they are, all studies have some limitations. Limitations can be points during the process of research that the researcher cannot control. One of the limitations of this study was the lack of literature on the topic of using telecollaboration between in-service teachers about ICT training. In the literature, studies mainly focus on how telecollaboration and using web 2.0 tools can improve students' motivation and efficacy for language learning. There was not a single study conducted with in-service English teachers about their ICT training through telecollaboration and also there has been no single study conducted with pre and in-service teachers through telecollaboration between different continents. That's why, at the beginning of the study, this situation led us to think that there could be unpredictable situations during the process. Fortunately, during the 6<sup>th</sup>-week process, everything went smoothly.

One of the limitations during the training was that some of in-service English teachers were not able to connect to Wi-Fi because of weather conditions however; this problem was solved with practical solutions. Additionally, sessions were held on Google hangouts and it doesn't allow multiple presenters for screen sharing like adobe connector. Another limitation was the fact that some Indonesian English teachers were not familiar with writing a reflection paper and instead of reflecting what they learned from the session and their current practices by justifying their ideas from weekly readings, they were inclined to give short answers by giving definitions of the terms. So, the researcher warned those participants about this problem and explained to them what reflection paper is by giving more detailed guidelines and in this way they could write proper reflection papers.

## Chapter 4

### Findings

Research questions of the present study constitute the organization of this chapter. The qualitative data were collected through semi-structured interviews and reflection papers. Thematic analysis and content were administered, and some themes were developed for the semi-structured interviews and reflection papers by the researcher and the researcher revised these themes with his thesis supervisor.

#### **4.1 Research Question 1: What are in-service English teachers' perspectives on the advantages and disadvantages of telecollaboration in language teaching and learning?**

##### **4.1.1 Advantages of telecollaboration in language teaching and learning process**

*4.1.1.1 Behavioral beliefs.* Behavioral beliefs represent the degree of each participant's belief that directs them to the desirable outcomes of target behavior (Ajzen, 1991). The results of the semi structured interviews and reflection papers (see Appendix 1) showed that the most commonly expressed behavioral belief were that telecollaboration facilitates intrinsic motivation (80%), promotes autonomous learning (%70), and gains different perspectives (%70) about the content.

Participants agreed that telecollaboration makes learners engage with the content (%80) in an authentic context and it is easy for them to use (%70) telecollaboration technology. In this sense, emerging themes were gathered under the categories of increasing intrinsic motivation and compatibility and promoting self-directed learning.

*4.1.1.1.1 Increasing intrinsic motivation and compatibility.* Interview and reflection data revealed that telecollaborative session create authenticity for language use and when students confront real language use, they want to study English for the sake of expressing themselves. For example; one of the in-service teachers stated in her reflection,

[...] I enrolled my students in e-twinning project and I observed that my students and other students have different level of English in terms of speaking, writing, and listening. But they can overcome this, by using their childish communicative manner. They try to ask questions to maintain the conversation, and help each other. Some of my students have really good language skills. So with telecollaborative learning they can develop it by knowing and seeing different students from other countries. (Emily, 2019)

Similarly, another teacher agreed telecollaborative sessions increase student engagement by saying in her interview that "*being an active language learner triggers learning process and motivates students to do more*". Furthermore, more than half of the participant noted that through the process they have developed their IT (information technology) skills by connecting sessions through Google Hangouts thus becoming easy for them to attend and manage online sessions. It is easy to use for them and also it can improve the efficiency of their personal work as well as the work of their students. For instance, one of the participants noted that she holds online sessions for her students and in this way she expressed that "*in my lesson, we get only 90 minutes per week and we spend it mostly in writing skills, and grammar and everything we need to prepare for the national exam. By applying the session, we can cut the time short as we can do much more in the session and it has resulted on the increasing of student's understanding, and that is the most important thing*". In this sense, majority of participants perceived use of telecollaboration as a great way to provide motivation for students by enriching their learning experiences presenting them extra-curricular sources and supports.

*4.1.1.1.2 Promoting self-directed learning.* The interview data revealed that almost all ( $n = 7$ ) of the in-service teachers felt that through sessions, they have learnt how they can improve their teaching styles via online courses. In this sense, participants attended webinars depending on their interest areas, and one of the participants expressed that "*I attended a webinar about virtual reality and I met lots of teachers around the world and one of them sent his research about VR technology and this lead me to extend my research about it.* In the same way, one of the teacher commented in her reflection paper that "*I shared e-learning platforms with my*

*students and I observe that some of them attended lessons and share what they have learnt with their classmates during the lessons as well''.*

This theme suggests that telecollaboration enables learners to discover their interest areas and enhances their learning process.

**4.1.1.2 Normative Belief.** Normative beliefs demonstrate that people who are considered as important can be reason for performing a particular behavior (Ajzen, 1991). The results of the semi structured interviews and reflection papers (see Appendix 1) showed that the most commonly expressed normative beliefs were that telecollaboration facilitates information exchange among English teachers around the world (%80), gets closer 21<sup>st</sup> learners and teachers (%90) and promotes interaction with experienced teachers (%90).

Two umbrella themes associated with in-service teachers' normative beliefs emerged from our analysis of reflection paper and interview data: Need to meet the needs of digital age students and knowledge exchange among colleagues.

**4.1.1.2.1 Need to meet the needs of digital age students.** Almost all (n=9) of the in-service teachers thought their students would influence their intention to use of telecollaboration. For example, one stated in her interview, *“my students always talk with their friends through online games and I think that if I can do something like that they can pay attention to the lesson as well”*. Similarly, majority of participants thought that getting familiarity with e-learning environments will enable them to be more connected to the students because, according to one participant, *“21<sup>st</sup> century learners live on computers and online worlds so I feel like we are connected to future generations as long as we exist on those environments more than giving a lecture for 45 minutes”*.

**4.1.1.2.2 Knowledge exchange among colleagues.** Almost all (n=9) of the in-service teachers thought that telecollaboration created an environment for English teachers around the world where they can exchange knowledge and experience with each other. For example, one of the participants stated at the end of completing pair work task during the telecollaboration sessions that *“we always wonder about our practices, how similar or different they're according to other countries so it is a*

*chance to learn about these. I discover new websites also thanks to my partners different from what I generally use. Also the way we think was different, I was looking for detailed, uncommon websites to surprise students but my partner was thinking about practicality and if her students were used to using that website to work efficiently so we discovered different perspectives''*. Similarly, one of the in-service teachers expressed her thoughts after she had attended telecollaborative sessions and webinars saying that *'' telecollaboration gave me chance to meet with lots of teachers around the world. I got some of their email and asked questions about how they implement speaking tasks''*. In the same way, another participant stated that via telecollaboration she has improved her speaking skills as well: *'' I as an English teacher must increase the language skills day by day. Having a good communication with a foreign teacher is a chance for me to practice my English skills''*.

**4.1.1.3 Control Beliefs.** Control beliefs refer to perceptions of people about how they perform a behavior based on availability of internal and external factors (Ajzen, 1991). These beliefs are determined by how control factors facilitate or impede a particular behavior.

The results of the semi structured interviews and reflection papers (see Appendix 1) showed that the most commonly expressed control belief were that telecollaboration enables anytime/anywhere easy access to learning and interaction (100%), promotes functional use of e-learning platforms (80%), facilitates self-confidence for building online communication (80%) and increases self-efficacy for managing online sessions (80%). In this sense, emerging themes were gathered under the categories of anytime /anywhere access to learning and interaction and increasing self-efficacy for managing online learning environments.

**4.1.1.3.1 Anytime /anywhere easy access to learning and interaction.** From semi-structured interview and reflection papers revealed that participants perceived telecollaboration as useful due to easy and quick access wherever they want. All ( $n=10$ ) of the participants agreed that despite sharing different time zone and place they can come together in online platform and talk about mutual issues. For instance, one of the participants noted that *''the time of weekly sessions, I was generally on the*

way of school but I can connect the session when I was on the bus ”. Furthermore; participants believed that interaction free from time and place constraints foster to help each other in terms of generating solutions to problems. For example, one of the participants expressed that *”I had connection problem on my computer and one of the participants recorded the session for me thus I didn’t miss anything ”*. Similarly another in-service teacher expressed that *”we need to work on the same topic for an assignment given by one of those sessions and I tried to find how we could see each other’s changes and my partner Rama advised me to work on Google document, in this way we can follow each other’ changes”*. Moreover, majority of participants expressed that easy and anytime access to telecollaborative sessions encouraged them to discover other e-learning platforms for themselves and their students as well. For instance, one of the participants expressed that *”I attended in one of lessons on Coursera and I really like it because there was asynchronous discussion board and after I watched lesson and I commented on it and other participants answered my comment as well so I recommended Coursera to my students and some of them attended English lesson there gave me positive feedbacks”*.

Generally, in-service teachers seemed motivated to attend telecollaborative sessions due to easy and flexible access to increase interaction, information, and resources that can have a positive influence on their students’ learning as well. For example, one of the participants expressed that *” Telecollaborative learning is cheap, timesaving. In face-to-face learning, you have to go to class, you have to give a serious time, if we add also road, transportation etc., you should make lots of sacrifices. However, in telecollaborative learning, all you have to do is attending the sessions from wherever you want. When you are sure about the content, it is super useful ”*.

*4.1.1.3.2 Increasing self-efficacy for managing online learning environments.* Results of semi structured interview and reflection papers revealed that almost all participants ( $n=8$ ) expressed that when they started to take part in online sessions, they felt very comfortable directing their students to online platforms and creating online sessions. For example, one of the participants reported that *”within the 6 week sessions, I got through difficulties that can be happened in my sessions as*

*well and learnt how I can deal with the them so when I created online meeting with my students, I could trust myself and try to solve their problems as well''.*

#### **4.1.2 Disadvantages of telecollaboration in language teaching and learning process**

**4.1.2.1 Behavioral beliefs.** The results of the semi structured interviews and reflection papers (see Appendix 1) showed that the most commonly expressed behavioral belief about disadvantage of telecollaboration is decrease in use of jest and mimics while communicating with others (%50).

*4.1.2.1.1 Decrease in use of paralinguistic features.* Half of the participants ( $n=5$ ) agreed that online communication affects the way people talk because of disruptions such as poor internet connection .In this sense, half of the participants noted that people tend to more focus on using clear expression to transmit the message and this leads to disrupt natural way of speaking. For example, one of the in-service teachers expressed that *''there are some differences between face-to-face communication and online ones. But I think that face to face is better than online communication because it has interactions, emotions, and sensation we can get in face to face communication, but not in others''.*

Although the majority of in-service English teachers ( $n=7$ ) expressed that they communicated with teachers around the world via telecollaboration, half of them ( $n=5$ ) intended that communication lacked of paralinguistic features.

**4.1.2.2 Control Beliefs.** Results of the semi structured interviews and reflection papers (see Appendix 1) showed that the most commonly expressed control beliefs about disadvantage of telecollaboration were restricted access to computers and internet and having difficulty to arrange mutual time because of different time zones.

*4.1.2.2.1 Restricted access to computers and internet.* More than half of the participants ( $n=6$ ) agreed that in their work place and city sometimes there are infrastructure problems such as broken computers and poor internet connection .In those situations, participants expressed that they can't implement their lesson plans.

*''One of the participants expressed that we arranged time with our students and at that day electric was gone in whole city, so we had to postpone the meeting.''*

*4.1.2.2.2 Difficult to arrange mutual time because of different time zones.* Almost all participants ( $n=9$ ) expressed that especially in the situation of pair work, it was very difficult for them to arrange a mutual time because of different time zones. Within time they developed solutions such as working on the same Google documents or using asynchronous discussion boards. For example one of the participants reflected at the end of her pair work process that *''our communication sometimes didn't run well because sometime I forgot about time. We have different time zone. I texted her at 6.55 in the morning and it was 2.55 in Turkey. However at the end, we managed to find a common ground and study together with a collaborative manner and discipline''*.

Although all in-service English teachers ( $n=10$ ) expressed that telecollaboration enables them to any time connection, the majority of participants ( $n=9$ ) intended that arranging mutual time was also challenging for them to study together.

## **4.2 Research Question 2: What are the underlying reasons for in-service English teachers' transformational changes in getting classes in online platform in terms of behavioral, normative and control beliefs?**

### **4.2.1 Beliefs towards Telecollaboration**

Beliefs towards telecollaboration and its potential in language and teacher education among ten participants changed through the project. As noted in appendix 2, semi-structured interview conducted before the session showed that in terms of behavioral beliefs, participants' attitudes have improved in a positive way. Before the 6-week sessions, less than half of the participants (20%) noted that telecollaboration facilitates autonomous learning. However; within the process half of the participants (50%) agreed that they found themselves to attend webinars (online seminars) and after the process the majority of participants (70%) expressed to attend and search online courses. Similarly, at the beginning of the sessions, less than half of the participants (40%) agreed that it was easy to use telecollaborative technology while in the process half of the participants (50%) found it easy and at the end of the

process almost the majority of participants (70%) noted that telecollaboration was easy to attend and manage (see table 4). For example, (see appendix 2.1) Riri who described herself a mass follower of technological developments expressed that *'' I didn't know that without downloading any application which required money I could attend that kind of session. Within the process, I experienced that it was easy to reach just with a click, includes so much input material quickly, requires no money, you can reach it while sitting at home with pajamas and enables you to meet with others''*. Moreover, semi structured interview data showed that before the sessions; half of the participants (50%) agreed that telecollaborative sessions facilitated intrinsic motivation. In the same way within the process more than half of the participants (60%) and at the end of the process, the majority of participants (80%) expressed that telecollaborative sessions triggered their curiosity and they tried to attend online sessions and added different flour to their English classes as well. For instance, (see appendix 2.1) March who described herself as early adopters of technological developments expressed that *'' I arranged a time with my student for speaking practices on hangouts, and my students really enjoyed it. They told me that they looked forward to attend the online class because they felt that outside of the classroom boundary they could practice the language, and also they could easily searched and sent something related to topic because in our school, students were not allowed to use their phones on the lessons but in online classes, they could actively use their smart phones as well''* . Furthermore, only 3 participants out of 10 ( $n=3/10$ ) stated that telecollaboration would foster engagement with the content, but within the process 6 out of 10 participants ( $n=6/10$ ) and at the end of the sessions the majority of participants (80%) agreed that telecollaboration increase engagement of learners with the content. For instance, (see appendix 2.1) Sema who described herself as mass follower of technological developments noted that *'' before starting the first session, I thought that because of technical problems, I wouldn't focus on the topic and this situation would distract my attention as well. But within process, I experienced that internet connection was not cut that I expected and with screen sharing feature, I could follow the topic in an easy way and also listening other participants comments on the topic increased my attention to the topic''*.

Moreover, in terms of normative beliefs, before the 6 - week process, less than half of the participants were influenced by online colleagues (20%) and technological blogs (30%). Within the process, participants were directed to technological blogs by researcher and other participants, and as it can be seen in appendix 2, at the end of the sessions, all (100%) participants expressed that technology blogs showed them how they use and integrate technology into their lessons, Similarly, colleagues that they met in 6 week sessions and webinars that they attended affected them in a positive way (80%). For instance, (see appendix 2) Emily who described herself as late adopter of technological developments stated that *''meeting counterparts from other countries and coming up with various ideas was a different experience for me and gained me different perspectives. I believe we helped each other and we were harmonious''*. Furthermore, only 3 participants out of 10 ( $n=3/10$ ) stated that they were influenced by experienced teacher in a positive way. However, within the process 6 out of 10 participants ( $n=6/10$ ) and at the end of the sessions almost all of the participants (90%) agreed that via telecollaboration, they met experienced teacher and got advised from them. For example, (see appendix 2) Cecil who described herself late adopters of technological developments expressed that *'' I didn't have enough technological knowledge and in my workplace teachers were generally not interested in ICT tools. That's why, attending to sessions allowed me to meet other teachers who were more experienced than me in terms of technology knowledge and they helped me a lot ''*.

Moreover, as noted in appendix 2, before the process less than half of the participants (40%) expressed that telecollaboration would improve their self-efficacy in terms of using technology, within the process, data from reflection paper and semi-structured interview showed that the majority of participants (80%) tended to support that telecollaboration improved their self-efficacy and at the end of the process, in addition to improving their self-efficacy, it facilitated their self-confidence about creating telecollaborative sessions as well (80%). For example, (see appendix 2.3) Cecil who described herself as late adopters of technology noted that *'' before starting the sessions, I thought that I would keep up with other participants but within the sessions we used tools for students and had a lot of experience during 6 weeks so I can foresee and solve problems more easily and I feel more confident so*

*I don't panic even something is wrong. I can produce alternatives calmly with confidence thank to my experience''.* Moreover, less than half of the participants agreed that they could manage their students in online classroom whereas within the process majority of participants (70%) and after the process almost all participants (80%) expressed that when they attended telecollaborative sessions, they have learnt how they could manage it. For example, (see appendix 2.3) Tuluğ who described herself early adopters of technological developments noted that *''before the sessions, I didn't know how to help my students or apply tasks in online environments but after sessions I learnt how I can manage with technical problems and also I set one goal in my telecollaborative sessions with my students and using screen sharing I saw my speaking prompt to them and they talked about them. In this way, it was really smooth process for me ''.* Additionally, semi structured interview data showed that (see appendix 2.3) all participants (100%) agreed that they desired to expand their knowledge of telecollaboration and almost all of the participants (90%) stated that they planned to integrate telecollaboration into their teaching syllabus.

Table 6

*Summary of emerging themes during 6 week process about telecollaboration*

Behavioral Belief	Normative Belief	Control Belief
Autonomous learning	Online colleagues	Self-confidence for building online communication
Easy to use	Technological blogs	Improving self-efficacy in terms using technology
Intrinsic motivation	Interaction with experienced teachers	Functional use of e-learning platforms
Engagement with content		

### **4.3 Research Question 3: What are the underlying reasons for in-service English teachers' transformational changes in using web2 tools in their classrooms in terms of behavioral, normative and control beliefs?**

#### **4.3.1 Beliefs towards using Web 2.0 tools**

**4.3.1.1 Behavioral Beliefs.** Emerging themes from semi-structured interview and reflection papers were gathered under the categories of practicality and intrinsic motivation (see table 5).

**4.3.1.1.1 Practicality.** At the beginning of the 6-week sessions, less than half of the participants (30%) believed that using Web 2.0 tools as a teacher and attending to those kinds of tools as learners were not easy as noted in appendix 3. However, within the process more than half of the participants (60%) and at the end of the process the majority of them (80%) expressed that it became easy for them and their students to use Web 2.0 tools. For instance, Cecil who described herself as late adopters of technology noted that *''I used to find it so difficult due to my lack of practice and confidence but now I find Web 2.0 tools easier and more practical. Also I know what to use where as I have my own list for different skills. It helps me a lot in creating a good atmosphere in teaching English and also suitable for my students which are Gen Z who live with smartphone, gadget, computer, and so on''*.

**4.3.1.1.2 Facilitate Intrinsic Motivation and Engagement.** While only 3 participants out of 10 ( $n=3/10$ ) stated that Web 2.0 tools facilitate engagement with the content, within the process 6 out of 10 participants and at the end of the process almost all participants ( $n=9/10$ ) agreed that Web 2.0 enables to facilitate engagement with the content as noted in appendix 3. For instance, (see appendix 3.1) Melda who described herself as early adopters stated in reflection papers that *''As we know all the songs, short videos and films are authentic materials for teachers but for the very beginning activities with these materials sometimes push students too much and demotivate them. On this phase since it is difficult for me unfortunately I sometimes ignore students' needs of listening like many other teachers. Thanks to the websites that I've learnt now I explore so many materials and motivating activities for students. I tried using "https://lyricstraining.com" and the first impression was really nice because students could choose questions depending on their levels as well''*. Moreover, at the beginning of the process, none of the participants indicated

that Web 2.0 would affect intrinsic motivation (0%) and interaction and collaboration between learners (2%). However during the process, participants got through outstanding change and at the end of the process, the majority of participants agreed that using Web 2.0 tools as teacher and learner facilitated intrinsic motivation (70%) and interaction and collaboration (90%). For instance; (see appendix 3.1) Emily who described herself as late adopter of technological developments stated that *'' I always tried to videos about related to our topic and appropriate for my students 'level and thanks to Edpuzzle I can find many videos about my lessons easily and if I want, I can arrange some videos adding questions as well. In this way, I could find ready-made interesting videos and I could assign them to my students as well. My students expected listening homework eagerly''*. Similarly, (see appendix 3.1) March who described herself as early adopters of technological developments expressed that *''I always tried to find materials for collaboration and interaction. In this sense, we opened the script-o-rama. My students loved the short movie in that application, entitled Ian, and I am kind of like it since we not only discuss about this movie but we can get the message or the moral value from the story. I separated students into groups and I used this short movie to build the script together. First group got the prize so it facilitated competition in class as well''*.

**4.3.1.2 Normative Belief.** The notable changes were observed in influence of technology blogs and colleagues in the workplace and online environments. At beginning of the sessions, none of the participants (0%) mentioned about influence of technology blogs as noted in appendix 3. However, within the sessions, participants checked the educational technology blogs and firstly the majority of participants (70%) and at the end of almost all participants (90%) noted that educational technology blogs influenced them about how they could ingrate Web 2.0 tools in their lessons. For example, (see appendix 3.2) Ahmed who described himself as early adopters of technological developments stated that *''during the sessions, researcher showed us blogs of Nikpeachey in which you could find lots of educational tools and lesson plans. I shared this blog with my colleagues as well. We always followed the new tools there''*. Similarly, at the beginning of the sessions, less than half of the participants (40%) expressed that colleagues in workplace and online environments affected them in terms of technology use. However, throughout the sessions and

extra webinar participation, online fellows affected participants and participants affected colleagues in their workplace as well. For instance, (see appendix 3.2) March who described herself as early adopters of technological developments expressed that *''I can have not only new friends from other country but also get many teaching knowledge, so I shared the tools I have learnt with my colleagues in work place. They also liked them and used their classes and got positive feedback from students''*.

**4.3.1.3 Control Belief.** The outstanding changes were observed in perceptions of practicality, the degree of difficulty of integration of Web 2.0 tools and tuning of materials depending on the level of students. At the beginning of the sessions all participants (100%) agreed that it was very difficult for them to find free Web 2.0 tools and integrate them into their lessons as noted in appendix 3. After the 6 week process, majority of participants (80%) expressed that they could find free Web 2.0 tools and integrate them into their lessons (100%) by choosing appropriate ones depending on students level (90%). For example, (see appendix 3.3) Cecil who described herself as late adopters of technological developments expressed that *'' thanks to the sessions, I integrated the Web-2 tools in my classes and it changed the atmosphere of my classes crucially. Now I understand that integrating technology into language teaching is not that difficult to do''*. In the same way, (appendix 3.3) Rama who described herself as mass follower of technological developments stated that *''during the lessons, we chose a course book and integrate Web 2.0 into each unit considering the level of students. This activity really changed my perceptions about difficulties of integration process''*.

Table 7

*Summary of emerging themes during 6 week process about Web 2.0 tools*

Behavioral Belief	Normative Belief	Control Belief
Practicality (Easy to attend and use)	Online colleagues	Improving self-efficacy (Creating solutions for technical problems and choosing appropriate tools)
Increase intrinsic motivation	Technological blogs	Practicality (Easy to use and cheap to afford and easy to integrate and adapt)

Table 7 cont'd

Behavioral Belief	Normative Belief	Control Belief
Facilitate engagement with content	Student Influence Colleagues in workplace	Difficult to integrate



## Chapter 5

### Discussion and Conclusion

#### 5.1 Discussion of Findings for Research Questions

The results of the current study were presented in the previous chapter. The primary aim of the study was to predict which factors best influence in-service English teachers' adoption of telecollaboration and Web 2.0 tools based on theory of planned behavior in language teaching and learning process. This study also aimed to gain deeper insight into research questions by conducting semi-structured interviews and analyzing reflection papers. Moreover, it was aimed to determine advantages and disadvantages of telecollaboration from in-service English teachers perspectives. Transformational changes in in-service English teachers were examined through qualitative data at hand. This chapter discusses the results of each research question in comparison with the relevant literature.

##### **5.1.1 Discussion of findings for the RQ1: What are in-service English teachers' perspectives on the advantages and disadvantages of telecollaboration in language teaching and learning?**

Data analysis revealed that in-service teachers believed that the integration of telecollaboration into the teaching and learning environment is useful and has the potential to improve student learning and teacher professional development as well. This perceived usefulness of telecollaboration was driven by the value of telecollaboration for improving engagement with content, interaction among colleagues, communication, autonomous learning and enhancing the overall learning experience by using synchronous /asynchronous learning tools. These results are similar to that of Angelova and Zhao (2016) who noted that telecollaboration fostered engagement with the content and developed interaction among learners by working on collaborative investigations.

In addition, in-service teachers believed that telecollaboration is easy to use when they conduct with their students and take part in the sessions as a participant because most of them indicated that there is no place and time constraints and within the 6-week process they have improved their self-efficacy in terms of managing online communication. This finding corroborates Clark (2005) findings that when

teachers started to take part in telecollaborative sessions, their perception of easiness gets changed in positive way as well. At the same time, most of the participant teachers indicated that poor Internet connection and arranging mutual time were main difficulties for them because they shared different time zones. Also, some of them claimed that not sharing the same atmosphere prevented paralinguistic usage of language and this interrupted communication. These results are similar to that of O'Dowd (2016) who expressed that in the project of EVALUATE, participant got through the same difficulties which are immediacy (feeling close) and arranging mutual times and he concludes that participants can get over immediacy if they can fortify their internet connection.

In conclusion, it was found out that telecollaboration has positive influenced on in-service teachers' intentions of engagement with content, interaction with colleagues and perceptions of usefulness.

#### **5.1.2 Discussion of findings for the RQ2: What are the underlying reasons for in-service English teachers' transformational changes in getting classes in online platform in terms of behavioral, normative and control beliefs?**

Data of semi-structured interview and reflection papers analyzed by methods of qualitative content analyses and constant-comparison analyses revealed that through 6-week process, notable changes were observed in the intentions of in-service English teachers about degree of intrinsic motivation, influence of technology blogs and degree of self-efficacy. Results showed that in-service teachers believed that within the 6-week process, technology blogs have been taken the role of supervisor and encouraged them to attend Webinars and hold online sessions for their students. This finding is supported by Waldman (2016) study, which suggests that teachers need to update themselves with new technological developments and blogs related to educational technology can present them new opportunities.

Furthermore, through the 6 week process, participants teachers discovered new technological blogs by giving advice each other and when they applied lesson plans or Web 2.0 tools on those blogs, they got positive feedbacks from their students and they could feel themselves more motivated to apply the things that they had learnt in their classes and share this experience with their colleagues as well.

In-service English were also motivated intrinsically to attend and use telecollaboration due to positive feedbacks that they got from their colleagues and students. One possible reason for this result may lie in the fact that participants in the study conducted some of their lessons as telecollaborative way. That's why, their students had chance to practice the language out of the classroom and their positive manner influenced the participants. Similarly, Anikina and her colleagues (2015) observed in their telecollaboration project that when students use language outside of classroom boundaries, their motivation towards language learning also increases. Furthermore, participant teachers also expressed that attending in telecollaborative sessions encouraged them to speak English with teachers who have different accent from them. In this way, they could improve their language skills and self confidence in terms of speaking English. Another possible reason can be the fact that within the 6-week process, participants attended Webinars about ICTs use and 21<sup>st</sup> skills and they got certificate from those webinars. In this way, they indicated that they got attention of their colleagues as well. . This finding corroborates Shihab's (2008) findings that suggest that 21<sup>st</sup> century learners are highly motivated if they see technological tools in their courses, so they can be considered as people who most likely influence normative beliefs.

Moreover, participant teachers' self-efficacy of using and attending telecollaborative sessions has increased during 6-week sessions. This situation influenced their intention to adopt telecollaboration in a positive way. One possible reason for these results may lie in the fact that the participants in the study worked on how they can arrange telecollaborative sessions for their students and they as a pair prepared micro teaching examples and tried in their own classes. This finding is supported by Harald (2015) study in which 8 -week telecollaboration sessions conducted between Israeli and German pre-service teachers and at the end of the process, through experiential learning, It was observed that pre-service teachers' self-efficacy of using and managing telecollaborative sessions were increased. In this sense, learning by doing can be strong factor to influence participants' self-efficacy. Similarly, in the study of Can and Şimşek (2015), pre-service English teachers attended comparative education lesson on Second Life which is online virtual world during 10 weeks. The result of that study showed that pre service teachers gained the

ability of managing possible problems in that kind of platforms and demonstrated positive attitudes to hold a online session with their future classes as well.

Additionally, through the 6-week process, participant who showed highest change of intentions was Cecil who described herself as late adopters of technological developments .Her outstanding change can be resulted from the fact that she was the oldest and most experienced participant in this study and she really wanted to teach English in an effective way for their 21st students and with the help of Ahmed, who described himself as early adopters of technological developments, and Rama, who described herself as mass follower of technological developments, for the technical support, she regularly attended all sessions and webinars she turned out to be an early adopter of technological developments. Furthermore, Ahmed and Rama have master degree in education, so they had more technological knowledge than the others and through the process as online colleagues; they influenced other participants' normative behaviors.

### **5.1.3 Discussion of findings for the RQ3: What are the underlying reasons for in-service English teachers' transformational changes in using web2 tools in their classrooms in terms of behavioral, normative and control beliefs?**

Data of semi-structured interview and reflection papers analyzed by the methods of qualitative content analyses and constant-comparison analyses revealed that through 6-week process, outstanding changes were observed in the intentions of in-service English teachers about degree of intrinsic motivation, influence of technology blogs, degree of self-efficacy for using and tuning Web 2.0 tools and creating solutions for possible problems, and collaboration and interaction. Results showed that within 6-week process participant teachers believed that integration of Web 2.0 technologies into the teaching and learning environment has improved their students 'intrinsic motivation by facilitating collaboration and interaction among them. One possible reason for this result may lie in the fact that through the 6 week sessions, participants have learnt new tools and each week they tried these tools into their classes and in the sessions other teachers gave ideas to each other about difficulties. For example, one of the participants advised how they can use some Web 2.0 tools in an offline mode. In this sense, motivation of using Web 2.0 technologies was driven by the value of positive feedbacks that they got from their students. These

results are similar to that of Sadaf (2012), who noted that Web 2.0 technology facilitated engagement with the content, interaction and communication among learners.

Moreover, another notable change of intention is participants' perception of practicality. In-service teachers believed that Web 2.0 tools are very easy to use by themselves as well as their students. The reason of this situation can be the fact that participants during 6-week sessions, as pairs chose a unit from course books and integrated Web 2.0 tools into each skill part of the units based on their learners' levels. In this way, participants could discuss about their integration and gave feedback to each other and experienced which part of the tools they could make changes for their students such as changing words with more frequent ones in the reading text on the Commonlit (reading website). This finding corroborates Lei's (2009) findings that in-service teachers found Web 2.0 technologies easy to use and integrate into their lessons. These results also suggest that whereas ease of using Web 2.0 technologies may positively influence in-service teachers' intentions, at the same time, perceived difficulty of integration may have a negative influence on minority of participants' intentions as they may think that with the advent of new tools, they may get through the same difficulties of familiarity process.

Benefits of technological blogs influenced participants' intention to explore and use Web 2.0 tools as well. In-service teachers believed that technology blogs enabled them to access to more information, more resources about Web 2.0 tools and participants could also see ready-made lesson plan integrated with Web 2.0 tools. This result also corroborates Nikolopoulou (2010) findings that a variety of tools and the way how they were integrated into lessons not only provided motivation to use these tools but also increased teachers' efficacy of using and integrating these tools.

Additionally, through the 6-week process, participants who showed highest change of intentions were Cecil and Emily who described herself as late adopters of technological developments. The change can be resulted from the fact that they both tried to apply all Web 2.0 tools mentioned during the sessions and they both got appreciation from their headmasters in the schools because of the fact that their students' motivation increased for the English lessons. This concern seemed to exert

a positive influence on their intention to use Web 2.0 technologies in their classrooms.

## **5.2 Pedagogical Implications**

The results of this study offer implications especially for teacher educators preparing in-service English teachers to use emerging technologies, especially telecollaboration and Web 2.0 tools in their classrooms. Technology integration into teacher education program is quite important in terms of training in-service teachers about integration of technology and choosing appropriate technological tools (Abera, 2014). In this sense, Wu and Wang (2015) put forward that technology use in teaching can be effective if teachers know how to facilitate creativity and develop collaboration during the lessons using technological tools.

In pre-service teacher training programs, teacher educators has paid attention to technology training courses, practice part of technology use has still missing and similarly in-service teacher training programs, teachers haven't had enough opportunities to experience integrating technological tools into their lesson plans (Saglam and Sert, 2012). Therefore, the first implication would be about arranging pre and in-service teacher training programs based the way teachers can practice what they have learnt. At this point, Coutinho (2008) expresses that enabling teachers an opportunity to reflect their theoretical knowledge on pedagogical use of technological tools can have positive effect on their intentions to integrate those tools in their lessons. For example, Sadaf (2012) suggests that teacher education programs, teachers should be endowed with techniques and strategies in terms of tuning Web 2.0 tools according to their students' levels and interests.

According to results of this study, considerable change of intention was observed in normative beliefs. Participants claimed that colleagues that they met on sessions and Webinars gave them beneficial feedbacks about their problems. In this sense, teacher education programmers may consider coming together English teachers around the world with collaborative online projects.

Another pedagogical implication for the current study could be that teachers are supposed to be technologically competent because of the gap between 21<sup>st</sup> learners and them. In this study, another notable change was observed in control

beliefs since in service teachers, through 6 week telecollaboration process, they not only experienced to take part in online sessions, but they also experienced how they can manage online sessions and integrate Web 2.0 tools in their own classroom. With these opportunities, participants claimed that their technological knowledge and self-efficacy of using technological tools increased during the 6-week process. In this sense, in teacher training programs, teachers should be considered as active users of technology and instructed to integrate and create content and technology by practicing and experiencing it (Jacobs 2014).

### **5.3 Conclusion**

The present study contributes to the literature by exploring in-service English teachers' intentions to use telecollaboration and Web 2.0 tools in their learning and teaching process. This study collected data from 10 in-service English teachers from Indonesia and Turkey. It reached the conclusion that in-service English teacher intentions to use telecollaboration and Web 2.0 technologies in their classrooms are influenced by their behavioral, normative, and control beliefs. The findings suggest that teacher education programs should foster these beliefs to better prepare in-service English teachers for 21<sup>st</sup> learners.

This study also explored the transformational changes in in-service English teachers and suggested that the main reason for their transformation and thus, their intention of use was TPB variable of perceived ease of use, which are telecollaboration and integration of Web 2.0 tools being easier than what they supposed before.

In-service English teachers participating in this study also remark that they are willing and ready to try new technologies for their classes. As long as they are given the opportunity to learn and practice new technologies and related uses of these technologies, their attitudes and competences will likely to increase.

### **5.4 Recommendation**

The current study has several recommendations for further research. Firstly, this study explored the factors that predict in-service English teachers' intentions to use telecollaboration and Web 2.0 tools in their classes. Similar studies might be conducted with different in-service groups whose TPACK levels are assessed before

the process. This might help facilitator in terms of managing that kind of sessions. Furthermore, telecollaboration between participant teachers 'students can be also observed in addition to teachers 'telecollaboration. Furthermore, themes, in each category of behavioral, normative and control belief, emerged from this study can be used as a guideline for subcategories of decomposed theory of planned behavior (DTPB). Similar studies can also be conducted with higher number of participants so that more accurate results can be drawn with the quantitative analyses as well.



## REFERENCES

- Abera, B. (2014). Applying a technological pedagogical content knowledge framework in Ethiopian English language teacher education. In *Multicultural Awareness and Technology in Higher Education: Global Perspectives* (pp. 286-301). IGI Global.
- Ahmet, A. G. I. R. (2014). What are the usage conditions of web 2.0 tools faculty of education students?. *Turkish Online Journal of Distance Education*, 15(3), 171-196.
- Ajayi, L. (2009). An Exploration of Pre-Service Teachers' Perceptions of Learning to Teach while Using Asynchronous Discussion Board. *Journal of Educational Technology & Society*, 12 (2), 86–100.
- Ajjan, H., & Hartshorne, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *Internet and Higher Education*, 11, 71-80.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological bulletin*, 84(5), 888.
- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5), 453-474. doi:10.1016/0022-1031(86)90045-4
- Albion, P. R. (2008). Web 2.0 in teacher education: Two imperatives for action. *Computers in the Schools*, 25(3-4), 181-198.
- Alge, B., & Klein, H. J. (1991). Organizational behavior and human decision processes.
- Anderson, J., van Weert, T., & Duchâteau, C. (2002). Information and communication technology in education: A curriculum for schools and programme of teacher development.

- Angelova, M., & Zhao, Y. (2016). Using an online collaborative project between American and Chinese students to develop ESL teaching skills, cross-cultural awareness and language skills. *Computer Assisted Language Learning*, 29(1), 167-185.
- Anikina, Z., Sobinova, L., & Petrova, G. (2015). Integrating telecollaboration into EFL classroom: Theoretical and practical implications. *Procedia-Social and Behavioral Sciences*, 206, 156-161.
- Attwell, G. (2007). Web 2.0 and the changing ways we are using computers for learning: what are the implications for pedagogy and curriculum. *European Union*.
- Ausband, L. T., & Schultheis, K. (2010). Utilizing web 2.0 to provide an international experience for pre-service elementary education teachers—the IPC project. *Computers in the Schools*, 27(3-4), 266-287.
- Barnett, M., Harwood, W., Keating, T., & Saam, J. (2002). Using emerging technologies to help bridge the gap between university theory and classroom practice: Challenges and successes. *School Science and Mathematics*, 102(6), 299-313.
- Barrett, L., Dunbar, R., & Lycett, J. (2002). *Human evolutionary psychology*. Princeton University Press.
- Başal, A. (2015). English Language Teachers And Technology Education/İngilizce Öğretmenleri ve Teknoloji Eğitimi. *Eğitimde Kuram ve Uygulama*, 11(4), 1496-1511.
- Başal, A., & Education, L. (2013). ELT teachers as online material developers. *The Online Journal of Distance Education and e-Learning*, 1(2), 8-12.
- Başal, A., & Education, L. (2013). ELT teachers as online material developers. *The Online Journal of Distance Education and e-Learning*, 1(2), 8-12.
- Bates, T. (2011). Understanding Web 2.0 and its implications for e-learning. *In Web 2.0-based e-learning: applying social informatics for tertiary teaching* (pp. 21-42). IGI Global.

- Bebell, D., & O'Dwyer, L. (2010). Educational outcomes and research from 1: 1 computing settings. *The journal of technology, learning and assessment*, 9(1).
- Belz, Julie A., and Andreas Müller-Hartmann. 2003. "Teachers as Intercultural Learners: Negotiating German-American Telecollaboration Along the Institutional Fault Line." *Modern Language Journal*, 87, no. 1: 71-89. DOI:10.1111/1540-4781.00179.
- Berg, B.L. (2001) *Qualitative Research, Message for the Social Sciences*. (4th Edition) Allin and Bacon, Boston, 15-35.
- Blank, G., & Reisdorf, B. C. (2012). The participatory web: A user perspective on Web 2.0. *Information, Communication & Society*, 15(4), 537-554.
- Blurton, C. (1999). New directions of ICT-use in education. *Retrieved on, 24, 2012*.
- Bower, M. (2011). Redesigning a web-conferencing environment to scaffold computing students' creative design processes. *Journal of Educational Technology & Society*, 14(1), 27-42.
- Bramaman, L. E., & Rhodes, N. C. (1998). A National Survey of Foreign Language Instruction in Elementary and Secondary Schools. Final Report.
- Butler, J. (2012). Grappling with change: Web 2.0 and teacher education. In D. Polly, C. Mims, & K. A. Persichitte (Eds.), *Developing Technology-Rich Teacher Education Programs: Key Issues* (pp. 135-150). Hershey, PA: IGI Global. doi:10.4018/978-1-4666-0014-0.ch010
- Can, T., & Şimşek, I. (2015). The use of 3D virtual learning environments in training foreign language pre-service teachers. *Turkish Online Journal of Distance Education*, 16(4), 114-124.
- Čarapina, M., Bjelobrč, D., & Duk, S. (2013, May). Web 2.0 tools in Croatian higher education: An overview. In *2013 36th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)* (pp. 676-680). IEEE.

- Chang, C. W., Pearman, C., & Farha, N. (2012). Second Language Acquisition: Implications of Web 2.0 and Beyond. *Critical Questions in Education*, 3(2), 52-64.
- Coryell, J. E., & Chlup, D. T. (2007). Implementing e-learning components with adult English language learners: Vital factors and lessons learned. *Computer Assisted Language Learning*, 20(3), 263-278.
- Coutinho, C. P. (2008). Web 2.0 tools in pre-service teacher education Programs: an example from Portugal. In *7TH EUROPEAN CONFERENCE ON E-LEARNING, VOL 1* (Vol. 1, pp. 239-245). Academic Conferences and Publishing International (ACPI).
- Cruz, Y., Boughzala, I., & Assar, S. (2012, June). Opportunities and obstacles for mobile learning in a Business School. In *2012 international conference on communications and information technology (ICCIT)* (pp. 58-61). IEEE.
- DaViS, F. D. Bagozzi. RP & Warshaw. PR 1989. User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- Deperlioglu, O., Kose, U., & Yildirim, R. (2012). Design and development of an e-learning environment for the course of electrical circuit analysis. *Interdisciplinary Journal of E-Learning and Learning Objects*, 8(1), 51-63.
- DePietro, P. (2012). Transforming education with new media: Participatory pedagogy, interactive learning and web 2.0. *International Journal of Technology, Knowledge & Society*, 8(5).
- Dhanasobhon, S. (2006). English language teaching dilemma in Thailand. Retrieved February, 16, 2013.
- Dooley, M., & O'Dowd, R. (2018). In This Together: Teachers' Experiences with Transnational, Telecollaborative Language Learning Projects. *Bern: Peter Lang*.
- Dooly, M. (2017). 12 Telecollaboration. *The handbook of technology and second language teaching and learning*, 169.

- Dooly, M. (2017). 12 Telecollaboration. *The handbook of technology and second language teaching and learning*, 169.
- Ertmer, P. A. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration?. *Educational technology research and development*, 53(4), 25-39.
- Ertmer, P. A., Paul, A., Molly, L., Eva, R., & Denise, W. (1999). Examining teachers' beliefs about the role of technology in the elementary classroom. *Journal of research on Computing in Education*, 32(1), 54-72.
- Evans, M. A., & Powell, A. (2007). Conceptual and practical issues related to the design for and sustainability of communities of practice: The case of e-portfolio use in preservice teacher training. *Technology, pedagogy and Education*, 16(2), 199-214.
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.
- Foulger, T. S., Graziano, K. J., Schmidt-Crawford, D., & Slykhuis, D. A. (2017). Teacher educator technology competencies. *Journal of Technology and Teacher Education*, 25(4), 413-448.
- Gauld, A., & Shotter, J. (1980). Human action and its psychological investigation. London, England: Routledge.
- Gilbert, S. W. (2002). The beauty of low threshold applications. *Campus technology*, 2.
- Goktas, Y., Yildirim, S., & Yildirim, Z. (2009). Main barriers and possible enablers of ICTs integration into pre-service teacher education programs. *Journal of Educational Technology & Society*, 12(1).
- Grandon, E. E., Alshare, K., & Kwun, O. (2005). Factors influencing student intention to adopt online classes: A cross-cultural study. *Journal of Computing Sciences in Colleges*, 20(4), 46-56.

- Guichon, N. (2009). Training future language teachers to develop online tutors' competence through reflective analysis. *ReCALL*, 21(2), 166-185.
- Guichon, N. (2009). Training future language teachers to develop online tutors' competence through reflective analysis. *ReCALL*, 21(2), 166-185.
- Guichon, N., & Drissi, S. (2008). Tutorat de langue par visioconférence: comment former aux régulations pédagogiques.
- Hale, J. L., Householder, B. J., & Greene, K. L. (2002). The theory of reasoned action. *The persuasion handbook: Developments in theory and practice*, 14, 259-286.
- Hall, L. D., Fisher, C., Musanti, S., & Halquist, D. (2006). What can we learn from PT3. *TechTrends*, 50(3), 25-31.
- Hawkrige, D. (1990). Who needs computers in schools, and why?. *Computers & Education*, 15(1-3), 1-6.
- Hong, K. H. (2010). CALL teacher education as an impetus for L2 teachers in integrating technology. *ReCALL*, 22(1), 53-69.
- Hrastinski, S. (2008). Asynchronous and synchronous e-learning. *EDUCAUSE Quarterly*, 31, 4, 51-55.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, 15(9), 1277-1288.
- Hubbard, P. (2008). CALL and the future of language teacher education. *CALICO journal*, 25(2), 175.
- Hubbard, P. (2013). Learner training for effective use of CALL. In *New perspectives on CALL for second language classrooms* (pp. 57-80). Routledge.
- Jacobs, G. E., Castek, J., Pizzolato, A., Reder, S., & Pendell, K. (2014). Production and consumption. *Journal of Adolescent & Adult Literacy*, 57(8), 624-627. doi:10.1002/jaal.293
- Johnson, E. M. (2002). The role of computer-supported discussion for language teacher education: What do the students say?. *CALICO journal*, 59-79.

- Johnson, G. M. (2006). Synchronous and asynchronous text-based CMC in educational contexts: A review of recent research. *TechTrends*, 50 (4), 46.
- Kambourakis, G., Kontoni, D. P. N., Rouskas, A., & Gritzalis, S. (2007). A PKI approach for deploying modern secure distributed e-learning and m-learning environments. *Computers & Education*, 48(1), 1-16.
- Kambourakis, G., Kontoni, D. P. N., Rouskas, A., & Gritzalis, S. (2007). A PKI approach for deploying modern secure distributed e-learning and m-learning environments. *Computers & Education*, 48(1), 1-16.
- Kapp, K., & O'Driscoll, T. (2010). Designing virtual immersive environments. *T+D*, 64(4), 30-32.
- Kinginger, C. (2016, March). Telecollaboration and student mobility for language learning. In *New directions in telecollaborative research and practice: selected papers from the second conference on telecollaboration in higher education* (pp. 19-29). Research-publishing. net.
- Kovacic, A., Bubas, G., & Coric, A. (2012). Mobilising students' grammar skills through collaborative e-tivities with Web 2.0 tools. *Procedia-Social and Behavioral Sciences*, 34, 132-136.
- Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271-289.
- Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management*, 14(1), 21-38.
- Leach, J. (2005). Do new information and communication technologies have a role to play in achieving quality professional development for teachers in the global south?. *Curriculum Journal*, 16(3), 293-329.
- Levy, M. (1997). *Computer-assisted language learning: Context and conceptualization*. Oxford University Press.

- Li, Y. (2010, August). Augmented Reality for remote education. In *2010 3rd International Conference on Advanced Computer Theory and Engineering (ICACTE)* (Vol. 3, pp. V3-187). IEEE.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newberry Park.
- Liu, M., Abe, K., Cao, M., Liu, S., Ok, D. U., Park, J. B., ... & Sardegna, V. G. (2015). An analysis of social network websites for language learning: Implications for teaching and learning English as a Second Language. *Calico Journal*, *32(1)*, 114-152.
- Ljubić Klemše, N. (2010). Web 2.0 alati i učenje u primarnom obrazovanju. *Dostupno na: <https://pogledkrozprozor.wordpress.com/2010/11/27/web-2-0-alati-ie-ucenje-u-primarnom-obrazovanju/>*. Pristupljeno, 20, 2017.
- Luo, T. (2013). Web 2.0 for language learning: Benefits and challenges for educators. *International Journal Of Computer-assisted Language Learning and Teaching (Ijcallt)*, *3(3)*, 1-17.
- Ma, W. W. K., Andersson, R., & Streith, K. O. (2005). Examining user acceptance of computer technology: An empirical study of student teachers. *Journal of computer assisted learning*, *21(6)*, 387-395.
- Marjanovic, O. (1999). Learning and teaching in a synchronous collaborative environment. *Journal of Computer Assisted Learning*, *15(2)*, 129-138.
- Mayer, R., & Mayer, R. E. (Eds.). (2005). *The Cambridge handbook of multimedia learning*. Cambridge university press.
- Molyneux, P. (2004). The use of the stable free radical diphenylpicrylhydrazyl (DPPH) for estimating antioxidant activity. *Songklanakarinn J. Sci. Technol*, *26(2)*, 211-219.
- Nambisan, S., Agarwal, R., & Tanniru, M. (1999). Organizational mechanisms for enhancing user innovation in information technology. *MIS quarterly*, 365-395.

- Nesselhauf, N., & Tschichold, C. (2002). Collocations in CALL: An investigation of vocabulary-building software for EFL. *Computer Assisted Language Learning*, 15(3), 251-279.
- Niess, M. L. (2005). Preparing teachers to teach science and mathematics with technology: Developing a technology pedagogical content knowledge. *Teaching and teacher education*, 21(5), 509-523.
- Nikolopoulou, K. (2010). Methods for investigating young children's learning and development with information technology. *Researching IT in education: Theory, practice and future directions*, 183-191.
- Noom-Ura, S. (2013). English-Teaching Problems in Thailand and Thai Teachers' Professional Development Needs. *English Language Teaching*, 6(11), 139-147.
- Oliver, K. (2007). Leveraging Web 2.0 in the redesign of a graduate-level technology integration course. *TechTrends*, 51(5), 55.
- ONEC. (2003). *Education in Thailand 2002/2003*. Bangkok: ONEC Publication.
- Orehovacki, T., Bubas, G., & Konecki, M. (2009, June). Web 2.0 in education and potential factors of Web 2.0 use by students of information systems. In *Proceedings of the ITI 2009 31st International Conference on Information Technology Interfaces* (pp. 443-448). IEEE.
- Otto, S. K., & Pusack, J. P. (1996). Technological choices to meet the challenges. *Foreign languages for all: Challenges and choices*, 141-186.
- Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning. *Educational technology & society*, 12(3), 150-162.
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative social work*, 1(3), 261-283..

- Peraya, D. (2000). Le cyberspace: un dispositif de communication et de formation médiatisées. *Cyberspace et formations ouvertes. Vers une mutation des pratiques de formation*, 17-44.
- Phelps, A., & Vlachopoulos, D. (2019). Successful transition to synchronous learning environments in distance education: A research on entry-level synchronous facilitator competencies. *Education and Information Technologies*, 1-17.
- Phelps, A., & Vlachopoulos, D. (2019). Successful transition to synchronous learning environments in distance education: A research on entry-level synchronous facilitator competencies. *Education and Information Technologies*, 1-17.
- Polly, D., Mims, C., Shepherd, C. E., & Inan, F. (2010). Evidence of impact: Transforming teacher education with preparing tomorrow's teachers to teach with technology (PT3) grants. *Teaching and Teacher Education*, 26(4), 863-870.
- Reinders, H. (2009). Teaching (with) technology: The scope and practice of teacher education for technology.
- Rogers, E. M. (1995). Diffusion of Innovations: modifications of a model for telecommunications. In *Die diffusion von innovationen in der telekommunikation* (pp. 25-38). Springer, Berlin, Heidelberg.
- Rogers, E. M. (2003). Diffusion of innovations, 5th edn London. UK: Free Press.[Google Scholar].
- Sadaf, A., Newby, T. J., & Ertmer, P. A. (2012). Exploring pre-service teachers' beliefs about using Web 2.0 technologies in K-12 classroom. *Computers & Education*, 59(3), 937-945.
- Sadaf, A., Newby, T. J., & Ertmer, P. A. (2012). Exploring pre-service teachers' beliefs about using Web 2.0 technologies in K-12 classroom. *Computers & Education*, 59(3), 937-945.

- Sadler, R., & Dooly, M. (2016). Twelve years of telecollaboration: what we have learnt. *ELT Journal*, 70(4), 401-413.
- Saglam, A. L. G., & Sert, S. (2012). Perceptions of in-service teachers regarding technology integrated English language teaching. *Turkish Online Journal of Qualitative Inquiry*, 3(3), 1-14.
- Sartepeci, M., Durak, H., & Seferoğlu, S. S. (2016). Examination of teachers' in-service training needs in the field of instructional technology: An evaluation in light of applications implemented at FATİH project. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 7(3), 601-620.
- Schlager, M. S., & Fusco, J. (2003). Teacher professional development, technology, and communities of practice: Are we putting the cart before the horse?. *The information society*, 19(3), 203-220.
- Selwyn, N. (1999). Why the computer is not dominating schools: a failure of policy or a failure of practice?. *Cambridge Journal of Education*, 29(1), 77-91.
- Shishkovskaya, J. V., & Sokolova, E. Y. (2015). Integration of Web 2.0 technologies into the process of students' self-directed English learning. *Mediterranean Journal of Social Sciences*, 6(2), 541.
- Simpson, N. (2006). Asynchronous access to conventional course delivery: a pilot project. *British Journal of Educational Technology*, 37(4), 527-537..
- Spodark, E. (2005). Technoconstructivism for the undergraduate foreign language classroom. *Foreign Language Annals*, 38(3), 428-435.
- Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL*, 20(3), 253-270.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Thousand Oaks, CA: Sage publications.
- Sugandi, B., & Delice, A. (2014). Comparison of Turkish and Indonesian secondary mathematics curricula; reflection of the paradigms. *Procedia-Social and Behavioral Sciences*, 152, 540-545.

- Tai, Y., & Ting, Y. L. (2011). Adoption of mobile technology for language learning: Teacher attitudes and challenges. *The JALT CALL Journal*, 7(1), 3-18..
- Taskiran, A. (2019). Telecollaboration: Fostering Foreign Language Learning at a Distance. *European Journal of Open, Distance and E-learning*, 22(2).
- Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers & Education*, 52(2), 302-312.
- Thakur, G. (2012). Integrating Ict Into Teacher Education Programme.
- Thompson, J. (2007). Is Education 1.0 ready for Web 2.0 students?. *Innovate: Journal of Online Education*, 3(4).
- Tinio, V. L. (2003). ICT in Education.
- Tondeur, J., Roblin, N. P., van Braak, J., Voogt, J., Prestridge, S., Forkosh-Baruch, A., ... & Fisser, P. (2016, March). Effective approaches to prepare future teachers for educational technology use. In Society for Information Technology & teacher education international conference (pp. 3082-3085). Association for the Advancement of Computing in Education (AACE).
- Tondeur, J., Van Braak, J., & Valcke, M. (2007). Curricula and the use of ICT in education: Two worlds apart?. *British Journal of Educational Technology*, 38(6), 962-976.
- Traxler, J. (2007). Defining, discussing and evaluating mobile learning. *International Review of Research in Open and Distance Learning*, 8(2), 1-12.
- Usluel, Y. K., & Mazman, S. G. (2009). Adoption of Web 2.0 tools in distance education. *Procedia-Social and Behavioral Sciences*, 1(1), 818-823.
- Usluel, Y. K., & Mazman, S. G. (2009). Adoption of Web 2.0 tools in distance education. *Procedia-Social and Behavioral Sciences*, 1(1), 818-823.
- Van de Pol, J. (2001). A look at course management systems. *IT Times May/June*. Online: <http://ittimes.ucdavis.edu/june2001/cms.html>.

- VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in quantitative methods for psychology*, 3(2), 43-50.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), 186-204.
- Voithofer, R. (2007). Web 2.0: What is it and how can it apply to teaching and teacher preparation? Paper presented at the American Educational Research Association Conference, Chicago, IL. Retrieved November 22, 2007, from <http://education.osu.edu/rvoithofer/papers/web2paper.pdf>
- Waldman, T., & Harel, E. (2015). Participating in a technology enhanced internationalization project to promote students' foreign language motivation. In D. Schwarzer (Ed.), *Internationalizing teacher education: successes and challenges within domestic and international contexts*. Lexington Books: New Jersey.
- Waldman, T., Harel, E., & Schwab, G. (2016, March). Getting their feet wet: trainee EFL teachers in Germany and Israel collaborate online to promote their telecollaboration competence through experiential learning. In *New directions in telecollaborative research and practice: selected papers from the second conference on telecollaboration in higher education*. Dublin: Research-publishing.net (pp. 179-184).
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language teaching*, 31(2), 57-71.
- Welsh, E. T., Wanberg, C. R., Brown, K. G., & Simmering, M. J. (2003). E-learning: emerging uses, empirical results and future directions. *international Journal of Training and Development*, 7(4), 245-258.

- Wildner, S. (2000). Technology integration into preservice foreign language teacher education programs. *Calico journal*, 223-250.
- Wu, W., Chang, H. P., & Guo, C. J. (2008). An empirical assessment of science teachers' intentions toward technology integration. *Journal of Computers in Mathematics and Science Teaching*, 27(4), 499-520.
- Wu, Y. T., & Wang, A. Y. (2015). Technological, pedagogical, and content knowledge in teaching English as a foreign language: Representation of primary teachers of English in Taiwan. *The Asia-Pacific Education Researcher*, 24(3), 525-533.
- Yushau, B. (2006). Computer Attitude, Use, Experience, Software Familiarity and Perceived Pedagogical Usefulness: The Case of Mathematics Professors. *Eurasia Journal of Mathematics, Science & Technology Education*, 2(3).
- Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. *Applications of social research methods to questions in information and library science*, 308, 319.
- Zhao, Y. (2005). The future of research in technology and second language education. In Y. Zhao (Ed.), *Research in technology and second language learning: Developments and directions* (pp. 445-457). Greenwich, CT: Information Age Publishing, Inc.
- Zhou, Y., & Wei, M. (2018). Strategies in technology-enhanced language learning. *Studies in Second Language Learning and Teaching*, 8(2), 471-495.

## APPENDICES

### A .Tables

#### Appendix 1

#### *Advantages and Disadvantages of Telecollaboration in Language Teaching and Learning Depend on the Theory of Planned Behavior*

Behavioral Belief			
Advantages	Frequency	Disadvantages	Frequency
Facilitate intrinsic motivation	8 (80%)		
Engagement with content	8 (80%)	Decrease in use of jst and mimics while communicating with others	5(50%)
Promote autonomous learning	7 (70%)		
Gaining different perspective in an authentic context	7 (70%)		
Easy to use	7 (70%)		
Normative Belief			
Facilitate information exchange among English teachers around the world	8(80%)		
Getting closer 21 <sup>st</sup> learners and teachers	9(90%)		
Promote interaction with experienced teachers	9(90%)		
Control Belief			
Anytime/anywhere easy access to learning and interaction	10(100%)	Restricted access to computers and internet	6(60%)
		Difficult to arrange mutual time because of different time zones	9(90%)
Improving problem solving skills	9(90%)		
Facilitate self-confidence for building online communication	8(80%)		
Increasing self-efficacy for managing online learning environments.	8(80%)		

## Appendix 2

### *Changes in Behavioral, Normative and Control Beliefs within 6 Weeks*

	Frequency
Behavioral Beliefs (pre)	
Autonomous learning	2(20%)
Easy to use	4(40%)
Enhance learning experience	4(40%)
Intrinsic motivation	5(50%)
Active participation	5(50%)
Engagement with content	3(30%)
Gaining different perspective	7(70%)
Behavioral Beliefs (while)	
Intrinsic motivation	6(60%)
Active participation	7(70%)
Engagement with content	6(60%)
Autonomous learning	5(50%)
Gaining different perspective	7(70%)
Easy to use	5(50%)
Enhance learning experience	5(50%)
Behavioral Beliefs (post)	
Intrinsic motivation	(80%)
Active participation	(70%)
Engagement with content	(80%)
Autonomous learning	(70%)
Enhance learning experience	(80%)
Easy to use	7(70%)
Gaining different perspective	7(70%)
Normative Belief (pre)	
Online colleagues	2(20%)
Getting closer 21 <sup>st</sup> learners and teachers	4(40%)

---

	Frequency
Administrators	1(10%)
Technology Blogs	3(30%)
Interaction with experienced teachers	3(30%)
Normative Belief (while)	
Collaboration between participant teachers	8(80%)
Interaction with experienced teachers	6(60%)
Online colleagues	8(80%)
Technology blogs	7(70%)
Getting closer 21 <sup>st</sup> learners and teachers	6(60%)
Normative Belief (post)	
Getting closer 21 <sup>st</sup> learners and teachers	9(90%)
Administrators	2(20%)
Online colleagues	8(80%)
Technology blogs	10(100%)
Interaction with experienced teachers	9(90%)
Control Belief (pre)	
Internet connection problem	7(70%)
Anytime/anywhere easy access to learning and interaction	5(50%)
Improving self-efficacy in terms using technology	4 (40%)
Classroom management	4(40%)
Control Belief (while)	
Improving self-efficacy in terms using technology	8 (80%)
Problem solving	6(60%)
Functional use of e-learning platforms	6(60%)
Classroom management	7(70%)
Anytime/anywhere easy access to learning and interaction	7(70%)
Control Belief (post)	
Self-confidence for building online communication	8(80%)
Problem solving	9(90%)
Functional use of e-learning platforms	8(80%)

---

	Frequency
Classroom management	8(80%)
Anytime/anywhere easy access to learning and interaction	10(100%)
Improving self-efficacy in terms using technology	8(80%)

## Appendix 2.1

### *Individual Behavioral Belief Changes towards Telecollaboration within 6-week Process*

Behavioral Belief	Practicality (Easy to use)	Foster intrinsic motivation (Increasing active participation of learners)	Facilitate engagement with the content	Facilitate Autonomous learning	Gaining different perspective
Cecil-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Cecil-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Tuluğ-pre	Strongly agree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Tuluğ-post	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree
Ahmed-pre	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Ahmed-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-pre	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Melda-pre	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree
Melda-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Sema-pre	Strongly agree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Sema-post	Strongly agree	Somewhat agree	Strongly agree	Somewhat disagree	Strongly agree
Emily-pre	Somewhat disagree	Strongly agree	Somewhat disagree	Somewhat disagree	Strongly agree

Behavioral Belief	Practicality (Easy to use)	Foster intrinsic motivation  (Increasing active participation of learners)	Facilitate engagement with the content	Facilitate Autonomous learning	Gaining different perspective
Emily-post	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree
Diana-pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Diana-post	Somewhat agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
March-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
March-post	Somewhat agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Riri -pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Riri -post	Somewhat agree	Strongly agree	Somewhat agree	Strongly agree	Strongly agree

## Appendix 2.2

### *Individual Normative Belief Changes towards Telecollaboration within 6-week Process*

Normative Belief	Administrators	Interaction with experienced teachers	Getting closer 21 <sup>st</sup> learners and teachers	Technology Blogs	Online Colleagues
Cecil-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Cecil-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Tuluğ-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Tuluğ-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree
Ahmed-pre	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree
Ahmed-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-pre	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree

Normative Belief	Administrators	Interaction with experienced teachers	Getting closer 21 <sup>st</sup> learners and teachers	Technology Blogs	Online Colleagues
Rama-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Melda-pre	Strongly disagree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree
Melda-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Sema-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Sema-post	Somewhat disagree	Somewhat agree	Strongly agree	Strongly agree	Strongly agree
Emily-pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Emily-post	Strongly disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Diana-pre	Somewhat disagree	Somewhat disagree	Strongly agree	Strongly agree	Somewhat disagree
Diana-post	Somewhat agree	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree
March-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
March-post	Strongly disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Riri -pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Riri -post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree

## Appendix 2.3

### *Individual Control Belief Changes towards Telecollaboration within 6-week Process*

Control Belief	Practicality (Easy to access )	Anytime/anywhere easy access to learning and interaction	Creating solutions for technical problems)	Improving self-efficacy (online classroom management	I plan to integrate telecollaborative learning into my own teaching.	I plan to expand my knowledge of telecollaboration.
Cecil-pre	Strongly disagree	Strongly disagree	Strongly disagree	Strongly disagree	Somewhat agree	Strongly agree

Control Belief	Practicality (Easy to access )	Anytime/anywhere easy access to learning and interaction	Creating solutions for technical problems)	Improving self-efficacy (online classroom management	I plan to integrate telecollaborative learning into my own teaching.	I plan to expand my knowledge of telecollaboration.
Cecil-post	Strongly agree	Strongly agree	Somewhat agree	Strongly agree	Strongly agree	Strongly agree
Tuluğ-pre	Somewhat agree	Strongly agree	Strongly disagree	Strongly disagree	Somewhat disagree	Strongly agree
Tuluğ-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Ahmed-pre	Somewhat disagree	Strongly agree	Strongly disagree	Strongly agree	Somewhat agree	Strongly agree
Ahmed-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-pre	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Somewhat agree	Strongly agree
Rama-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Melda-pre	Somewhat disagree	Strongly agree	Strongly disagree	Strongly agree	Somewhat agree	Strongly agree
Melda-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Sema-pre	Strongly disagree	Somewhat agree	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
Sema-post	Somewhat agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Emily-pre	Somewhat disagree	Somewhat agree	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
Emily-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Diana-pre	Somewhat disagree	Strongly agree	Strongly disagree	Strongly agree	Somewhat disagree	Strongly agree
Diana-post	Somewhat agree	Strongly agree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly agree
March-pre	Strongly disagree	Somewhat agree	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree

Control Belief	Practicality (Easy to access )	Anytime/anywhere easy access to learning and interaction	Creating solutions for technical problems)	Improving self-efficacy (online classroom management	I plan to integrate telecollaborative learning into my own teaching.	I plan to expand my knowledge of telecollaboration.
March-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Riri –pre	Strongly disagree	Somewhat agree	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
Riri –post	Somewhat agree	Strongly agree	Strongly agree	Somewhat agree	Strongly agree	Strongly agree

### Appendix 3

#### *Changes in Behavioral, Normative and Control Beliefs within 6 Weeks*

	Frequency
<b>Behavioral Beliefs (pre)</b>	
Practicality (Easy to attend and use)	3(30%)
Enrich learning experiences through innovative tools	4(40%)
Facilitate engagement with the content	3(30%)
Intrinsic motivation	2(20%)
Increase collaboration and interaction	0(0%)
Cater to the needs of different learning styles	8(80%)
<b>Behavioral Beliefs (while)</b>	
Practicality (Easy to attend and use)	6(60%)
Enrich learning experiences through innovative tools	7(70%)
Facilitate engagement with the content	6(60%)
Intrinsic motivation	5(50%)
Increase collaboration and interaction	7(70%)
Cater to the needs of different learning styles	8(80%)
Practicality (Easy to attend and use)	5(50%)
<b>Behavioral Beliefs (post)</b>	
Practicality (Easy to attend and use)	(80%)
Enrich learning experiences through innovative tools	(100%)
Facilitate engagement with the content	(90%)
Intrinsic motivation	(70%)
Increase collaboration and interaction	(90%)

	Frequency
Normative Belief (pre)	
Online colleagues	4(40%)
Student influence	6(60%)
Administrators	1(10%)
Technology Blogs	0(0%)
Colleagues in workplace	4(40%)
Normative Belief (while)	
Online colleagues	8(80%)
Student influence	7(70%)
Administrators	3(30%)
Technology Blogs	7(70%)
Colleagues in workplace	6(60%)
Normative Belief (post)	
Online colleagues	9(90%)
Students influence	9(90%)
Administrators	4(40%)
Technology Blogs	9(90%)
Colleagues in workplace	10(100%)
Control Belief (pre)	
Practicality	0(0%)
(Easy to access and cheap to afford and easy to integrate and adopt)	
Difficult to integrate	100(100%)
Improving self-efficacy (Creating solutions for technical problems and choosing appropriate tools)	2 (20%)
Tune materials for different level of students	0(0%)
Anytime/anywhere easy access to learning and interaction	10(100%)
Control Belief (while)	
Practicality	0(0%)
(Easy to access and cheap to afford and easy to integrate and adopt)	
Difficult to integrate	6(60%)
Improving self-efficacy (Creating solutions for technical problems and choosing appropriate tools)	6(60%)
Tune materials for different level of students	7(70%)
Anytime/anywhere easy access to learning and interaction	7(70%)
Control Belief (post)	
Practicality	8(80%)
(Easy to access and cheap to afford and easy to integrate and adopt)	
Difficult to integrate	0(0%)
Improving self-efficacy (Creating solutions for technical problems and choosing appropriate tools)	7(70%)

	Frequency
Tune materials for different level of students	9(90%)
Anytime/anywhere easy access to learning and interaction	100(100%)

### Appendix 3.1

#### *Individual Behavioral Belief Changes towards Web 2.0 Tools within 6 week Process*

Behavioral Belief	Practicality (Easy to attend and use)	Enrich learning experiences through innovative tools	Facilitate engagement with the content	Increase collaboration and interaction	Increase intrinsic motivation	Cater to the needs of different learning styles
Cecil-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Cecil-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Tuluğ-pre	Strongly agree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Tuluğ-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Ahmed-pre	Somewhat disagree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree	Strongly agree
Ahmed-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-pre	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree	Strongly agree
Rama-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Melda-pre	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat disagree	Strongly agree
Melda-post	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree	Strongly agree
Sema-pre	Strongly agree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Sema-post	Strongly agree	Strongly agree	Strongly agree	Somewhat disagree	Strongly agree	Strongly agree
Emily-pre	Somewhat disagree	Strongly agree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Emily-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Diana-pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Diana-post	Somewhat agree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat disagree	Strongly agree
March-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
March-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Riri –pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Strongly agree
Riri –post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree

## Appendix 3.2

### *Individual Normative Belief Changes towards Web 2.0 Tools within 6-week Process*

Normative Belief	Administrators	Colleagues in workplace	Technology Blogs	Students' influence	Online Colleagues
Cecil-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Strongly agree	Strongly agree
Cecil-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Tuluğ-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Strongly agree	Strongly agree
Tuluğ-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Ahmed-pre	Somewhat disagree	Strongly agree	Somewhat disagree	Strongly agree	Somewhat disagree
Ahmed-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Rama-pre	Strongly agree	Strongly agree	Somewhat agree	Strongly agree	Strongly agree
Rama-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Melda-pre	Strongly disagree	Strongly agree	Somewhat disagree	Somewhat disagree	Strongly agree
Melda-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Sema-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Sema-post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Emily-pre	Somewhat disagree	Strongly agree	Somewhat disagree	Strongly agree	Somewhat disagree
Emily-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Diana-pre	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree	Somewhat disagree
Diana-post	Somewhat agree	Strongly agree	Somewhat agree	Strongly agree	Somewhat disagree
March-pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Strongly agree	Somewhat disagree
March-post	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
Riri –pre	Strongly disagree	Somewhat disagree	Somewhat disagree	Strongly agree	Somewhat disagree
Riri –post	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree

### Appendix 3.3

#### *Individual Control Belief Changes towards Web 2.0 Tools within 6-week Process*

Control Belief	Practicality (Easy to use and cheap to afford and easy to integrate and adapt)	Anytime/anywhere easy access to learning and interaction	Difficult to integrate	Improving self- efficacy (Creating solutions for technical problems and choosing appropriate tools)	Tune materials for different level of students
Cecil-pre	Strongly disagree	Strongly agree	Strongly agree	Strongly disagree	Somewhat agree
Cecil-post	Strongly agree	Strongly agree	Strongly disagree	Somewhat agree	Strongly agree
Tuluğ-pre	Somewhat agree	Strongly agree	Strongly agree	Strongly disagree	Somewhat disagree
Tuluğ-post	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree	Strongly agree
Ahmed-pre	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Somewhat agree
Ahmed-post	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree
Rama-pre	Somewhat disagree	Strongly agree	Strongly agree	Strongly agree	Somewhat agree
Rama-post	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree
Melda-pre	Somewhat disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree
Melda-post	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree
Sema-pre	Strongly disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree
Sema-post	Somewhat agree	Strongly agree	Somewhat disagree	Strongly agree	Strongly agree
Emily-pre	Somewhat disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree
Emily-post	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree
Diana-pre	Somewhat disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat disagree
Diana-post	Somewhat agree	Strongly agree	Somewhat disagree	Somewhat agree	Somewhat disagree
March-pre	Strongly disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree
March-post	Strongly agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree
Riri-pre	Strongly disagree	Strongly agree	Strongly agree	Somewhat disagree	Somewhat agree
Riri-post	Somewhat agree	Strongly agree	Strongly disagree	Strongly agree	Strongly agree

## **Appendix B. Consent form of semi-structured interview**

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

I understand that my responses will be kept strictly confidential. I understand that my name will not be linked with the research materials, and will not be identified or identifiable in the report or reports that result from the research.

I agree for this interview to be tape-recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in any conference presentation, report or journal article developed as a result of the research. I understand that no other use will be made of the recording without my written permission, and that no one outside the research team will be allowed access to the original recording.

I agree that my anonymized data will be kept for future research purposes such as publications related to this study after the completion of the study.

I agree to take part in this interview.

## C. Curriculum Vitae

### PERSONAL INFORMATION

Surname, Name: YÜCEL, Rumeysa

Nationality: Turkish (T.C.)

Date and Place of Birth: 26 March 1995, İstanbul

Marital Status: Single

E-mail: [rmysa287@gmail.com](mailto:rmysa287@gmail.com)

### EDUCATION

Degree	Institution	Year of Graduation
MA	Bahçeşehir University	2020
BA	Istanbul University	2017

### WORK EXPERIENCE

Year	Place	Enrollment
2017- ...	National Defense University	Instructor
2016-2017	Istanbul University Language Club	Facilitator(Speaking Class)

### FOREIGN LANGUAGES

Advanced English, Basic Spanish, Basic Arabic

## **CERTIFICATES**

Mayflower College (Teachers of Aviation English Course) London/ENGLAND  
Bogazici University (THE Conference 2019, Towards Higher Education) İstanbul/TURKEY

Istanbul Medipol University (2<sup>nd</sup> International Conference on Language Education and Culture) İstanbul/TURKEY

Sakarya University(Research Trends and Issues in Applied Linguistic) Sakarya/TURKEY

## **HOBBIES**

Archery, riding, pottery with clay