REPUBLIC OF TURKEY
ÇANAKKALE ONSEKİZ MART UNIVERSITY
SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
ENGLISH LANGUAGE TEACHING PROGRAM

PEDAGOGICAL USES OF WEB 2.0 TOOLS IN FOREIGN LANGUAGE TEACHING: A STUDY TO DEFINE BEST PRACTICES

DOCTORAL THESIS

EMRE BİLGİN

Supervisor
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The study titled "**Pedagogical Uses of Web 2.0 Tools in Foreign Language Teaching: A Study to Define Best Practices**" prepared by Emre BİLGİN under the direction of Prof. Dr. Aysun YAVUZ and presented in front of the following committee on **20/01/2022** was unanimously accepted as a thesis for the degree of **DOCTOR OF PHILOSOPHY** in **English Language Teaching Program of Department of Foreign Language Education** in Çanakkale Onsekiz Mart University, School of Graduate Studies.

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Thesis Number : 10442181
Date of Thesis Defence : 20/01/2022

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ETHICAL STATEMENT

In this thesis study, which I prepared in accordance with the Thesis Guidelines of Çanakkale Onsekiz Mart University School of Graduate Studies; I hereby declare that I have obtained the data, information, and documents I have presented in the thesis within the framework of academic and ethical rules, I have presented all information, documents, evaluations, and results in accordance with academic and ethical rules, I have cited all the works I have used in the thesis by making appropriate references, I have not made any changes in the data used, the work I have presented in this thesis is original; otherwise I undertake and declare that I accept all loss of rights that may arise against me.

ETİK BEYAN

Çanakkale Onsekiz Mart Üniversitesi Lisansüstü Eğitim Enstitüsü Tez Yazım Kuralları'na uygun olarak hazırladığım bu tez çalışmasında; tez içinde sunduğum verileri, bilgileri ve dokümanları akademik ve etik kurallar çerçevesinde elde ettiğimi, tüm bilgi, belge, değerlendirme ve sonuçları bilimsel etik ve ahlak kurallarına uygun olarak sunduğumu, tez çalışmasında yararlandığım eserlerin tümüne uygun atıfta bulunarak kaynak gösterdiğimi, kullanılan verilerde herhangi bir değişiklik yapmadığımı, bu tezde sunduğum çalışmanın özgün olduğunu, bildirir, aksi bir durumda aleyhime doğabilecek tüm hak kayıplarını kabullendiğimi taahhüt ve beyan ederim.

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Emre BİLGİN

20/01/2022

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Emre BİLGİN

Çanakkale, January 2022

ABSTRACT

PEDAGOGICAL USES OF WEB 2.0 TOOLS IN FOREIGN LANGUAGE TEACHING: A STUDY TO DEFINE BEST PRACTICES

Emre BİLGİN
Çanakkale Onsekiz Mart University
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Danışman: Prof. Dr. Aysun YAVUZ
20/01/2022, 219

The use of Web 2.0 tools may provide various possibilities, significant opportunities, and benefits in foreign language (FL) teaching. Considering their essential role in education, teachers' actual practices and perceptions are critical in achieving good results in this regard.

Thus, in order shed light on FL teachers' experiences and thoughts on using Web 2.0 tools for teaching, a mixed methods research design was conducted in this study. The aim was not only to define and clarify teachers' general usage and thoughts on Web 2.0 tools but also discover the best practices they use. With this aim in mind, two data collection methods were used. Firstly, data was gathered from 269 FL teachers who work in primary, middle, and secondary schools by using a questionnaire, and analysed by utilizing descriptive statistics. Secondly, by using snowball sampling technique to add new participants, face-to-face semi-structured interviews were conducted with 19 FL teachers who had been experienced in using Web 2.0 tools for teaching.

Among many highly significant findings, Chi-square test of independence analyses demonstrated that even though teachers' use or non-use of Web 2.0 tool clusters were not significantly associated with factors related to teachers' teaching experience, age, and education degree for most of the tests, use or non-use of them were significantly associated for most of the tests with teachers' partnership experience in eTwinning projects, a European Commission initiative. This finding may imply that more experience with Web 2.0 tools might be a positive effect of participation to eTwinning projects by the teachers. Among survey participants, 83% used at least one of the Web 2.0 tools for teaching. For teaching purposes, the most used tools were *video tools*, *file sharing tools* and *social networks*. For "only personal usage" purpose, the most used tools were *photo and image tools*, *text-based tools*, and *social networks*.

According to qualitative data of the questionnaire, "students can communicate, interact, participate, and collaborate so that they can use the FL more actively" and "language learning can be more fun and enjoyable thanks to these tools" were among most important advantages of using Web 2.0 tools. "Lack of devices and/or internet connection or other infrastructure/technical problems" was the most repeated challenge to use the tools. According to interview results *evaluation*, *video* recording and editing, and fostering *speaking* were among common purposes to use the tools by experienced teachers. In the study, best practice examples, most used Web 2.0 tools, frequency of usage, advantages, and challenges of using the tools and other related themes and patterns were also reported and summarized. In addition to other implications, whether "comprehensible input", "social collaboration", "real world relation" and a "positive learning environment" as four important aspects to learn a foreign language (Li, 2013) can be provided by using these applications in education were also reported and discussed in the study.

Keywords: Web 2.0, Foreign Language, Teacher, Best Practice, K-12.

ÖZET

YABANCI DİL ÖĞRETİMİNDE WEB 2.0 ARAÇLARININ EĞİTİMSEL KULLANIMI: EN İYİ UYGULAMALARI TANIMLAYAN BİR ÇALIŞMA

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Yabancı dil eğitiminde Web 2.0 araçlarının kullanımı çeşitli olasılıklar, önemli fırsatlar ve faydalar sağlayabilir. Eğitimdeki önemli rollerini göz önünde bulundurunca, öğretmenlerin gerçek uygulamaları ve algıları bu kapsamda iyi sonuçlara ulaşmak için kritik öneme sahiptir.

Bu nedenle yabancı dil öğretmenlerinin eğitim için Web 2.0 araçlarının kullanımı konusunda tecrübe ve düşüncelerine ışık tutabilmek için, bu tezde karma yöntem araştırma çalışması kullanılmıştır. Amaç sadece öğretmenlerin Web 2.0 araçları ile ilgili düşüncelerini ve genel kullanımlarını aydınlatmak değil, aynı zamanda bu konuda kullandıkları en iyi uygulamaları keşfetmektir. Bu amaçla iki veri toplama yöntemi kullanılmıştır. İlk olarak, bir anket kullanılarak ilkokul, ortaokul ve liselerde görev yapan 269 yabancı dil öğretmeninden veri toplanmış ve betimsel istatistik yöntemi ile bu veriler analiz edilmiştir. İkinci olarak, Web 2.0 araçlarını öğretmenlik yaparken kullanma konusunda tecrübeli 19 yabancı dil öğretmeni ile, yeni katılımcıları eklemek için kartopu örnekleme yöntemi kullanılarak, yüz yüze yarı yapılandırılmış görüşmeler yapılmıştır.

Birçok önemli bulgu arasında, Ki-kare bağımsızlık testi analizleri göstermiştir ki, testlerin birçoğu için, öğretmenlerin web 2.0 araçlarını kullanıp kullanmama durumları ile öğretmenlerin öğretmenlik tecrübeleri, yaş ve eğitim dereceleri gibi özellikleri arasında anlamlı olarak ilişki olmamasına rağmen, testlerin birçoğunda araçları kullanıp kullanmama durumları ile öğretmenlerin, bir Avrupa Komisyonu girişimi olan, eTwinning projelerinde ortaklık tecrübeleri durumları arasında anlamlı ilişkiler vardır. Bu bulgu, Web 2.0 araçları ile daha fazla deneyimin, eTwinning projelerine öğretmenler tarafından katılımın olumlu bir sonucu olduğu anlamına gelebilir. Anket katılımcıları arasında, öğretmenlerin %83'ü Web 2.0 araçlarının en azından bir tanesini kullanmaktadır. Öğretmenlik amaçları için en çok kullanılan araçlar *video araçları*, *dosya paylaşım araçları* ve *sosyal ağlar*dır. "Sadece kişisel kullanım" amacı için en çok kullanılan araçlar *fotoğraf ve imge araçları*, *metin temelli araçlar* ve *sosyal ağlar*'dır.

Anketin nitel verilerine göre "öğrenciler iletişim kurabilir, etkileşimde bulunabilir, katılım sağlayabilir ve iş birliği yapabilirler, böylece yabancı dili daha aktif olarak kullanabilirler" ve "dil öğrenimi bu araçlar sayesinde daha eğlenceli ve keyifli olabilir" ifadeleri web 2.0 araçları kullanmanın en önemli avantajları arasındadır. "Cihaz ve/veya internet bağlantısı eksiklikleri ve diğer altyapı/teknik problemler" araçları kullanmak için en önemli zorluklar arasındadır. Mülakat sonuçlarına göre *değerlendirme, video kayıt ve düzenleme* ve *konuşmayı teşvik etme* tecrübeli öğretmenler tarafından araçları kullanmanın genel amaçları arasındadır. Çalışmada aynı zamanda, en iyi uygulama örnekleri, en çok kullanılan Web 2.0 araçları, kullanım sıklığı, araçları kullanmanın avantajları ve zorlukları ve diğer ilgili temalar ve bulgular da raporlanarak özetlenmiştir. Diğer çıkarımların yanı sıra, eğitimde bu uygulamaları kullanarak, yabancı dil öğreniminin dört önemli unsuru olan "anlaşılır girdi", "sosyal iş birliği", "gerçek dünya ilişkilendirmesi" ve "olumlu bir öğrenme ortamı"nın (Li, 2013) sağlanıp sağlanamayacağı da raporlanarak tartışılmıştır.

Anahtar Kelimeler: Web 2.0, Yabancı Dil, Öğretmen, İyi Uygulama, K-12.

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DISCUSSION AND CONCLUSION

ABBREVIATIONS

BİLSEM	Science and Art Center
CALL	Computer-Assisted Language Learning
CEFR	Common European Framework of Reference for Languages: Learning, Teaching, Assessment
EBA	Educational Information Network
EFL	English as a Foreign Language
FL	Foreign Language
FLT	Foreign Language Teaching
ICT	Information and Communication Technologies
iTEC	Innovative Technologies for Engaging Classrooms (2010-2014, European Commission's FP7 Programme Project)
MEB	Türkiye Cumhuriyeti Millî Eğitim Bakanlığı (Ministry of National Education, Republic of Turkey)
MoNE	Ministry of National Education
NCES	The National Center for Education Statistics
VET	Vocational Education and Training
CEFR	Common European Framework of Reference for Languages: Learning, Teaching, Assessment
EBA	Educational Information Network

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CHAPTER ONE
INTRODUCTION

This research study is about the pedagogical uses of Web 2.0 tools in foreign language teaching (FLT) in primary and secondary education. It also aims to discover and define best practices used by the FLT teachers. In this introductory chapter of the thesis, the purpose of the study and research questions are presented, significance, assumptions and limitations of the study are discussed.

1.1. Purpose of the Study and Research Questions

The technology becomes more and more important in our daily lives and in education and Web 2.0 tools could be important means to use technology for foreign language teaching and learning. Because of this, it is a necessity to investigate and learn about the current usage of these tools for pedagogical purposes in the field. Firstly, it is necessary to know whether the teachers believe in these tools' potential, think that they are important and use them in their teaching.

Secondly, if there are some teachers who believe in their importance and use them, it is important to discover in what way they use Web 2.0 tools in their teaching and what kinds of results they have. Third, what are the most effective ways to use Web 2.0 tools for pedagogical purposes in foreign language teaching and learning and what are the best practice examples and challenges according to the teachers who have used them so far are also other important questions which should be investigated.

On the one hand, digital tools and technology use continue to develop, on the other there could be many teachers who had started to use technology effectively and more intensely during the pandemic, and maybe many started to use technology because of this process willingly or unwillingly. Certainly, before this process, there were also many teachers who were involved in the use of technology in general and the use of Web 2.0 tools specifically. Of course, this is also related to digital literacy of the teachers as one of the important aspects of 21st century skills which affect the use of technological tools. Some of

the teachers start to use such tools especially by means of programmes like eTwinning which is financed by European Commission aiming collaboration between schools by using digital tools. However, it can be said that the usage of such tools and results are relatively unexplored in the foreign language teaching field in the literature.

At this point, it should be noted that even though the data collection of this study was conducted after the COVID-19 pandemic started, most of the literature review and preparation of this research study was carried out before the pandemic started. It can be argued that the perceptions and practices of the teachers were affected from this process. Also, more frequent use of the technology in this process might have affected new studies and ensuing research results and the literature during this period.

As an aim of this study, by examining and shedding light on teachers' experiences and thoughts on Web 2.0 tools, the status can be perceived more clearly. If the results of this study and other similar ones and the reflections of teachers' practices and experiences demonstrate that these tools have robust potential and overwhelming advantages, further research studies to explore more about them, and initiatives to foster their usage more by teachers can be conducted. Moreover, results can be used to include them in curricula or at least in teacher training or development processes.

With this background in mind, the purpose of this thesis is to investigate primary, middle, and secondary school teachers' perceptions, experiences, and practices with Web 2.0 tools in general. With reference to the problem statements, purpose and subject of the thesis, the study aims to answer the following research questions:

1. What do the teachers think about the potential of Web 2.0 tools?
2. Do the FLT teachers use Web 2.0 tools for pedagogical purposes?
3. What are the pedagogical uses of Web 2.0 tools in FLT? How do FLT teachers in primary and secondary schools use Web 2.0 tools in their practices?
4. What are the advantages and challenges of using Web 2.0 tools in FLT according to teachers who use them?
5. What are the examples of best practice and the most effective ways to use Web 2.0 technologies in FLT context according to teachers?

6. Are there any significant associations between the use of Web 2.0 tools by the teachers and teachers' demographic characteristics?

1.2. The Significance of the Study

As the web is open to the world and the usage of the digital tools involve online collaboration and meeting with people from different parts of the world, not only language but also culture is an important issue related to the experiences of them. Because of this, Web 2.0 is also seen as an extension of telecollaboration and an online intercultural exchange opportunity (Guth & Helm, 2010). Using technology in education also helps the learners to internalize the usage of it and by this way they can develop technological and Information and Communication Technologies (ICT) skills. The use of technology and electronic skills or e-skills which include the use of ICT for different purposes including professional, nonprofessional or education related activities such as research or financial activities are also very crucial for employment, growth of the economy and competitiveness of countries on a global scale (European Commission, 2007).

From a national perspective, supporting language learning activities with digital tools which can be used distantly may also be a solution to large classes problem contextually which is one of the problems in the current education system in Turkey. This problem has been demonstrated in various research results (Dönmez, 2010; Kırkgöz, 2008). According to Geske (1992), a large class has multiple disadvantages to prevent effective teaching and learning activities. Among these problems one is that it prevents a fluent communication and makes it difficult for the teacher to discuss with the students because of the physical atmosphere. Secondly it is difficult to construct small discussion groups and one-way lecture is more convenient. It also puts the student in a passive and spectator role rather than an active one. Another disadvantage is the reluctance by the students to speak up among many other students and participate class activities (Geske, 1992). In terms of foreign language teaching, all these disadvantages are even more important, and they may inhibit an effective class time and the acquisition of the language by the students. Nevertheless, the advancement of technology may be a solution to these problems by supporting discussion and communication in and out of class by enhancing students' motivation for participation and their active involvement.

By using the technology, students can do activities outside the classroom and may be involved actively without being in a physical classroom atmosphere. Technology is used to support classroom activities by flipped learning. Web 2.0 tools could be used with this aim. This is also in line with student-centered learning.

Assessment and evaluation can be mentioned among the areas where these tools can be used in foreign language (FL) teaching and learning. Because of the rapid technological advances, and the potential advantages and opportunities of them, it may also be necessary to update curriculum contents to include use of technology (Orava & Worrall, 2011). In order to do necessary adjustments in the curriculum, best practices or good examples to implement these tools and other research results could be taken into consideration by decision makers.

Another advantage of interaction by using technology is being able to communicate with native speakers in an authentic way regardless of the location. It could also be good for the learners who are shy or embarrassed in face-to-face conversations while their foreign language skills are still developing (Chang, Pearman and Farha, 2012; Warschauer, 1996).

Despite their potential and expectations about the digital technologies and especially Web 2.0 tools, there are also studies which demonstrated that some of these expectations are overrated. For instance, Gouseti (2012) in a study to investigate how digital tools in general and wikis, discussion forums and blogs in particular are used for school collaboration by a comparative case study of four eTwinning projects, put forward that the study offered very little evidence in depicting "increased collaborative learning" and "transformation of educational processes" (p. 263). Moreover, as referred by Gouseti (2012), some possible social, psychological, and cognitive disadvantages or harms are even argued as a result or impact of especially some social network sites such as Facebook and Twitter (Greenfield, as cited in Wintour, 2009).

Despite its importance and potential, the use of Web 2.0 technologies seems to be an unexplored area especially in foreign and second language teaching. Preliminary literature review indicated that there are some studies conducted especially relating to other fields than language teaching. Even though there are some studies which have been conducted relating

to different Web 2.0 tools and a few studies on teacher and student views in foreign language teaching, the number of studies and their scope is limited.

Overall, potentials, advantages, and challenges of using technological tools for pedagogical purposes are related to the significance of the study. Results of the study and implications may be used for further development of the tools, dissemination of the good practices in the field, teacher training and development, and by policymakers. They may also pave the way for further research.

1.3. Assumptions of the Study

The data collection procedure of this study consisted of two different groups of sampling. In the first part, data was collected from a large group of teachers by using a questionnaire. In the second part, by using a purposive sampling approach as a kind of nonprobability random sampling, only experienced teachers in Web 2.0 usage were interviewed by using semi-structured interviews.

In the study it was assumed that these participants attended the study willingly and answered the questions openly and truthfully. Another assumption was that their answers reflected what was practiced in their teaching which also partly depended on the correctness of their answers in addition to other factors such as how they perceived what *actually* happened or how they judged their experiences. It was also assumed that the results of the data collection phase would reflect the thoughts or experiences of a larger population of teachers in the field. Certainly, this is necessary only if the results will be accepted as generalizable to larger or other populations of foreign language teachers. Consequently, it was hoped and assumed that results from this study could benefit the literature and the language teaching community about the beneficial use of Web 2.0 tools for foreign language teaching especially in primary and secondary education. The reason for conducting the interviews with only teachers who are experienced in the use of Web 2.0 tools was that it was considered that they would be able to provide sufficient and adequate data needed for the research aims thanks to their experience and knowledge in the use of Web 2.0 tools. The procedure and reasons for the selection process are explained in a more detailed way in the research population and sample section.

1.4. Limitations of the Study

Limitations of this study were as follows: The study was not an empirical study including actual observations or experimentations with the students or in the classroom. It reflects only the opinions, thoughts, or anecdotal experiences of foreign language teachers as they reflected by means of the data collection tools. Even though it was not intended to do so, as the data was gathered by using a questionnaire and semi-structured interviews, questions of the study might have led the teachers to specific aspects of Web 2.0 tools. If different questions, data collection tools or means, different research paradigms, data collection and analysis procedures had been used, even the questions had been uttered in different orders or ways, different results might have been gathered.

Of course, one of the difficulties of research about the technology is that the tools or technology used is evolving and changing rapidly (Levy, 2007), as well as the opinions, knowledge, and experiences of the users of it. A research study conducted at a certain point in time may not reflect the situation in another time or place of the world. In line with this, if the study had been conducted in a different place with a different sample or population, the results might have been different.

CHAPTER TWO
LITERATURE REVIEW

Technology is developing rapidly and there are a lot of new tools to use for educational purposes. Web 2.0 tools are among these tools and their usage for foreign language teaching is the main research interest in this study. One of the differences of these tools from others is that the users of the internet are actively involved in data transmission, and they can collaborate or share information with other users online. Using Web 2.0 tools for foreign language teaching has some unprecedented advantages. One of the crucial aspects of Web 2.0 tools for foreign language learning is their social nature which allows authenticity and an opportunity to engage learners in meaningful tasks (Martins, Moreira, & Moreira, 2012). Moreover, importance of production, output, and feedback in L2 learning is also mentioned in several studies and hypotheses such as Output Hypothesis (Swain, 1995). Using internet for production of language involving output and feedback via tasks or other means in a meaningful way by the learners may result in a more effective acquisition of the target language. However, there could also be challenges regarding the use of technology for educational purposes. For instance, reaction of teachers or students to technology is not always positive and motivating. It can range from enthusiasm to disabling fear (Collins, 1999).

One of the ways to explore the true potential of Web 2.0 tools could be to investigate teachers' ideas who are already using them for educational purposes. In Turkish context, there are some teachers who are involved in technology use for educational purposes. There are also programmes to support the use of technology by the teachers. As a European initiative, eTwinning is a platform to foster the use of technology and digital tools by means of international collaboration between teachers. The teachers who do not use these tools may have some prevailing reasons in order not to do so. When these reasons, disadvantages and challenges are discovered, solutions may be found, or the teachers can be supported to use them if it is possible and effective.

By taking into consideration the potential of technological tools especially for foreign language teaching, the subject of the thesis is teachers' perceptions, practices, and experiences in Web 2.0 tools for foreign language teaching activities. Research on

technology use in education and Web 2.0 tools could be related to other themes. As this study focuses specifically on the use of Web 2.0 tools in foreign language teaching in K-12 schools, there could be related themes to it, apart from foreign language education, technology, and Web 2.0 tools.

2.1. Teaching EFL in Turkish Primary and Secondary Schools

It is difficult to separate socioeconomic, political, and cultural developments on macro level from the policies and developments in education on meso level especially when the subject is foreign language teaching and a language which is accepted as a lingua franca. Because of the effect of globalization and extraordinary spread of English in the world, English teaching as a foreign language brought challenges and became one of the important aspects of the education systems in many countries of the world as in Turkey. And this global influence resulted in major educational and ELT curriculum reforms during recent decades which not only covered primary and secondary education but also embraced tertiary level (Kırkgöz, 2009). Among the reforms, curriculum innovations and releases of new programs in foreign language teaching in Turkey, English became a compulsory school subject for the 4th and 5th grades onward with the curriculum released in 1997 by the Ministry of National Education (MoNE). Another feature of this reform for foreign language teaching was the introduction of communicative language teaching as an approach and pedagogical expectations from the teachers for a more student-centered classroom rather than a teacher centered one (Kırkgöz, 2008).

After the change in education system in Turkey from 8+4 years of education in primary and secondary schools to a new 4+4+4 years system which divides the first part of the primary school education into two levels, a new program was put into practice in 2013 for English teaching in primary and middle schools until the 8th grade. Introduction of English for earlier ages continued with the new education system and English was started to be introduced at 2nd grade rather than 4th grade with this system. The program was prepared in line with *Common European Framework of Reference for Languages: Learning, Teaching, Assessment* (CEFR) principles. Despite the developments in technology at that time, it can be said that the use of technology in teaching did not take place in this program. Emphasis was given to the development of communicative competence. Focus on skills was

for listening and speaking for younger learners and reading and writing for older ones in primary schools. The use of authentic and hands on communicative activities such as drama or role-play and use of audio-visual materials with other materials were also mentioned in this program (MEB, 2013). Following the changes of this curriculum, a new program was released in 2017 which emphasized the use of language skills with communicative activities decreasing the focus on grammar, also by means of it an intensive pilot English teaching program for 5th grade students was undertaken in the selected 620 public schools (Aksoy et al., 2018; Dincer & Koç, 2020). According to the current program, in primary and middle schools, 2nd, 3rd and 4th grades have two hours, 5th and 6th grades three hours, 7th and 8th grade students have four hours of compulsory foreign language weekly (MEB, 2018). There may also be additional or optional courses depending on the school. Number of hours of courses for foreign languages in public secondary schools can be seen in Table 1 below.

Table 1

Secondary Schools Weekly Compulsory Foreign Language Course Hours

Type of the School	Course Name	9th Grade	10th Grade	11th Grade	12th Grade
Anatolian High Schools	First foreign language	4	4	4	4
Anatolian High Schools	Second foreign language	2	2	2	2
Science High School	First foreign language	4	4	4	4
Science High School	Second foreign language	2	2	2	2

Type of the School	Course Name	Preparatory Grade	9th Grade	10th Grade	11th Grade	12th Grade
Anatolian High School with a	First foreign language	20	4	4	4	4

Preparatory Grade						
Anatolian High School with a Preparatory Grade	Second foreign language	4	2	2	2	2
Social Sciences High School	First foreign language	20	4	4	2	2
Social Sciences High School	Second foreign language	4	2	2	2	2

Note. Reprinted from "*Talim ve Terbiye Kurulu Başkanlığı: Haftalık Ders Çizelgeleri"*, by MEB, 2018.

During the development process of the programs and curricula, English language teaching in Turkey was not without challenges. There has always been some criticism by the public, parents, media, institutions or in research results or reports regarding the quality and outcome of teaching foreign languages in primary and secondary education context in recent decades. Some of the reasons of not being able to meet the expectations, according to a research by Kizildag (2009) in addition to the general difficulties such as lack of authentic input in a foreign language learning context, are socio-economic and cultural challenges, institutional challenges such as "lack of support" or "poor instructional planning", and instructional challenges such as "busy curriculum", "unrealistic learning goals", "inappropriate textbooks", and "lack of supplementary materials" according to teachers' views in primary schools (p.196). There are also other views which accepts the teachers and the training of the teachers as the source of the challenges (Öztürk & Aydin, 2019). The curricula and programs were also evaluated from different perspectives. In one of these studies to evaluate the programs in 15 years, it was put forward that basic principles of program preparation and developments in the field were followed and adapted in the curricula however they are criticized as being "too long, complicated and the time suggested

was not enough for the implementation" by means of practice by the teachers in the classroom (Yücel et al., 2017).

Despite the challenges in English language teaching and the gap between the policy and actual practices of teaching foreign languages from time to time, there were also other developments in the field. Initiatives by MoNE in the policy of quality of English teachers and their professional development were among them. In addition to a large-scale project in collaboration with Council of Higher Education and support by the World Bank in 1997 for the improvement of preservice teacher education programs and departments, MoNE also collaborated with other institutions such as British Council and the United States Information Agency to support in-service teacher training programs (Kirkgöz, 2005).

2.2. The Place of Technology in Turkish Education System

In addition to the spread of English language in the world, another unprecedented development in recent decades was in the realm of technology. After the advent and spread of personal computers and the internet which were followed by mobile phones and their use for internet access as smart phones later, they became a part of daily life for many people. The importance of technology increased day by day also for education.

The reflections of the developments in technology in the world was followed and applied in different spheres of life in Turkey and many institutions and ministries adapted or used the technology in different ways in this period. Certainly, one of the most important developments or investments in education which was conducted by the ministry of national education was FATİH Project. The title of the project stands for the initial letters of "Movement of Enhancing Opportunities and Improving Technology" in Turkish. The project was not only important by means of its support to introduction of innovative approaches in educational technology, but it was also substantial and very comprehensive by means of its scope and budget in the country.

FATİH Project is an infrastructure development project upon which there are other objectives to reach by means of education in the country for teachers, students, and schools in general. By means of infrastructure, its aim is to provide each school high speed and secure

internet. Schools are also provided with hardware such as smart boards or interactive boards and software to use the technology in an appropriate way. In addition to the hardware, software, internet access and e-content, the support of teachers by means of in-service training is another part of this project. In the long run, the project also aims to provide opportunities for the disadvantaged, gather data and follow students' progress, continue the learning process outside the school, and share the knowledge and data over internet ("FATİH Project", n.d.). Teachers and students can use the content in EBA (Educational Information Network) and use other tools such as their cloud accounts to keep and share their data over the internet. EBA is another important technological support tool in line with FATİH Project for Turkish Ministry of Education (MoNE). EBA is the digital education platform of MoNE which provides e-content for students and teachers which can also be accessed by the parents.

Despite the importance of FATİH Project, it does not mean it solved all the infrastructure problems, or a perfect technological system has been created in the applied schools. In a study conducted during the application process of the project, ongoing technical difficulties encountered were put forward by the participant school administrators (Öz, 2015). The teachers were not without concerns either in terms of FATİH Project regarding aspects such as infrastructure support, classroom management, educational content, and use of technology including lack of training by the Ministry (Çoruk & Tutkun, 2018). However, despite the challenges, and the increasing the importance of digital literacy of the teachers and need for training, the developments, and investments within the scope of this project and efforts to integrate technology to education, such as the use of the smart boards for teaching, had positive reflections in the classroom (Durak & Sarıtepeci, 2017). It can also be put forward that when the key roles of teachers in the adaptation process and acceptance of the technological tools in teaching are considered in general and for FATİH Project in particular, in addition to the aspects such as teachers' qualifications and experiences, other social, biological, and pedagogical factors also play a role in the acceptance and adaptation of such technological tools in the classroom (Tosuntaş et al., 2015).

On the other hand, as the importance of English increased in the world as a result of socio-politic and economic changes and it became a lingua franca, English also became a part of many education systems in the world (Doğançay-Aktuna, 1998). In Turkish context, like other places in the world, the spread of English resulted in curriculum innovations.

English was not only introduced at younger ages, but also Communicative Language Teaching (CLT) oriented curriculum innovation at the end of 20th century aimed more student-centered approaches rather than teacher centered ones (Kırkgöz, 2008). One of the aims of the textbooks prepared according to this curriculum innovation and in line with CEFR (Common European Framework of References) was to guide learners to use web technologies at that time (Cephe & Balçıkanlı, 2012).

As a general tendency, the importance of using the technology for language instruction is known and accepted by many. But despite this belief and acceptance, in the application process, the ways to use the technology may differ according to situation. For instance, in a study investigating the use of internet supported tools by language lecturers in universities in Turkey, Celik (2013) found that even though lecturers found the usage of the digital sources as very effective to develop language skills of the students and a strong factor to motivate the students, most of them did not believe that these technologies can take place of the coursebooks. Moreover, many find themselves as not enough qualified and ready yet to support learner autonomous practices. The lecturers use the technology more to gather information for the courses rather than making the learners engage in learner active dialogues or conversations for learner centered purposes.

The same inconsistency between what is thought of as important and what is practiced can also be seen in primary and secondary education. Uzun (2016) underlines the gap between theory and practice and states that even though the schools were equipped with necessary technological devices and tools, as the innovation in technology were not reflected in teacher training process and curricula, and the teachers' and students' mentality did not change, the traditional practices of language teaching and learning did not change. On the contrary, there is another study in which Çelik and Aytın (2014) put forward that contrary to the previous studies they found that the participant teachers stated that they believed in their competence and also felt competent to use technology for teaching. It should be noted that this was not a large-scale study whose data collection source was only 6 primary and secondary school teachers, despite of the fact that data were collected by means of in-depth interviews. However, the same teachers, similarly to other studies emphasized the positive effects of the technology in language teaching such as motivation and efficiency. They also

criticized the difficulty of access to technological tools such as the internet and computers in their schools.

2.3. Technology and Language Teaching

The effect of the technology is increasing in daily life. Because of the developments in technology use, it is a common expectation and belief that the technology can and should support education and be a part of teaching and learning process too. Online learning tools and the number of students using them are also rapidly growing. Web 2.0 tools are among these learning tools, and it is one of the ways to use technology for education. A new trend regarding the technology use in education is that teaching and learning activities should not be confined to the classroom and may continue outside the classroom walls as well.

As technology becomes more important and its effect increases, investments of countries, governments, and educational institutions for technology use in education also increase. This makes teachers role more important and a key factor in the application of the technology. Not only their beliefs, thoughts, and perceptions but also their competencies to use technological tools are among the important factors which affect the integration of these tools in language education. However, there are some studies which were conducted in Turkish context indicated that teachers did not perceive themselves as being adequate to use information and communication technologies (ICT) for educational purposes, and their use of technology for educational purposes is limited (Goktas et al., 2009; Tezci, 2009). In another research study which investigated factors related to ICT competencies of teachers, conducted with 3.353 participant teachers from different parts of Turkey, it was found that pre-service courses rather than in-service courses had a significant effect on how the K-12 teachers perceive themselves to be competent or not in ICT (Goktas et al., 2009). This result may stem from the factors related to the in-service courses such as quality, duration, or content of them.

As the need to learn and apply technology in the classroom increase, and more pressure is exerted from educational community to teachers, more research focuses on professional development of teachers which demonstrated that one of the important aspects of professional development in educational technology is teachers' needs for development (King, 2002). The teachers also focus on their own practices more while using technology, and because of this,

this process also carries professional transformative opportunities (Schmid, 2009). In addition to the competencies of teachers and how they perceive themselves in terms of their competency, other factors which may affect the success of the usage of technology in the classroom are attitudes of teachers towards ICT, their beliefs and experiences in using ICT, and among the barriers, time management issues, exam pressure, access to ICT, lack of technical or administrative support to teachers to integrate ICT in their teaching by means of training or advice and collaboration with other teachers can be mentioned (Lim & Khine, 2006).

The rapid development and evolution in the technology also affected the dimensions in the research and the terms used in the literature. Before the advent of new digital devices and tools for communication and information and their new functions, computers were among the main technological devices. Computers use in language education was the basic category for the use of technology. Warschauer and Healey (1998) divide the historical context of the use of computers in language teaching since 1960s into three main stages. First stage was behaviouristic CALL (computer-assisted language learning) which was based on repetitive language drills. Second was communicative CALL from 1970s when using forms rather than focusing on forms, and teaching grammar implicitly rather than explicitly were accepted as ideal in line with cognitive theories. Third stage was integrative CALL in the late 1980s when the importance of social contexts and a more social view than only a communicative view was embraced. Collaborative projects by a number of students using resources from the internet, chat programs for real time communication, emails for communication, accompanying materials of textbooks such as CDs or online materials, games and tests were some of the applications and issues of computer use (Brown, 2007).

Egbert (2005) argues that adding a computer dimension into the language learning process does not change the process itself as defined by second language learning theories. However, the way the tasks handled, other changes in the process and variables like content, structure or organization can have a major impact on the results. By considering the variables which could influence the success of language learning process, Egbert (2005, p. 5) determines a “CALL equation” (see Table 2 below).

Table 2

CALL Equation

learners (with their thoughts, behaviors, motivations, experiences, and understandings)
+ **language** (including its status and structure)
+ **context** (physical and temporal environment and the social, economic, cultural, and linguistic influences)
+ **one or more tools** (and the affordances the tool provides)
+ **tasks/activities** (content, structure, and organization)
+/- **peers and teachers** or others who can affect the process
= CALL

Note. Reprinted from "*Conducting Research on CALL",* by Egbert, 2005, p. 5.

Speech recognition and processing is one of the technologies which is still developing and may be used more intensely for language teaching, learning, and evaluating purposes in the near futures by means of programs or applications.

Warschauer and Healey (1998) suggest "individualisation in a large class", "real-life skill-building in computer use", "the fun factor", "pair and small group work on projects, either collaboratively or competitively" and "exploratory learning with large amounts of language data" among others as some of the benefits of using a computer component in language teaching (p. 59).

Especially lower achieving and at-risk students benefit more from interactive technology use which lets them express their ideas and manipulate data by interactions between learners (Darling-Hammond, Zielezinski & Goldman, 2014). The report also demonstrated the benefits of personal access to technology by the students, blended learning, and content creation by using technology by the students illustrating the necessity of making content creation possible in the classroom by including it in curriculum and instructional plans.

Despite these benefits, teachers might have their reasons not to be able to use the internet for the classes. In a research study conducted with secondary school EFL teachers

in Korea, among the participant teachers who do not use the internet in the classroom for teaching asserted that the reasons for not using it are in order: “limited computer facilities; limited time; teachers’ limited computer skills; teachers’ limited interest; students’ limited English ability; students’ limited interest; teachers’ limited English ability; and/or students’ limited computer skills” (Shin & Son, 2007, p. 5). This demonstrates that in addition to technical facilities and technical support, interest of teachers may have an important role to play in the usage of technology. Similarly, another factor whether teachers want to use technology or other innovation for teaching is related to their beliefs about the effectiveness of such practices (Kim et al., 2013).

2.4. Web 2.0 Tools

Web 2.0 is basically related to the roles of users of the internet. By means of Web 2.0, the users do not passively download or consume information or content, but they are actively involved in the creation of the content by using websites or software tools. Among these tools, some are wikis, blogs, podcasts, Second Life, YouTube, Google applications like Google Docs, Myspace, Facebook, and other social networks. A list of some of the definitions and categories of Web 2.0 tools currently in use which could be related to second language acquisition and/or teaching are listed and can be seen in Table 3 below.

Table 3

Some of the Web 2.0 Tools Currently in Use

AJAX: Asynchronous JavaScript And XML—web development techniques used for creating inter-active or “rich” Internet applications rather than static Web pages; this technology allows dragging elements across the page
Atom: A syndication format, or publishing protocol for Web feeds; like RSS (see below) but in a newer format
Blog: Short for ‘weblog’—a web site that enables anyone who accesses it to add commentary, graphics, or other content via simple self-publishing tools

HTML: Hypertext Markup Language – the standard page description language for the creation of Web pages; a "tagging" language that formats the page and tells where images, sound, and other elements should be inserted

Mashup: A web application that combines data from more than one source into a single integrated tool e.g., Google Maps

Podcast: A digital audio file distributed via the Web for playback on portable media players, smart phones, and PCs

RSS: Rich Site Summary or Really Simple Syndication – a family of Web feed protocols (formats) that automatically deliver selected content to the user's desktop

Social Media: The use of electronic and Internet tools to share information/experiences, allow group interaction and collaboration—examples include MySpace, Facebook, Twitter, Flickr (personal); LinkedIn (professional); Second Life (virtual world)

Tags: Short for metatag—a non-hierarchical, user-generated keyword assigned to a piece of information allowing it to be found more easily by a search engine

Wiki: A dynamic Web document designed to enable anyone who accesses it to contribute to and modify or edit the content; which distinguishes it from a blog and makes it an excellent tool for group projects

XML: eXtensible Markup Language—a mark-up language specification that is stricter than HTML which allows users to define their own elements; preserves the formatting and structure of a digital document regardless of what application is used to read it

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Note. Reprinted from "*Second Language Acquisition: Implications of Web 2.0 and Beyond"*, by Chang, Pearman and Farha, 2012, p. 55.

The phrase Web 2.0 was coined by O'Reilly in 2005 which originally meant a transmission from Web 1.0 (Avgousti, 2016; Becta, 2007). This development from Web 1.0 to Web 2.0 is also a move from "information revolution" to "relationship revolution" which means technology is not only used to share information, but it is also used to create "digital relationships" and networks (Schrage, 2001). By emphasizing the written contributions by the users, Web 2.0 tools are also mentioned as "read and write web".

Bower reviewed over two thousand links with a typological analysis, identified 212 Web 2.0 technologies appropriate for learning and teaching and presented the results as 37 types of Web 2.0 tools which were also arranged into 14 clusters. Some of these clusters, types and the typology are summarized below (see also Figure 1).

- Text based tools:

Synchronous text discussion (e.g., twitter.com); discussion forums (e.g., forums.com, proboards.com, readups.com), note taking and document creation (e.g., docs.google.com, etherpad.org, evernote.com)

- Image-based tools

Image sharing (e.g., flickr.com, instagram.com, commons.wikimedia.org); image creation and editing (e.g., befunky.com, drpic.com; picjuice.com); drawing (e.g., artpad.art.com/artpad/painter/); online whiteboarding (e.g., docs.google.com/drawing); diagramming (e.g., gliffy.com); mind mapping (e.g., bubbl.us); mapping (e.g., maps.google.com); word clouds (e.g., tagxedo.com; tagul.com).

- Audio tools

Audio sharing (e.g., soundcloud.com); audio creation and editing (e.g., vocaroo.com)

- Video tools

Video sharing (e.g., youtube.com; vimeo.com; teachertube.com); video creation and editing (e.g., kizoa.com, youtube.com)

- Multimodal production tools

Digital pinboards (e.g., pearltrees.com; padlet.com); presentations (e.g., prezi.com, www.google.com/slides/about); lesson authoring (e.g., lessonlams.org, softchalk.com, blendspace.com, easygenerator.com),

- Digital storytelling tools

Online book creation (e.g., www.storyjumper.com, tikatok.com, storybird.com)

- Website creation tools

Wikis (wikispaces.com, pbworks.com, wikia.com); blogs (e.g., wordpress.org, edublogs.org, tumblr.com, blogger.com)

- Knowledge organization and sharing tools

File sharing (e.g., dropbox.com, google.com/drive)

- Data analysis tools

Conducting surveys (e.g., surveymonkey.com, www.google.com/forms/about); online spreadsheets (e.g., www.google.com/sheets/about)

- Assessment tools (e.g., quizlet.com, easytestmaker.com, quia.com)
- Social networking systems (e.g., facebook.com, academia.edu)

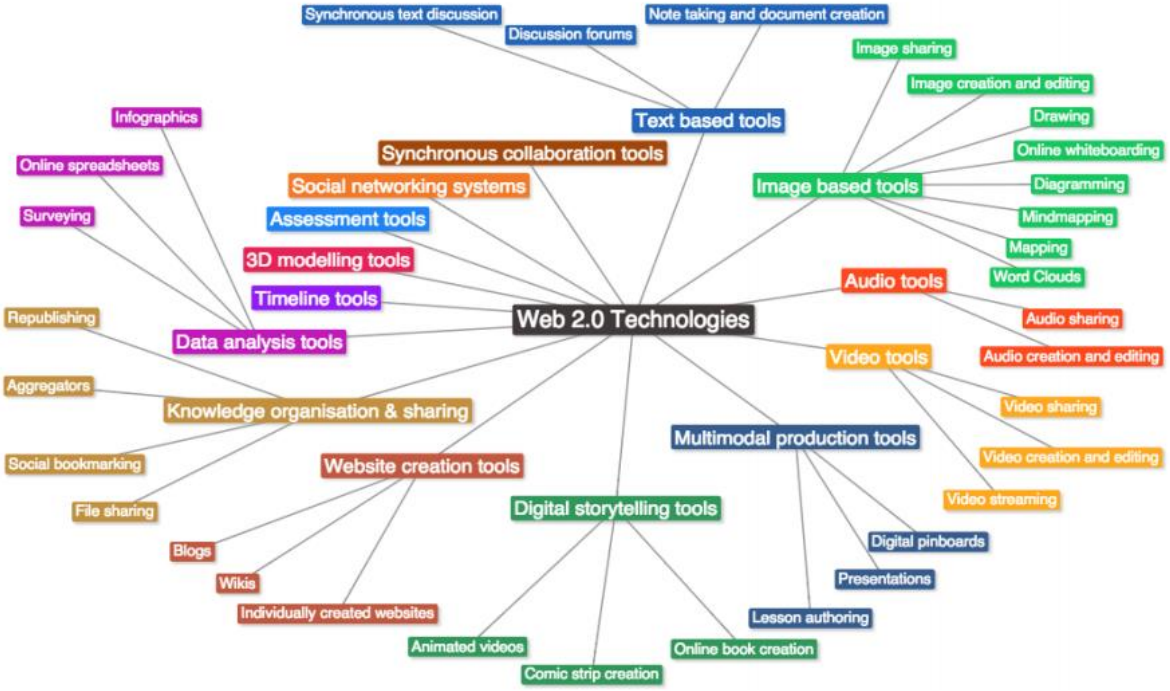
(2015, pp. 2–12)

Creation of content by using online tools and sharing it with other internet users is the most distinctive feature of Web 2.0 tools. However, the internet is not necessarily always used very collaboratively or in a creative way by the users. Even though social networking sites are counted among the Web 2.0 tools, in a study to explore digital choices of EFL learners and their proficiency in using Web 2.0 tools in a higher education context, results demonstrated that students use internet technology mainly for searching for information or social networking, majority of the students do not use it for generating content and even are not aware of Web 2.0 tools (Şahin Kızıl, 2017).

On the other hand, definition of Web 2.0 term is not always very clear-cut. Tim Berners-Lee, the founder of World Wide Web, objected the idea in an interview that Web 1.0 is about connecting computers and Web 2.0 is about connecting humans, and he put forward that this was what Web 1.0 already does, and he emphasised the difficulty of the definition of Web 2.0 as a term (Laningham, 2006). He remarked the way hypertext technology used by people for collaboration such as by using blogs and wikis as interesting but also predicted that very different uses of this kind of technology will be invented in the future. O'Reilly (2007) mentions the disagreement in the definition of Web 2.0 concept. In order to clarify it, he gave examples by comparing some of the tools, services and software (see the Table 4 below).

Figure 1

A Typology of Web 2.0 Learning Technologies



Note. Reprinted from "*A Typology of Web 2.0 Learning Technologies"*, by Bower, 2015, p. 2.

Table 4

From Web 1.0 to Web 2.0

web 1.0	*web 2.0*
DoubleClick -->	Google AdSense
Ofoto -->	Flickr
Akamai -->	BitTorrent
mp3.com -->	Napster
Britannica Online -->	Wikipedia
personal websites -->	Blogging
evite -->	upcoming.org and EVDB
domain name speculation -->	search engine optimization
page views -->	cost per click
screen scraping -->	web services

publishing -->	participation
content management systems -->	wikis
directories (taxonomy) -->	tagging ("folksonomy")
stickiness -->	syndication

Note. Reprinted from "*What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software"*, by O'Reilly, 2007, p. 18.

In the sections below, some of the Web 2.0 tools which fall into categorizations such as text-based tools, image-based tools, audio tools, and video tools will be discussed regarding their use for foreign language teaching and learning purposes. The reasons to use these tools, how they are used for foreign language teaching and learning, striking advantages and challenges and any other important tips or examples regarding their use will be the focus of the discussion from the literature. As the categories cover many tools, only a few of them mainly the most popular or well-known ones will be mentioned because of the limitation of time and space. Because of this, only some of the pedagogical possibilities of the tools will be covered too. Some of the other tools which fall into the categories discussed below can be examined above in the typological analysis summarized from Bower (2015). Also, some of the tools can be seen in Figure 1 and Table 3 above.

2.4.1. Text-Based Web 2.0 Tools

Some of the text-based Web 2.0 tools are Twitter, wikis, and blogs. Discussion forums, note taking tools such as Google Docs and Evernote can also be discussed under this categorization title (Bower, 2015). In a complex model of language teaching, even though the technology is used as a means, it is difficult to separate the teaching of four skills than the notions of language such as "pragmatic, sociolinguistic, and multicultural competencies" (Blake, 2016, p. 129). However, it can be put forward that one of the reasons to use text-based tools for foreign language learning is the development of writing skill for the educators. As Bernstein (2004) stated writing regularly by using blogs is a god way to improve writing skills of the students. Studies on the use of Web 2.0 tools for the development of writing skills found

that they have “positive and significant effects on writing fluency and syntactic complexity” (Dizon & Thanyawatpokin, 2018, p. 40). Some of the other uses of the blogs for language teaching in the classroom by the teachers could be asking questions to the students and discussing their ideas in group or pair works (Vurdien, 2013).

Blogs also have the advantage to open the written texts to peers, teachers and even other online users including the native speakers of the target language (Vurdien, 2013). This gives the possibility of receiving feedback for linguistic development, developing critical thinking skills and reflection. Nevertheless, the usage of text-based tools is not limited to focusing on writing as their usage could be flexible like many other Web 2.0 tools. For instance, they can be used for vocabulary practice, development of listening skill (Mork, 2009), and even teaching pronunciation (Mompean & Fouz-González, 2016) in addition to other benefits such as fostering reading.

Blogs which can also be called weblogs are a kind of online journalism and they let their users create and update their pages by adding not only texts but also audio, video, images, and hyperlinks without having technical expertise (Matheson, 2004). According to Mason (2006) blogging is an experiential learning tool which also makes it possible for the students to reflect on their experiences and carries the potential for peer learning, peer feedback and reflective features.

The difference of blogs from other types of asynchronous Web 2.0 tools could be that as they are mostly used for sharing information on a subject and sometimes open to other visitors’ comments, the writers have “a sense of ownership” regarding the content and they are more rigorous about the details when compared to other tools such as Facebook or discussion boards which can be an advantage for the use of blogs and make them more appropriate for language learning (Chen, 2015, p. 177). According to Chen’s (2015) research study, this relation between the learner and the importance of content also ties the success or failure of the use of blogs to personal differences of the learners such as their educational dispositions. Campbell (2004) also mentions the same term by stating that “a sense of ownership and unique online identity” is created for the learners as blogs let their users choose the customization of the pages, the layout and colour etc. just from the beginning. Moreover, Bhattacharya and Chauhan (2010) reported that as the result of a social networking project

conducted with MA students in English language teaching in India, blogging fostered "learner autonomy" and developed students' "independent decision-making skills and the ability to take independent action" (p. 8).

The difference of Web 2.0 tools than so called Web 1.0 tools is the fact that they are open to other users too. Because of this, other users can comment, give feedback, communicate, and engage in collaborative activities in different ways. In this respect these tools also promote social interaction and creativity (Tu et al., 2008). As an additional benefit of mainly text-based tools like blogs, even though they are good at initiating interaction and communication as a tool, they do not distract learners' attention and hinder learning goals as much as other social network tools such as Facebook (Dizon & Thanyawatpokin, 2018), or like mainly image-based tools such as Instagram.

Similar to other Web 2.0 tools, one of the features of the text-based tools is increasing learners' motivation and interest and they can help to continue learning outside the classroom (AlJeraisy et al., 2015; Pinkman, 2005). In an action study conducted in Japan, EFL learners in a university used blogs for out of class language learning activities (Pinkman, 2005). The results showed that they were able to develop their reading and writing skills by using the blogs even though some of the learners' initial interest was to develop their communication skills. The use of these tools also increased their motivation and interest.

As one of the most popular social networking applications, Twitter is a Web 2.0 tool which lets its users to have their profiles, update information about themselves and send online messages limited in characters visible to the world or only to the registered users in their profile. As a result of an experimental study which compares blended learning course with face-to-face class, Amry (2018) stated that Twitter is user-friendly and useful for sharing instructional information, discussion with others and social interaction in a blended learning context. Twitter can also be defined as microblogging by means of which users can send and receive messages online. Messages can be restricted to the users in the account or can be open to other users too. As Twitter consists of shorter messages, it could be less demanding for the learners as an advantage when compared to other written based tools (Borau et al, 2009). Engaging activities in these social networks for language learning purposes may promote collaboration and creativity by helping learning takes place "based on the creation and sharing

of user profiles, friends, instant messaging, blogging and comments, as well as photos and videos" (Harrison & Thomas, 2009, p. 110).

Another text-based Web 2.0 tool is online discussion board. Threaded discussions or discussion boards are frequently used not only in synchronous online education but also to foster interaction in traditional or flipped learning environments in an asynchronous way especially in higher education (Blackmon, 2012).

An advantage of online text-based tools is that they give the opportunity to the learners to review the correctness of their texts before they post them which may not be possible for face-to-face interaction. This is especially advantageous for the users in their beginning phases of the language who may lack confidence (Blackmon, 2012). Among other advantages of these tools are that they promote active learning engaging students in the activities which may also foster their critical thinking skills rather than being in a passive information receiving mode, and they also encourage participation by the students, even the shy ones (Dengler, 2008).

It should also be noted that differences between the technology or tools may also mean a change in the way how the language is used. As another study and research area concerning computer-mediated discourse and genre which is a result of computer-mediated communication, not only the text-based versions of the language and language use such as forums, chat, blogs or wikis but also the language and language use in other forms such as using tools including audio and video may also differ from face-to-face communication (Herring & Androutsopoulos, 2001).

Another type of novel blogging tool is voice blogging. Even though it is not text-based, it can be used as a form of asynchronous communication tool for the development of oral communication skills and the practice of speaking (Huang, 2015; Sun, 2009).

E-portfolios are among the tools which can be used for language teaching. They make it possible to collect writing samples, in addition to the personal experiences of the owner in language learning or other personal information such as exam results or attended courses. Probably the most comprehensive language portfolio project The European Language

Portfolio, which also support learner autonomy, was developed by the Council of Europe in 2000 (Council of Europe, 2020). Systems such as Digication (https://www.digication.com/) and Elgg (https://elgg.org/) are among the services which can be used to integrate e-portfolios related to Web 2.0 electronic environments (Godwin-Jones, 2008).

In an earlier quantitative research study, the use of *InterChange,* a computer network application, for written communication between the students in classroom setting, was compared to face-to-face communication of the students in speaking session on the same subject (Kern, 1995). Participants were forty French students and teachers in university setting. Not only students' oral production and transcripts were assessed but also students' and teachers' impressions of using the application were investigated. Results of this study demonstrated that quantity of production is higher during the use of application when compared to oral discussion. *InterChange* turns were from two to three and a half times more than oral productions. Moreover, there were some dominating students (five of them) during the oral discussion and some others who did not participate at all. But this was not the case during the use of *InterChange* when every student participated. Results also indicated that students *enjoyed* using the application in general and there were signs that their anxiety levels were lower.

In another study conducted with Spanish as a second language learners comparing the synchronous text-based online computer mediated communication with face-to-face communication, during the initial stages of development of a grammatical structure, text-based online communication was more effective and beneficial than face-to-face communication (Salaberry, 2000). In case authentic text-based content is used in teaching and learning process, "the high level of vocabulary and technological jargon found online" can be a challenge for the students to comprehend (Loucky, 2009, p. 385).

2.4.2. Image-Based Tools and Visual Representations

As it was stated above, image sharing and creation, drawing, mind mapping and word clouds are some of the image-based tools (Bower, 2015). As a highly popular social media tool among young people, Instagram which allows its users to share photos and videos carries an important potential for language teaching according to some experts in the field

(Wulandari, 2019). In addition to images and photograph sharing, one of the usage options of Instagram for language learning is video recordings which is especially beneficial as it allows self-reflection for the students and supports cognitive learning with its visual and aural dimensions (Cheng & Chau, 2009). It should be noted that according to the rules of Facebook and Instagram stated by these websites, users should be at least 13 years old which prevents the primary school students to have accounts (Facebook, 2020a; Instagram, 2020). A few studies demonstrated that when Instagram is used for language learning and teaching, student participation increases gradually in time even though the students are timid at the beginning especially with the encouragement and participation of the teacher. The results of the experiments demonstrated that its usage for language learning is an interesting experience, and it increases learners' motivation and self-confidence in the process (Al-Ali, 2014; Mansor & Rahim, 2017). In Al-Ali's (2014) study, usage of students' personal accounts for learning activities triggered some challenges. Firstly, the students were reluctant to participate the learning activities because of their "social image" at the beginning. If the students had private accounts and the teacher needed to follow their account to see what they had shared, it meant encountering and eliminating unnecessary content for the teacher, as a different type of challenge in this case.

Handayani (2016) proposes some activities involving four skills which can be used for language learning based on previous suggestions from others and gives tips to use Instagram in classrooms. Among these, one is creating teachers' own accounts in addition to creating private classroom accounts for teaching purposes. Using the posts of students' memory pictures which they posted, speaking about historical people, recorded role-playing using Instagram's video feature and pronunciation practice videos are some of the speaking activities. Sharing photos from the books which students read and writing shortly about them, sharing interesting pictures and writing activities about the pictures, posting a video such as a caption from a song or movie and letting students answer the questions are other suggested activities.

One of the most important features of image-based Web 2.0 tools is that they can be used to provide authentic images or pictures with great variety of choices. As Lin (2009) noted the use of authentic pictures by the teachers for language teaching in the classroom using the technology can "make their teaching activities more dynamic, interactional, meaningful, and

communicative" (p. 2). It would be difficult to achieve such an atmosphere in the classroom all the time without the usage of additional materials such as authentic images or pictures. By using the technology and the internet, richness of such materials can be increased without much effort by the teacher. The use of photos and image-based assignments and tools has also been demonstrated as effective in eliciting middle school young adolescents' perspectives and encourage them to write about their lives in a second language learning environment despite the participant learners were in a disadvantaged immigrant environment (Zenkov et al., 2012).

Another tool which can be mentioned in image or visual based tools are mind mapping tools. Mind mapping, which was developed in 1970s by Tony Buzan, can be used as an effective technique to reflect ideas, review a subject or summarize key points by using keywords usually in a colorful manner, to study by the students, to review a subject during the lesson and even for examinations by the teachers in different fields (Edwards & Cooper, 2010). If it is collaborated with effective strategies of learning and teaching, it can be an effective tool to help the students for the retrieval of the concepts and to promote meaningful learning (Pudelko et al, 2012). Examples of mind maps can be seen in Figure 1 and Figure 4 in this thesis.

In a paper to compare real-time feedback systems in a foreign language teaching, Ono et al. (2014) put forwards that "the mind-map picture gives the presenters the opportunities of promoting a new awareness, various kinds of discoveries, and a deeper reflection about their works" (p. 779). They also emphasize the advantage of using the technology for mind mapping which gives the opportunity to receive feedback from all over the world. This feature can be utilized by using Web 2.0 tools which are collaborative in nature. In a study conducted with higher education English learners as a second language, students were introduced the technique and used it in the classroom. The results demonstrated that mind mapping was a useful technique "for solving problems, brainstorming the ideas, learning new vocabulary, taking notes, improving reading skills and preparing presentations" (Buran & Filyukov, 2015, p. 218).

Flickr is also one of the popular photo sharing tools. It is a website to share photos and videos. Users can comment on the photos as well as they can add notes and tags. They can

give permission to other users including social contacts of them to organize their content on the website (Flickr, 2020). In a project study in which higher education students from four countries as Indonesia, Japan, Thailand, and Japan participated, Flickr was used to share photos, write paragraphs to describe the photos, comment on others' photos and respond to comments. Initial implementation process demonstrated even though the main aim was to practice fluency, there were signs of participant teachers and students collaborating for accuracy as well (Graham, 2009).

2.4.3. Video Tools and Interactive Visual Media

As Nunan (1999) put forward "interactive visual media which computers provided seem to have a unique instructional capability for topics that involve social situations or problem solving" (p. 26, as cited in Lin, 2009, p. 2). As foreign language learning in the classroom can be supported better by authentic and comprehensible input, the usage of computers and the internet may provide it by means of interactive visual media. Moreover, if the activities are designed which involves social situations and problems solving, this not only helps students develop their problem-solving skills but also fosters language learning by actively involving the students in communication in a meaningful context. With their potential to be used for interaction, Web 2.0 video tools can be used for this objective.

The recording possibilities by individuals and the quality of these videos have increased in line with the development of technology. For instance, it is currently possible to record high quality videos even by using mobile phones and share them with ease using different tools. This gave rise to the possibility to record videos by the students or teachers for the sake of language teaching and learning. Because of this even though the use of the premade videos traditionally focused more on the development of listening comprehension skill, with the possibility of videos recorded by the students, speaking and even writing skills can be practiced my means of these tools (Godwin-Jones, 2012).

By means of language learning and in general, the use of online Web 2.0 video tools is mainly related to two basic activities. One of them is watching the uploaded videos to the system and the other one is creating and sharing the videos online. In addition to these two

basic activities, other related activities can be added such as commenting on the videos or discussions related to the videos in or outside the classroom.

When the online sharing of the personal or professional videos is considered, users' reasons to share such videos can also be considered in order to understand the motivation factors. According to a research result conducted with online video sharing website users (Bughin, 2007), a desire for fame is the strongest among the motivations to share videos. The second factor is to have fun. Third and fourth motivations are wishes to share one's experiences with others and to help others to benefit from the videos.

When these factors are considered, in terms of language learning, fun factor may be an indicator which demonstrates that video tools may motivate the students and would be interesting or entertaining to use in general. The third and fourth factors could be related to the content of the videos. If the students will create and share their experiences and would like to help other people to benefit from their productions, this can be another motivation factor to produce such videos.

One of the most well-known video tools currently dominating video usage as a Web 2.0 tool is YouTube. YouTube platform can be used to watch, upload, comment and share videos. YouTube, which was founded in 2005, is used by more than 2 billion registered users each month currently which corresponds to almost one third of the internet users worldwide and more than a billion of hours video is watched every day (YouTube, 2020a). It consists a large database and a wide range of choices. Because of this, it is not difficult to motivate the students and attract their attention in an enjoyable learning atmosphere (Ayu, 2016). However, the abundance of the choices in the platform may bring other challenges with it. For instance, the quality of the videos, slang, and different types of pronunciations may be a challenge and may make the comprehension difficult for the learners (Alimemaj, 2010, as cited in Alwehaibi, 2015). Also choosing and benefitting from appropriate content in line with the learner's age-group level may also be another challenge. Eastment (2007) also warns against the large storage capacity of YouTube and risks such as encountering potentially offensive content or unrelated videos if the website is used in a classroom, for instance by letting the students search for videos by themselves. For this reason, she suggests downloading the videos

for a copy in advance if it is possible for classroom use, or even sharing a link or embedding the relevant video in a website the teachers already own or use.

YouTube also contains tailor made videos for different aims such as for particular subjects in English teaching or for other subjects or interests. Moreover, there are also channels or sub-sections which contain educational videos in different subjects prepared by YouTube or other companies, institutions or users. Among them, "YouTube.com/Teachers" as a sub-section contains tips and helpful instructions for teachers to use videos more effectively in the classroom. Among others "https://www.youtube.com/learning" or "https://www.youtube.com/education" sub-sections and "Google for Education" channel can be mentioned relating to education (YouTube, 2020b).

When such a media platform is considered, it should be noted that one of the skills which should and can be developed by practice by the students is critical thinking skills and digital and media literacy in order not to be affected in an unfavourable or negative way or manipulated by misleading information, thoughts or intentions because of the content of the videos regarding economic, political or social issues (Lin & Polaniecki, 2009).

Some of the benefits of using YouTube or any other video streaming website or tool are the exposure to authentic language, raising intercultural understanding and awareness, and development of listening skill and pronunciation (Watkins & Wilkins, 2011). In addition to listening comprehension, videos can also be beneficial for the development of speaking skill and vocabulary (Ayu, 2016). In line with this, in a small-scale study conducted with two English as a foreign language teachers in Indonesia, it was found that teachers' main focus to use YouTube Video Blog (Vlog) was to teach vocabulary, genre-based texts and expressions to their elementary level and high school students (Saiful, 2019).

As an audio-visual tool which can be used to deliver authentic language, YouTube may have further benefits such as additional texts which can help the comprehension for the students (Ayu, 2016). As mentioned above as an advantage of other Web 2.0 tools, learner autonomy and student-centred learning are also two factors which can be promoted by using YouTube for teaching a foreign language (Watkins & Wilkins, 2011).

Berk illustrates many benefits of using videos for education in the college classroom in a comprehensive study especially emphasizing the cognitive and emotional factors which are involved in the process:

> The value of a video clip as a teaching tool lies in its potential to do the following: (a) tap the core intelligences of verbal/linguistic, visual/spatial, musical/rhythmic, and emotional (interpersonal and intrapersonal), (b) engage both the left and right hemispheres, (c) appeal to the reptilian, limbic, and neocortex layers of the brain to sense the nature of sounds, react to scenes and music emotionally, and appreciate it intellectually, and (d) manipulate students' Alpha and Beta brain waves to relax or alert them for learning when they're not sleeping in Delta or Theta waveland. It would be a shame not to stir up these intelligences, hemispheres, layers, and waves in the classroom to promote learning (2009, p. 4).

It should be noted that Gardner's (1993; 1999) multiple intelligences theory whose core ideas were attributed to in the study above is criticized by Waterhouse (2006) with the assertion that it lacks empirical evidence.

2.4.4. Social Networking Systems and Language Learning

Web 2.0 and social networking are integral terms. Some of the social networking tools are Facebook, MySpace, LinkedIn and virtual worlds such as Second Life. They can also be defined as social networking systems, social network sites or social media even though there could be different definitions regarding these terms in different sources. Some other tools such as Twitter and Instagram in other categories in this thesis can also be included in social networking systems category. But they will be discussed mainly in text-based tools and image-based tools, respectively.

It would be necessary to point out that even though the terms "networking" and "network" are used interchangeably in general, "networking" may be used specifically with the meaning to aim meeting new people and extending ones' contacts. On the other hand, "social network sites" are used mostly with the aim to contact or communicate with people

who are already known by the user as emphasized in the definition below by Boyd and Ellison (2008). Boyd and Ellison (2008) define social network sites as follows:

> … web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (p. 211).

According to another short and simple definition "A social networking site is an online place where a user can create a profile and build a personal network that connects him or her to other users" (Lenhart and Madden, 2007). Lenhart and Madden (2007) report a research result which demonstrate that young people use social networking sites to stay in touch with their existing friends more than to meet new people (paras. 16–17). In the present thesis the name "social network sites" (SNSs) and social networking sites will be used interchangeably to cover both definitions of social network sites and social networking sites above.

One of the most popular systems among SNSs is certainly Facebook. Facebook was founded as a network site in Harvard University where the initial users were able to see other students' profiles in their school and their information and later in 2006 it was opened to public (Lenhart and Madden, 2007; Tufekci, 2008). As of December 2019, it was used by 2.50 billion monthly active users as the most used SNS worldwide (Facebook, 2020b). In addition to the general usage of Facebook as a social network site, it can also be used for pedagogical purposes.

Espinosa (2015) stated that except from the general or informal usage of Facebook in education such as sending general information, reviews and reports of classroom assignments and announcements to students, and establishing education related networks, it is an effective tool especially for language teaching to involve students with many kinds of activities including reading and writing. She also reported a publication by TeachThought Corporation which numbered 100 ways of using Facebook for the teachers in the classroom. The ways to use Facebook were given under titles such as "resources", "projects and assignments", "sharing", "collaboration and discussion", "classroom management and organization", "apps and groups" in this publication. Communication with native speakers, presentations, games,

lectures, puzzles, broadcasting news, creating fake profiles, guest speakers, posting events, and apps for quizzes, word of the day and flashcards are among the 100 ways (TeachThought, 2012, p. 1).

Some of the advantages, tips, and ways to use Facebook in education by means of apps and groups for teachers and students were also numbered in another weblog (Technology4rteachers, 2013). For teachers, in addition to the possibilities to use Facebook to join professional education groups, educational apps for instance to record and share to review lectures, keeping to-do lists and calendars can be used too. There are also groups and apps for students for different purposes such as organizing notes or assignments, discussing books or collaborating with others to study.

In general, because of their design SNSs are good tools at initiating interaction and discussions (Hurt et al., 2012). This feature of SNSs can pave the way for another function and possibility of online teaching and collaboration venues. There could be a more democratic atmosphere if the students use interaction and reflection on different subjects using such tools as discussion boards or forums where they can share their ideas with each other without the boundaries which typically exist in a classroom atmosphere (Maher & Hoon, 2008). However, the results of the freedom of speech and the right to express opinions are not always without problems and positive all the time. Some of the concerns and points of discussion regarding the use of SNSs by the children in the media are related to bullying and the language which contains far-right politics (Stroud, 2007).

One of the less explored and novel areas in language education in Web 2.0 research and usage, and one which carries one of the most promising areas is the use of virtual reality (VR) for language teaching. Chen and Chen (2016) put forward that VR can be a language teaching solution for the countries such as China lacking authentic target language environment and sources which may not be possible to find in the country for each student because of the costs and possibilities in general. According to them, the entertaining feature of this tool can be a motivation factor, and the VR environment can be exclusively designed appropriate for English language learning free from other distractors.

In addition to the authentic language, VR environment may have other advantages. In an action study conducted in Taiwan with elementary school students, using 3D virtual reality environments for EFL was found to be enhancing students' communication abilities and syntactic processing. Moreover, it was an unstressed environment without time and space boundaries (Lan, 2015).

However, Chen and Chen (2016) put forward that unreadiness of the teachers and their skills and the costs to prepare and use VR technology are among the hindrances which prevent the use of VR for language teaching currently. With the help of increasing technology use and decreasing costs, the use of VR will most probably be more common in education as well as in some other fields in the future.

The results of a small-scale research study which involved teachers and students in a language learning environment reported by Hundsberger (2009) put forward that Second Life and virtual learning environments may be used to support traditional classroom teaching, they carry a great potential for language learning in general, and they do not contain additional threats to language learners.

Regarding social networking sites in general, according to Livingstone and Brake (2010) "the presentation of the self, learning, construction of a wide circle of relationships" are among some of the opportunities; and "loss of privacy, bullying, harmful contacts" are among some of the threats and concerns (p. 75).

As in other online environments and technological platforms where more than two cultures can meet and interact, promoting learners' intercultural understanding and raising awareness in that respect could be another opportunity of SNSs in case of intercultural exchange and encounters, or at least in case of exposure to elements from different cultures.

2.4.5. Audio Tools: Involving Listening and Other Skills

Listening is one of the most crucial skills to learn a foreign language. Despite this, it has not attracted the attention it deserves neither for using listening strategies effectively by

the learners, nor teaching and considering them by the foreign language teachers (Bozorgian & Pillay, 2013). Audio sharing Web 2.0 tools can be used efficiently by the teachers to practice the listening skill of the learners among other practices and usages. For instance, a research study on podcasting as one of these Web 2.0 tools demonstrated that teachers mostly use it for the practice of listening skill among other reasons such as the practice of speaking, presentation, and pronunciation skills (Lomicka & Lord, 2011).

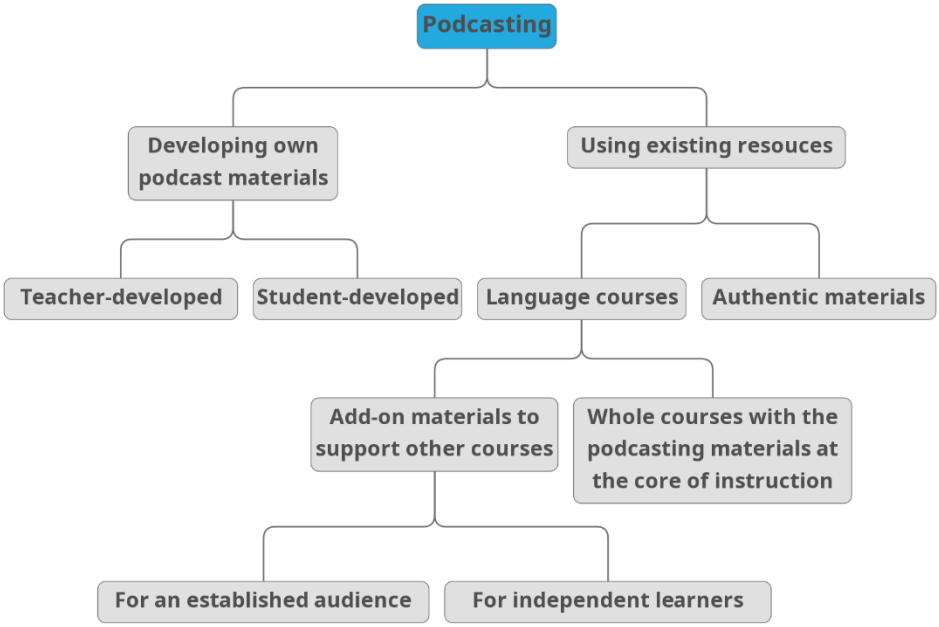
Podcasts are one of the most important audio tools. They are audio files consisting of spoken words similar to radio programmes which can be listened from the internet or downloaded to an electronic device such as a smart phone or a computer. The listeners can subscribe to the podcasts which is a difference of the podcasts from other audio files and they can be alerted if they wish when new episodes are available because of the use of Really Simple Syndication technology or in other words RSS (Fox, 2008; Rosell-Aguilar, 2007). RSS 2.0 is the latest version of RSS and it was published in 2003 (Cebeci & Tekdal, 2006). The term podcast is a combination of the words "broadcast" and "pod" from the name of Apple's mobile device iPod, the use and popularity of which also made podcasting popular (Evans, 2008, Hasan & Hoon, 2013).

In general podcasts which can be used for language teaching can be divided into two groups (Rosell-Aguilar, 2007). The first group consists of authentic language podcasts which are originally prepared for native speakers such as news or discussions. The second group consists of the podcasts which are specifically prepared for language teaching. They can be grouped as additional support podcasts or whole courses. In addition to these two groups, learners or teachers can develop their own podcasts by using podcasting tools. A taxonomy of uses of podcasts is provided in the Figure 2 below.

Podcasts, which can also be described as a type of audio blogging tool, can be used in or outside the classroom in different ways such as to generate discussions in the classroom, to review what has been studied in the previous lesson for instance prepared by the teachers, to give a summary or an idea about what is going to be studied in the following class for preparation, or as different types of assignments for the students (Lu, 2009).

Figure 2

Taxonomy of Uses of Podcasting for Language Learning



Note. Adapted from *Top of the Pods - In Search of a Podcasting "Podagogy" for Language Learning*, by Rosell-Aguilar, 2007, p. 476.

Podcasts have some advantages when compared to older types of audio tools which can be used for practices of language teaching. As the listeners have a choice for content especially considering tremendous amount of choice in today's internet, and that they can listen to them whenever and wherever they want, a podcast can be an authentic language source, and enjoyable, interesting, and favourable for language learning and foreign language teachers (Fox, 2008). The advantage to study whenever or wherever the students want and the opportunity to take advantage of the unexpected free times to study stem from being a portable technology and is a basic difference of using mobile learning devices from e-learning technology by means of which it may not be possible to carry a computer or a laptop to every time and place (Evans, 2008).

Some of the issues raised by the use of podcasts in education are copyrights issues and the ownership of the podcasts if they are produced in educational environments by the teachers, university members or students; and the challenge to attend the classes if podcasts are used instead of classroom lectures for education, or at least the necessity to consider and find the reasons to attend the physical education environments in this case (Meng, 2005). The

risk of "overdependence on technology" and "technical knowledge" needed to create podcasts and subscription fees for some of them can be among other challenges for the teachers to use podcasts in education (Yaman, 2016, p. 65). It can also be argued that while the choices available are increasing in today's world in a growing database of internet, finding the high quality and right content for education is not difficult and it can also be challenging.

The variety of choices on the internet is also an advantage by means of learners' cognitive based personalization and can be an additional motivation factor for learners (Cebeci & Tekdal, 2006). For instance, listening to material rather than reading it can be more interesting and beneficial for some learners and appropriate to their ideal way of learning. This is also related to the preferences and learning styles of the learners. Auditory learners when compared to other types of learners such as visual or kinaesthetic ones are more inclined to choose verbal information and may benefit from verbal sources more which may include different types of speech patterns than other types of information and sources (Sun et al., 2003).

Another tool which is an extension of podcast is VODcast. In this case, the content is video rather than merely audio. "VOD" stands for the initials of "video-on-demand" and it is also called "vlogging" (Meng, 2005, p. 1). Video creation and editing tools can also be used for the sake of audio Web 2.0 tools for language learning.

2.5. Advantages and Benefits of Web 2.0 Tools

As a technological tool, Web 2.0 has some advantages, opportunities, and development potential but it also may bring some difficulties or challenges. Grosseck numbered 16 advantages of using Web 2.0 tools in higher education context. Among them, some of them are given below without any specific order:

- Easier and faster access to information
- extensive opportunities of information and collaboration
- sharing accumulated experiences
- the low level of complexity needed for use (minimum skills in using the Internet)

- the major focus on didactic innovation
- the possibility to test the existing didactic practices
- creating digital content (especially media, podcasting, videocasting)

(2009, p. 480)

Web 2.0 is regarded as carrying a huge potential by some experts. It was even mentioned as "the future of education" which "will culturally, socially, intellectually, and politically have a greater impact than the advent of the printing press" (2008, Hargadon, para. 3). Apart from collaboration, another opportunity provided by Web 2.0 tools is that they can be used for online discussions (Campbell, 2007). As they are online, it may prevent the reluctance of some students who refrain from participating face-to-face discussions because of reasons such as lack of confidence and competence in English, being shy or quiet, fear of making mistakes or wasting class time while formulating their expressions or inhibitions such as cultural differences in expressing themselves (Campbell, 2007). Teachers can use assignments to engage the learners with online discussions by using Web 2.0 tools.

Another advantage of using Web 2.0 tools is the effect of the audience on learner's performance. Kuteeva (2011) investigated the results of a case study and explored some aspects of student writing by using wikis in an English for academic and professional purposes environment. Research techniques were participant observation, self-report questionnaire, and formal analysis. According to the results nearly 60% of the students reported that using the wiki as a writing tool made them consider their audience and they paid close attention to grammatical correctness and text organization because of the tool. It raised students' awareness of the audience helped to develop writing skills in a natural reader-oriented environment. Another study which investigated the effects of wiki as a writing tool found that it enhanced participant students' motivation, facilitated reflective writing and collaboration, helped provide peer and teacher feedback, promoted learner autonomy and metacognition and helped the students to develop self-confidence and critical thinking skills (Kontogeorgi, 2014). The challenges of using a web tool were related to time consumption issues, and perceptions of the students of the internet as an entertainment tool. Because of the challenges at the beginning of the study students had conservative attitudes and lower motivation.

In another study conducted in higher education environment, the results demonstrated participant students' belief on podcast as a more effective revision tool when compared to the traditional learning material textbooks (Evans, 2008). They also believed that revision by podcasts is quicker when compared to revision by using their lecture notes.

Another area which was investigated for the potentials of Web 2.0 tools was learner autonomy. According to Alm (2009), using blogs as journals by the learners for second and foreign language learning helps develop learner autonomy which is not a stable skill and can be supported in the learning environment. In his review of studies of using blogs in EFL, Aydin (2014) put forward various benefits. Some of them were enhancing students' cultural awareness and their motivation, developing communications and interactions between learners, and developing speaking, reading, and especially writing skills. Also fostering creativity, flexibility and variety in learning activities and tracking students individually could be among other benefits (Tzotzou, 2018). In a knowledge-based economy, social networking activities and digital tools may have additional benefits for young people in areas such as developing their presentation and communication skills, enhancing social relations, collaboration for working in teams efficiently, generation of new ideas, innovation, and leadership (Green & Hannon, 2007).

One of the promises of technology is that it can make the students "actively involved in the learning process rather than passively receiving information" (Chen & Armstrong, 2002, p. 30, as cited in Buckingham, 2013). Web 2.0 also makes the language learning and usage to go beyond the classroom walls. It is similar to the language learning in real life where the target language is often acquired in social units (Luo, 2013).

In addition to the advantages of foreign language learning related motives, one of the important advantages of using Web 2.0 tools is related to the technology usage itself. By employing the technology in a useful and effective way for learning, students grasp the importance of technology and the availability possibility of using it for beneficial purposes (Crane, 2012).

2.6. Challenges and Risks of Web 2.0 Tools

Even though digital technologies have many benefits, advantages and opportunities, there could be some challenges and risks or even problems and threats regarding them. In terms of using the internet, some of the concerns of the community, teachers, students, or parents are security and safety issues. Even though this is an issue not only for children but also for adults, there can be different problems or challenges especially when younger learners are considered**.** Some of the problems which must be considered in this respect are related to the content that the students may encounter (Cranmer, Selwyn, & Potter, 2009). Some of this negative content could include or be related to violence, hate, sexual or any other adult or age restricted content (Steeves, 2005). In a categorization in the UK, in addition to content as one of the categories of risks or threats related to using the internet, other three categories are culture, commerce and contact. Concerning these categories, inaccurate, illegal, and socially unacceptable information and material are mentioned in content category; gambling and commercial scams are in commerce category; cyber bullying and copyrighted materials in culture category are among some of the mentioned related matters by Becta (2006, p. 11).

As a solution to this problem, some of the countries use censorship to prevent the access of negative content in general. In such an application, sometimes social media services are blocked to prevent the sharing of unwanted content or materials. However, according to a research study conducted with primary and secondary school teachers in Turkey who have social media accounts, results demonstrated that even though more than half of the teachers approved the censorship in general to prevent the access of undesirable content, most of them disapproved blocking the websites which can be used for educational purposes (Aktay, 2018; Çelik & Aytın, 2014). As blocking the website prevents using the websites completely, this cannot be a solution to undesirable content problems to use the website for educational purposes. On the other hand, another solution to this problem is partial censorship of the content (i.e. blocking a user account etc.). For instance, Twitter as a social media platform started to use removal or content censorship since 2012 in accordance with requests from different countries including Turkey, however a research study showed that preventing access to some part of the website from particular places or a kind of limited censorship is not an

effective way to prevent dissemination of such content because many users can use services like VPN for connecting to networks or access region restricted websites (Varol, 2016).

One of the current limits of integrating technology in teaching is the importance of teacher's role in education. If the teacher does not have the right skills to integrate technology by means of pedagogical knowledge or technical skills to use technology, or moreover if they question the benefits of integrating it into their teaching, it becomes difficult to see it in classroom practice (Handley, 1997). Some teachers may even see the use of technology as a threat to their authority and be unwilling to accept "the humble role of a facilitator/moderator" (Ravichandran, 2000, p. 4). Accessibility to internet may not be possible in every place, classroom, or home. Lack of access to internet could be one of the challenges (Lee, 2011).

Another challenge of using Web 2.0 for educational activities is the privacy issue. Especially with the tools which are open to the world without a restrictive mode, and posts can be seen by everyone rather than used by a limited number of users or a group, it may become a challenge to prevent sharing of personal information. In such conditions teachers and students can use profiles by pseudonyms rather than having their own profiles, or other solutions like not sharing the content with different users can be considered depending on the tool.

Restrictions by authorities could be another challenge to use social networking or Web 2.0 tools by students in the schools. Even if some of the students are aware of the dangers or risks of the use of internet and are accustomed to use it appropriately at home, the restrictions such as preventing the use of some tools or access to particular websites in different parts of the world which may stem from school administrations, local authorities or governments may be a hindrance to use such tools at school (Sharples et al., 2009). Of course, there are concerns about security and e-safety not only by the authorities, but also by the teachers, parents, and the community. However, in this developmental process of digitalization, using these tools appropriately in education and in our daily lives safely and taking advantage of them without limiting the usage too much while preventing risks at the same time may take a while not only for the school administrations, authorities, governments, or even international organizations.

Time consumption is another issue related to using technology. Additional time may be needed to get prepared to teaching activities by the teacher. They may need to update their information about the technology. Moreover, it may take additional time while using the technology during teaching and learning activities. Also, there could be distractions from the main point or subject of learning and teaching activities which may lead to additional time loss. However, once teachers have the right skills and knowledge to use technology for teaching, using technology may also save time depending on the situation and tool.

Even though Web 2.0 tools are mainly different from older web tools in their collaborative characteristics and features which let their users to create, share and participate rather than one way transmission of information or data, it does not necessarily mean that they are always used in such an active way by their users. For example, in a research study conducted in primary schools in England to investigate pupils' use of ICT in and out of school settings, results demonstrated that "creative and collaborative uses of so-called 'Web 2.0' applications were not prevalent either inside or outside school, with passive consumption rather than active production the dominant mode of engagement" (Cranmer, Potter and Selwyn, 2008).

2.7. Research Findings on Web 2.0 Tools

Web 2.0 tools have been an investigation topic not only in foreign language teaching and learning but also in fields such as education, linguistics, sociology, business, and others such as medicine. The studies conducted about Web 2.0 in education are mostly related to the ICT in education in general rather than other distinct fields like language learning. Moreover, most of the research on Web 2.0 tools investigating teacher views does not specify the field of teachers. Perceptions of teachers regarding online instruction is even relatively uninvestigated when compared to students' perceptions which was covered in a wide range of research (Dashtestani, 2014).

According to Lomicka and Lord (2009) there are four phases of research about new technologies. In the first two phases, firstly advantages and challenges of the technology and then teachers' opinions regarding their experiences are investigated. In the third phase,

research focuses on students' reactions and attitudes. Only after this third phase studies concerning language acquisition becomes common. According to them, for many of the Web 2.0 tools the third stage was not completed.

E-safety and security of the children while using the internet is one of the important issues related to use of social network tools and Web 2.0. In a project study to learn about the use of Web 2.0 tools in their daily lives and for teaching and learning purposes by 11-16 years old children and teachers, 206 participant teachers' ideas were collected by questionnaires while some of the participants were also interviewed (Sharples et al., 2009). Results demonstrated that almost half of the teachers already used Web 2.0 mostly for social networking activities. On the other hand, the percentage of the teachers who used these tools for teaching and learning purposes were 10%. The data put forward that teachers' main concern was sharing of private information by the students about themselves. Another concern for the teachers was contact with strangers by the students. Also 42% of the teachers accepted online bullying as a problem.

There are also some studies which focused on foreign language teachers' views on Web 2.0 tools. Dashtestani (2014) investigated EFL teachers' perceptions in this respect and found that even though they have moderately positive attitudes towards online instruction they perceive blended instruction as more effective. There are also a few studies conducted in different contexts regarding Web 2.0 tools which demonstrated that even though most of the teachers believe in the positive impact of Web 2.0 tools in language teaching in higher education, they are mostly reluctant to use them (Faizi, 2017). For instance, less than 3% of them used these applications to create content about their lessons and upload it on the internet.

In a doctoral research study, Zeng (2015) investigated whether the Chinese undergraduate English learners use the technology and Web 2.0 tools in relation to English learning and how they use these tools if they use them. It was also investigated whether the way to use the technology for the purpose of language learning led to any different approaches by means of foreign language learning. Results demonstrated limited use of the technology by the participants with the purpose of English as a foreign language learning. The underlying reasons of the limited usage of Web 2.0 tools for interaction and communication in a collaborative way with the intention to learn English seems to be mostly related to motives

and beliefs about language learning rather than issues or challenges related to conditions like access to internet or technological infrastructure.

In a survey research study related to podcasting as one of the audio Web 2.0 tools, participants were teachers from higher education and K-12 settings. It was aimed to find out how and why teachers use podcasting in language classes and who uses them. Participants of the study were from different language backgrounds. It can be added that most of the participating teachers worked with older students rather than young ones such as in high school or higher education contexts. Results showed that podcasting as an education tool is more used with older learners rather than young ones. It was found that as the largest majority, listening practice was the reason to use podcasts for 41 percent of the participants. Secondly, 23 percent of them used it for speaking practice and/or presentational skills. Thirdly, pronunciation practice was the aim for 12 percent of the teachers (Lomicka & Lord, 2011).

In their review of Web 2.0 in second language learning literature, Wang and Vásquez (2012) found that blogs and wikis are the most studied tools in Web 2.0 literature. They also found that English, Spanish, German, and French are the most studied languages and majority of the studies have been conducted in higher education settings. They suggested future research to include primary and secondary education settings.

Almekhlafi and Abulibdeh (2018) investigated K-12 teachers' perceptions and awareness of Web 2.0 tools in their daily lives and education in the United Arab Emirates. The sample group consisted of both in-service and pre-service teachers. Results indicated that most of the Web 2.0 tools are modestly used by the participant teachers but also implied that the teachers were aware of their importance in education. Differences between Web 2.0 users according to their gender and experience in using technology were also researched. It was found that these factors were not significantly related to teachers' perceptions.

Tzotzou (2018) investigated the use of Web 2.0 tools by EFL teachers in state schools in Greece. Results indicated that even though teachers are aware of such tools, because of barriers such as lack of technological resources and teachers' technical knowledge, they do not use such tools efficiently.

In another study conducted with 253 primary and secondary school teachers in Greece regarding the factors which affect the application of Web 2.0 tools in their teaching, gender and working experience were found to be the factors which affect it. It can be noted that male teachers rather than female ones and less experienced teachers rather than experienced teachers tend to use these tools more in their teaching (Batsila et al., 2015).

In order to examine the factors which cause teachers believe in the importance and benefits of using technology in the classroom, Badia et al. (2018) conducted a study using survey data from 702 primary and secondary school teachers in Spain. Results demonstrated that factors such as digital literacy, ICT training, frequency of internet access and gender are among the most important ones which correlate with teachers' perceptions of effectiveness to use technology rather than factors such as technological condition of the school.

There are also studies conducted with teachers in FLT field Turkey. For instance, Usluel, Mazman and Arikan (2009) investigated prospective teachers' perceptions and awareness of blogs, wikis, and podcasts in language learning context. Sample of the study was 162 prospective teachers of English. The results demonstrated that wikis were the most used tool among the three tools in the study. Blogs were not used widely and most of the participants were not aware of the existence of podcasts. As the source of information, most of the participants stated that they learnt about these tools on their own. In the study, the duration of the use by the teachers were also investigated.

In another study to explore student teachers' thoughts and beliefs on using Web 2.0 tools in English language teaching (Cephe & Balçıkanlı, 2012) at a state university, a questionnaire was used as a data collection tool. Questionnaires were answered by 139 students and follow up interviews were conducted with 20 of them after the initial introductory training of some of the tools. Results demonstrated student teachers perceive Web 2.0 tools as essential technologies. Some of the issues found as important were facilitating collaboration, providing learning opportunities outside the class and enhancing motivation. The lack of technological devices in their future working places were reported as the most possible hindrance.

In a study, which investigated the views of pre-service and in-service teachers' views about Web 2.0 in education in Turkey, researchers found that teachers had awareness towards Web 2.0 and have positive feelings about technology use in general. When the two groups' views were compared, it was found that pre-service teachers' views were more positive (Cakir, Yukselturk, & Top, 2015). Daşkın (2017) investigated faculty members' and instructors' perceptions and use of Web 2.0 in foreign language teaching. In the study it was found that the awareness level among faculty member was high, but the level of usage was not high. Social network tools were found to be the most used Web 2.0 tools on a regular basis by the participants of the study.

Among other studies Aşıksoy (2018) investigated students' awareness and attitudes towards Web 2.0 technologies in higher education context. Pierce (2017) investigated best practices of Web 2.0 technologies in the online learning environment with online instructors of higher education as participants in her thesis and provided some recommendations. Burk (2016) explored high school teachers' perceptions, knowledge, and usage of Web 2.0 technologies in English teaching in the thesis in America with a qualitative single site holistic case study.

Başöz (2016) investigated pre-service EFL teachers' attitudes towards social media use in foreign language learning in a quantitative research study. It was found that the participants were positive about the effects of social media in foreign language learning. Participants agreed that presenting authentic language, developing vocabulary, supporting collaboration, motivation, language skills development and a relaxing atmosphere are among the positive features of using social media for language learning.

Aydin (2013) states that most of the research in Turkey and elsewhere focused on learners' perceptions and beliefs and their use of technology. In his study, perceptions, habits and attitudes of EFL teachers in Turkey regarding the personal use of computers and using them for teaching purposes were investigated. Results demonstrated that half of the teachers used computers for communication purposes, they believed in the importance of using computers for teaching purposes, have self-confidence to use them and have positive attitudes toward the use of computers for teaching and learning purposes. In the study, lack of technical

assistance and equipment and lack of adequate pre-service and in-service training for teachers were also mentioned among the conclusions.

2.8. Theoretical Grounding of the Use of Web 2.0 Tools in Foreign Language Teaching

Research studies on the Web 2.0 tools could also be related to theoretical underpinnings. The main aim of linking theories and related methods or strategies with using specific tools is associating the underlying reasons of using them in instructional activities. The conceptualizations could be related to the nature and definition of teaching and learning process, how language is defined, how learners learn, and learners' and teachers' roles in learning processes. The questions of why and how instructional materials can be used and what kind of tools should be used in the teaching and learning process are relevant to the theoretical underpinnings too.

Even though because of the nature of technology which develops constantly, it is difficult to research it in an intensive way by linking the practice to related theories, as focusing on a topic necessitates prior research in the specific field and/or related tools, the accumulation of knowledge and experience from similar studies will result in a better understanding of the use of technology in time (Levy, 2007).

In a literature review study investigating empirical research studies on Web 2.0 tools in language teaching and learning, Luo (2013, p. 4) stated that there was a relationship with theoretical frameworks among 64% of the 44 studies reviewed. These frameworks were situated learning, community of practice, sociocultural approach, interactionist model, constructivism/social constructivism, a framework of autonomy, collaborative learning and task-based learning. However, as the technology was not well grounded at the time, this situation was not the same a decade ago. In their volume to pave the way for further theoretically based research concerning Web 2.0, Lomicka and Lord (2009) stated that they had not been able to find a solid base for theoretical grounding of Web 2.0 tools related research.

Before the advent of Web 2.0, most of the studies linked the use of technology in education with constructivist arguments, probably because it was the favorite tradition of the time (Perkins, 1991). According to constructivism, meaning is constructed by individuals rather than existing in the world by itself, and for this reason, some of the perspectives of this tradition emphasizes the importance of experience in the learning process, and especially authentic experiences as real-world experiences are different from school-based learning (Duffy & Jonassen, 1992). Cognitive development of children according to the structuralist tradition affected by the work of Piaget can be said to be one of the roots of constructivism (Perkins, 1991). From this point of view, Web 2.0 helps the learners actively participate in the learning activities for a meaningful learning process and it works as a means to link the real-world experiences of the learners with their theoretical knowledge from school (Enonbun, 2010). Also, for language learning context as the learners are actively involved in the process of their learning by interaction, the use of technologies and Web 2.0 tools is often associated with constructivist theories (Schmid, 2009). An example to this can be podcasts. Even though the research on podcast use in language teaching mostly focus on the technical issues of producing and publishing podcasts rather the underlying theoretical assumptions or theories of language teaching, it can be said that when the Web 2.0 features of this tool like involvement of social and participatory nature of it are considered, if language learners can construct the knowledge by actively participating in the process, constructivist understanding of language learning may be an appropriate view for the use of this tool (Rosell-Aguilar, 2007).

Sociocultural theory which is also closely related to language learning views learners as active interactors with their social environment in their collaborative process of language learning (Luo, 2013). Research results demonstrate that using online tools for social practices in language learning may provide unique opportunities for the students which are different from face-to-face practices (Gebhard, Shin and Seger, 2011). In order to support the use of technology in the classroom, policies which support more and easier access to technology by the students should be developed accordingly (Gebhard, Shin and Seger, 2011).

Chapelle (1997) also puts forward that different perspectives from other disciplines, for instance cognitive psychology, psycholinguistics and constructivism should be considered in order to deal with questions regarding the place of computer assisted language learning. By

outlining results from classroom research and interactionist approach, Chapelle argues that the type of language the learner engages in activities and interactions using the technology and their language experience in L2 learning as two critical points to be explored to better discover the best type of applications using technology.

Even though the role of teachers in online collaboration and learning activities is not in the center as it is in the traditional classroom atmosphere, it is still complex involving not only a facilitating role in the process but also management and organization with technical knowledge and skills (Belz & Müller-Hartmann, 2003). According to Crook (2008, p. 9) "the playful, expressive, reflective or exploratory aspects of knowledge building" are four concepts which render Web 2.0 tools powerful learning resources. Crook (2008, p. 9) states that there are also four main concepts of Web 2.0 tools: "collaboration and publication" (social) and "literacies and inquiry" (cognitive) which support language learning. He clarifies that Web 2.0 tools allows for interpersonal communication and debate (collaboration), support learners' writing for expression (literacies), offer chances to publish their studies online (publication), and let them conduct research (inquiry).

Autonomy in the learning process is another term which is associated with Web 2.0 tools. Autonomy is related to the responsibility of learners for their learning and it is a "capacity for detachment, critical reflection, decision-making, and independent action" (Little, 1991, p. 4). Technological tools in general have the potential to support a student-centered learning process which may be challenging to achieve in a traditional classroom (Lee, 2011). It is often put forward that especially with a project-based approach to learning which fosters collaboration, learners can be supported to be responsible for their own learning and engage in meaningful social interaction in a structed technological environment (Hafner & Miller, 2011).

Interactionist view sees the interaction as the crucial part of language learning (Gass & Selinker, 2008). Technological tools do not only generate human to human or interpersonal interaction, but also interaction between learner and computer or another technological tool can be developed by means of technology (Chapelle, 2005). Also, the process from production

to perception can be conceptualized from an interactionist point of view by referring the terms and process from input to intake (Antenos-Conforti, 2009).

Finally, an instrument which is not only up to date but also established at the same time can be mentioned in this section. In 1950's Benjamin Bloom developed a taxonomy which consisted of cognitive objectives known as Bloom's Taxonomy (Bloom & Krathwohl, 1956). This was a framework which consisted of six categories from knowledge to evaluation and has been important for teachers and educators for many years (Armstrong, 2010). According to the framework, which was defined as a continuum, basic categories such as knowledge were necessary to put the higher order thinking skills such as evaluation into practice (Churches, 2008). The taxonomy was revisited and updated by Anderson and Krathwohl (2001). Finally, subcategories of the new version of the taxonomy were updated to address the up-to-date needs in relation to ICT and it was called "Bloom's digital taxonomy" (Churches, 2008). It was suggested that this instrument could be a useful tool to evaluate learning by using digital tools (Drops, 2003; Meyer, 2010).

2.9. Chapter Summary

In this chapter, the literature review started with a broader perspective view with respect to the teaching of foreign languages and especially English in Turkey considering the challenges and developments in this process, and the place of technology and progression of it. An overview on Web 2.0 specific features of technology, definitions and categorizations relating to it followed. Among these categories and reflections of them in foreign language teaching, the ones relating to text-based tools, image-based tools, video tools, social networking systems, audio tools and concepts were focused on. Specific tools which can be counted in these separate categories were mentioned in category related sections and the prospective roles of these tools in language teaching were examined broadly. In line with the research questions, especially potential benefits, advantages, challenges, and risks of using Web 2.0 tools in FLT were tried to be unearthed and observations from the literature were examined. The chapter finalized with a discussion and review on theoretical underpinnings to

associate the use of Web 2.0 tools in FLT with the underlying reasons of using specific methods and instructional activities.

CHAPTER THREE
METHODOLOGY

In this research study, the aim is to explore the pedagogical uses of Web 2.0 tools in K-12 schools and investigate whether there are any good practices in Turkish context and try to discover best practices which can be applied for foreign language teaching. With this aim in mind, a mixed methods research design was used to explore foreign language teachers' opinions on Web 2.0 tools and practices in the classroom.

In this chapter of the thesis, methodological issues relating to the research and justifications for the choices related to the design, participants, data collection instruments and data analysis are presented and discussed. Methodological issues are presented in seven sections in this chapter. After the current introduction section, first, research questions of the study and the reasons for using a mixed methods research design and how the selection of such a design was appropriate for the research questions of the study and how it was connected to explore related data were presented and discussed. Secondly, details on the participants and selection process of the participants and how they relate to the research design were presented in the related section. In another section, details on the data collection instruments were clarified. Information on how these tools were adapted and designed and how they aimed at meeting the research goals and objectives to gather information from the participants were described. In the following two sections, data collection procedures and data analysis procedures were explained. In addition, practical and ethical issues, information on the reliability and validity of the research and how they were considered in the research were also discussed in this chapter.

3.1. Research Design

The main aim of this study is to explore teachers' ideas on the use of Web 2.0 tools for language education and find out details on the experience of teachers with these tools and good practices if possible. For this reason, a mixed methods research design was used to conduct this study. As such, both qualitative and quantitative research methods were used. Mixed methods research, which can be accepted as the third type of research, may involve the use of quantitative and qualitative approaches for different aspects and during different

phases of a research such as "qualitative and quantitative viewpoints, data collection, analysis, inference techniques" (Johnson et al., 2007, p. 23). Despite the purity of the use of a single type of research with its advantages like generalizability of quantitative-experimental design or openness and depth of qualitative data in naturalistic inquiry, when epistemological and philosophical arguments are conceived, it is possible to combine the methods and to do it in a very creative way in particular settings with the aim in mind to gather most relevant information and to be responsive to real-world conditions (Patton, 2002). Moreover, mixed methods research has some strengths when compared to the use of a single type of research during the study. Firstly, mixed methods research can be used to eliminate the weaknesses of using a single type of research method such as a qualitative or a quantitative one and strengthen the various aspects of the research such as generalizability, reliability, or a deeper understanding of the subject. Secondly, it ensures the triangulation of the data. As Denzin (1978) defined it, different types of methodologies can be combined for the triangulation of the data to investigate the same phenomenon.

The weaknesses and strengths of qualitative and quantitative methods were analyzed and summarized by Dörnyei (2007). Firstly, qualitative methods are not highly effective in the generalizability of the results especially because of the small number of participants involved for the sake of an in-depth analysis of the subject under investigation. Secondly, researchers' personal opinions or biases may affect the interpretation of the results more in qualitative research. The standardization of the procedures and instruments used is a strength of quantitative research over qualitative one. It may take more time to collect and analyze data during qualitative research as another disadvantage. On the other hand, quantitative research is not remarkably effective in discovering underlying reasons, to use an exploratory analysis and to discover facts which may seem subjective (Dörnyei, 2007). When these disadvantages and advantages are considered, it can be said that the use of a mixed methods research may be effective in strengthening the research design by mixing these two types. For instance, data collection and data analysis of the quantitative part of the study may be used to generalize the results to reflect the ideas of a bigger participant group and prevent reflecting solely researchers' personal opinions or interfering biases. On the other hand, additional data from qualitative part of the study may pave the way for a deeper understanding of the subject.

Based upon this background, this thesis study, which used quantitative and qualitative research designs respectively, addressed the following research questions:

1. What do the teachers think about the potential of Web 2.0 tools?
2. Do the FLT teachers use Web 2.0 tools for pedagogical purposes?
3. What are the pedagogical uses of Web 2.0 tools in FLT? How do FLT teachers in primary and secondary schools use Web 2.0 tools in their practices?
4. What are the advantages and challenges of using Web 2.0 tools in FLT according to teachers who use them?
5. What are the examples of best practice and the most effective ways to use Web 2.0 technologies in FLT context according to teachers?
6. Are there any significant associations between the use of Web 2.0 tools by the teachers and teachers' demographic characteristics?

In the first research question, foreign language teachers' thoughts on Web 2.0 tools and the potential of the tools were questioned. Data for this answer to this question came from interviews and survey questionnaire. By means of Part D which contained Likert-type questions on Web 2.0 tools, Part C of the questionnaire and during interviews, advantages, disadvantages, reasons for possible non-use of the tools, and teachers' thoughts on the tools were investigated. This meant using both qualitative and quantitative research methods including data collection and analysis. In the second question it was aimed to discover whether they use these tools for educational purposes. By using the questionnaire, it was also asked in the study whether the teachers use these tools in their private lives. Even though there may not be a correlational relationship between the two, the use or non-use of these tools in their private lives could be related to teachers' interest and their relatedness to the use of technology in general. It was discovered and indicated in the literature review part of this study which was conducted before the data collection and analysis that even the general use of technological tools in foreign language teaching have not yet taken place substantially in the curriculum yet, let alone Web 2.0 tools, despite that there are many possibilities and opportunities to use them in education. However, some of the teachers could be using them. The literature review also demonstrated that there is a gap in the literature in our knowledge about whether foreign language teachers who work in primary and secondary schools in Turkish context and even in the world in general use these tools or not in their educational

practices. It was also aimed at discovering which of these tools were used more by the teachers. This data may demonstrate or at least be a sign of which tools may be more effective in teaching a foreign language according to teachers' practices. Of course, only the more frequent use of a tool by the teachers does not necessarily prove the effectiveness of the relevant tool and this causality may be taken with a grain of salt because there could be other underlying reasons such as availability or ease of the use of it. On the other hand, the effectiveness of the tools, the reasons for this and how the tools were effective were also interrogated in this study in different parts of data collection tools.

The data corresponding to the teachers' thoughts on the tools for the first research question were obtained both from quantitative and qualitative data collection tools and analyzed by qualitative and quantitative data analysis. The data for the second research question were mostly obtained from quantitative data collection tools and analyzed by quantitative data analysis by means of which it made available to demonstrate the use and non-use of the tools by the participants. Quantitative research is very efficient to gather data from a larger sample to define characteristics of a group or get a common or general information or idea on a subject by using statistics or numerical data. Because of this reason, quantitative research was the main research method to search for an answer to second research question and partly for the first research question. The data for the sixth research question were also obtained from quantitative data and analyzed by quantitative data analysis to compare and analyze whether there are any associations between the use of Web 2.0 tools by the teachers and teachers' demographic characteristics. Some of these characteristics were teachers' age, educational status, teaching grade level, years of teaching experience and their possible partnership experience in eTwinning projects.

In the third research question the use or non-use of Web 2.0 tools by the teachers is interrogated in a deeper way. The data for this question were obtained by both qualitative and quantitative data collection tools. Results from the questionnaire were used to demonstrate which tools were used for language teaching purposes by the teachers. The data collection and analysis involved quantitative methods for this information. However, especially open-ended questions from the questionnaire and results from semi-structured interviews involving the use of qualitative data were used to discover how these tools were

used if they were used. As it was stated before, in the literature there was not enough available information on this subject.

In addition to the third research question, qualitative research was also used as the research design especially for answering the fourth and fifth research questions of the study. The reason to choose this type of research design was to search for a deeper understanding of the issue studied. Some of the terms referring to the qualitative research methods in the literature are case study, constructivist, ethnographic, phenomenological, and participant observational (Best & Kahn, 2006). Some of the data collection tools which can be used in this type of research are observation, interview, and document analysis. In the current study, semi-structured interviews were used to gather information from the teachers who used Web 2.0 tools to teach foreign languages. Also, the questionnaire which was used for the survey contained open-ended questions. Research design of the study including the research methods and data collection tools with respect to the research questions are provided in the Table 5 below.

Table 5

Research Design of the Study

Research Questions	Research Methods	Data Collection Tools
Question 1	Quantitative & Qualitative Method	Questionnaire & Semi-structured interviews
Question 2	Quantitative Method	Questionnaire
Question 3	Quantitative & Qualitative Method	Questionnaire & Semi-structured interviews
Question 4	Qualitative Method	Questionnaire & Semi-structured interviews
Question 5	Qualitative Method	Semi-structured interviews
Question 6	Quantitative Method	Questionnaire

In general, by means of the qualitative research design, pedagogical uses of Web 2.0 tools and possible advantages and disadvantages of using them were investigated. The tools

used by the teachers, the ones which are more effective according to their practice and experiences and teachers' main motivation to use them were explored.

Best practice can be defined as "the best, most effective way to do something" (Best practice, n.d.) in general. In this study, effective instructional methods or most effective techniques involving Web 2.0 tools used by the teachers that resulted in student learning in foreign language teaching were investigated.

Li (2013) investigated best practices in teaching English in a second language context by the teachers. Four chosen best practice areas were "encouraging social collaboration", "increasing comprehensible input", "relating learning to the real world", and "creating a positive learning environment" (p. 218). These best practices discussed were related to second language learning theories while teachers used integrating technology into their instruction. In this study these four categories defined by Li (2013) were used to investigate and categorize best practices for using Web 2.0 tools by the teachers while they were teaching a foreign language. Within the framework of this thesis, comprehensible input is used meaning,

> …language input that can be understood by listeners despite them not understanding all the words and structures in it. It is described as one level above that of the learners if it can only just be understood. According to Krashen's theory of language acquisition, giving learners this kind of input helps them acquire language naturally, rather than learn it consciously (British Council, n.d., paras. 1-3).

However, it should be noted that this kind of input can also be written in addition to spoken language as it was also explained in the source above, which was also explained to the participants during data collection phases.

3.2. Research Population and Sample

The study involved both quantitative and qualitative research designs. As a quantitative data collection tool, a questionnaire was used. The questionnaire also included open ended questions which were used to gather qualitative data. Responses of the questionnaire were gathered from 302 ELT teachers who worked in primary and secondary public schools in a province in the northwest part of Turkey at the end of 2019-2020 academic year. As there were some missing responses for some of the participants, only responses of 269 participants were used in the statistical analysis. This province was chosen because of the reason of feasibility during coronavirus pandemic in 2020. More details about the process were given in data collection procedure section. The reason to limit the study with primary and secondary schools was that this field was relatively unexplored when compared to higher education context, especially regarding the use of Web 2.0 tools. As the study was also limited to foreign language teachers, the results from the study could also help to decrease the gap in the literature in this respect too which was mentioned before.

In the qualitative design, some part of the data was gathered from semi-structured interviews conducted with 19 participants. Previous studies demonstrated that in studies using qualitative research and interviews, saturation may occur after certain number of participants are involved and similar responses are gathered from the participants at this point (Mason, 2010). Snowball sampling was used as a technique to add new participants to the study. This type of sampling can be used to gain additional participants with the suggestions of current participants. One of the reasons to choose a snowball sampling design is the case when the population of the study is hidden. As we did not have the information about which of the teachers use Web 2.0 tools, and their names, schools or addresses were not known, this population was hidden before the study. In such a case, a random sample could not be drawn from the population. In snowball sampling, as a reason to use this kind of sampling in research, when a random sample cannot be drawn from the population, the first participants of the sampling are used as the “seeds” who help to recruit second group of participants and the subjects of the study grow like a snowball (Heckathorn, 2011).

All the teachers included in the sampling to participate the semi-structured interviews were experienced in using Web 2.0 tools. It was considered that the teachers who

were already experienced in using the tools might be able to answer the interview questions as they had already used these tools and it would be possible to get sufficient data and adequate answers to the research questions in the end. It was considered that during their practices they might have encountered and realized disadvantages or challenges more often in their use of these tools, or they might have discovered different types of pedagogical usages, advantages, or best practices in the process.

eTwinning as a platform, which is supported by the European Commission, is used by teachers who collaborate with their colleagues from their own country and abroad. Many different activities and projects are conducted involving technological tools or Web 2.0 tools by the teachers in this platform. It is also a kind of teacher network which consists of smaller local or international networks with the composed groups in different social media platforms. Moreover, eTwinning platform, in addition to its main web pages which can be used by the teachers to deliver the results of their activities and projects, search for partners, attend online or onsite activities organized by themselves or their colleagues, share materials, and collaborate with each other in other ways, has its own tool which is called Twinspace. Through Twinspace, teachers can cooperate with their colleagues from partner schools, conduct, and report their project activities, and engage in communication about their projects. Twinspace is regarded as a virtual classroom. If the project partner teachers organize and give permission to do it, students can use this tool to collaborate with other students from partner schools. It is also possible to invite the parents for their visits to the related Web pages by the teachers.

As some of the teacher users of eTwinning platform were experienced in Web 2.0 tools, at the beginning of the sampling phase for the semi-structured interviews, their opinions were asked for and if they were willing to participate, they were included in the interviews. Moreover, a few of the teachers who were involved in using this platform were so popular in teacher networks that many teachers from different parts of the country already knew them. A few of them also share their knowledge in Web 2.0 tools and other subjects they are interested in by organizing mostly online seminars or webinars, or through face-to-face events and courses. At the beginning of the sampling, one of these teachers were also included in the interviews as he/she was willing to participate. But the name of the subject was not declared in the results and codes as pseudonyms were used instead of the subjects'

real names because of anonymity as one of the ethical considerations of study. As in this study, the sampling for the semi-structured interviews started with the known participants and with the suggestions of these participants, new experienced participants included in the study.

Finally, as the researcher of the study, I was involved in coordination and teacher training activities of the platform eTwinning for several years. Through this platform, collaboration of schools using Information and Communication Technologies (ICT) is supported. Since Web 2.0 tools were among the means which could be utilized in the activities and projects conducted by means of this platform, it could be said that this study made use of both emic and etic perspectives.

One of the demographic features which may affect people's views on the world is the time they were born. People who were born around the same time may face similar social, technological, and economic developments in the world and may have similar views or feelings (Dimock, 2019). One of the categorizations in this regard are the defined generations. Even though the starting and ending birth years and cutoffs points are not always clear-cut, and they may depend on the researcher or context, there seems to be a consensus especially in the western world about the common generations. The generations which could be especially in the area of this research study are Generation Y, Generation Z and earlier generations which are called Generation X and Boomers. The members of Generation Y were born between 1981 and around 1996. This cohort is also called Millennials. Members of Generation Z or shortly Gen Z were born between 1996 and 2012 (Dimock, 2019). Cohorts of Generation X, and Baby Boomers (or Boomers) before Generation X are used to define two of the earlier generations who were born before Millennials.

As the data collection phase of this thesis was conducted in 2020, teachers who were born before 1981, namely the ones who were 40 years old or older as defined and took place in the data collection tool, could be defined among the generations who were members of Generation X and Boomers. The younger teachers were among the Generation Y, and

probably there were a few who were the members of Gen Z. In line with the research aims of this thesis, any possible view differences between the cohorts of Generation Y and Gen Z as one group, and older generations as Generation X and Boomers were investigated. Other details and numbers of the research sample can be found in *demographic data* section of the thesis in *findings* chapter.

3.3. Data Collection Instruments

A questionnaire and semi-structured interviews were used to gather data for this study. The questionnaire prepared for this study consisted of 4 parts in addition to the general instructions part at the beginning. In this beginning part, short information on the study were given like the aim of the study and possible duration of it. It was asked to the teachers whether they would like to participate to the study since the participation was based on voluntariness. In the first part (Part A) of the questionnaire, demographic information was asked for from the participants. In the second part (Part B), whether the teachers use any of the Web 2.0 tools and if they use them which of them are used by the teachers for educational and personal purposes were investigated. The results of data from this part were used to do statistical analysis and to compare participants' opinions from different backgrounds. In the third part (Part C), there are open ended questions to explore teachers' perceptions regarding the matters such as advantages, disadvantages, and challenges. In the fourth part (Part D), there are Likert-type questions about teachers' perceptions and thoughts on Web 2.0 tools.

Part B of the questionnaire was adopted from Coutinho and Bottentuit Junior's (2008) study. In addition to this study, Bower's (2015) classification, which was mentioned above, was taken into consideration to form the Web 2.0 tool groups in this part. In the 4th section of Part C, four best practices which were discussed by Li (2013) were adapted to the questionnaire as four questions. The fourth part of the questionnaire (Part D) consists of 17 Likert-type items, each one offering 5 different options, and it was originally a part of Almekhlafi and Abulibdeh's (2018) data collection tool as a 5-point Likert scale. In the mentioned study, the overall questionnaire demonstrated high reliability obtaining Cronbach's alpha of .93. As only one part of the questionnaire was adapted from this study to the current study and the participants and usage circumstances were different in the current study, the reliability or the internal consistency of the questionnaire might have changed. Because of

this, a reliability analysis for this part of the questionnaire was carried out in the present study again. The result indicated that Cronbach's alpha coefficient of the Part D which consisted 17 Likert-type items, computed on the 269 valid responses, demonstrated extremely high internal consistency as .98 (Cortina, 1993). This result displayed that all the items in the testing tool were correlated to each other or measure a similar concept however it should be kept in mind that there are factors which affect Cronbach's alpha such as the number of items in a scale. A pilot study had been conducted before the main application of the questionnaire. Details on the results of the pilot study were given in the related section.

For a deeper understanding and to better explore the best practices, experiences and thoughts of teachers who already use Web 2.0 tools for educational purposes in foreign language teaching, a qualitative design was also used in the study. Semi-structured interviews were conducted with 19 participants. Initially, there were five basic questions related to research questions for the semi structured interviews. After some additions from the questionnaire of the survey, interview questions consisted of 10 sections or in other words 10 main questions, a few of which also had a subsections or additional questions. Even though mostly those questions were used during the interviews, certainly more open-ended questions were directed to the subjects without strictly following the semi structured interview questions.

3.4. Data Collection Procedures

As the study was related to foreign language teachers' thoughts and practices who work in primary and secondary schools in Turkey, and it was necessary to conduct the data collection procedure by involving them, the permission of the Ministry of National Education was necessary. After the questionnaire and questions for the semi-structured interviews as the data collection tools were prepared, correspondence between the University and the Ministry of National Education was conducted as a formal process to receive the permission. After the approval of the Ministry for the application of the research and the tools, approved data collection tools were sent back to the University by the Ministry.

Initial aim of the study was to gather the data from the participants from different parts of Turkey by randomly selecting them. However, the schools were closed in the middle of the second part of 2019-2020 education year, which was the time the data were to be collected, to prevent the spread of COVID-19 pandemic. Because of this, it was complicated and even not possible to reach the teachers by means of sending the written questionnaires to their schools by using snail mail. The lockdown also limited travelling opportunities.

As the thesis were related to the use of technology, there was another option to reach the teachers. As the necessary permission from the Ministry of National Education had already been received to conduct the questionnaire both electronically and in written form in the country, we sent the online form to a few colleagues who work in other provinces in different parts of Turkey. As these institutions, namely the Provincial Directorates of National Education are the representative of Ministry of National Education and have a central role in this respect in their regions, all the pre-schools, primary schools, middle schools, and high schools including public education centers and vocational education centers and other related educational institutions excluding the tertiary educational institutions are affiliated to them in their provinces. Unfortunately, answer rate of the questionnaires was extremely low in these provinces. Because of this, a few responses which were conducted by the teachers from these provinces were not included in the data analysis part of this study. As we also had the opportunity to send the questionnaire to every foreign language teacher in one of the provinces because of an online network in the province, the population of the study was chosen as the foreign language teachers in this province in the northwest part of Turkey because of the feasibility of this option. However, certainly not all the teachers whom the questionnaire reached chose to respond it.

An online version of the written questionnaire was prepared to deliver it. The order of the questions was changed to make the questionnaire more user-friendly and decrease nonparticipation and losses. Especially the questions which were used for statistical analysis were among the priority questions. The online version of the questionnaire was sent to every foreign language teacher in this province in the northwest part of Turkey. Among the teachers who received the questionnaire online, 304 teachers responded it. As an additional statistical knowledge of the tool which I used for this data collection, it took 11 minutes as an average for the subjects to answer the questions. Certainly, some of the participants did

not respond all the questions and left the last questions unanswered which consisted of more open-ended questions in general.

For the semi-structured interviews part of the study, snowball sampling was used as a technique to add new participants to the study. This type of sampling can be used to gain additional participants with the suggestions and help of current participants. It was projected to conduct the qualitative part of the study with 15-20 participants. It was considered that saturation might occur after the participants start to give similar answers and the responses might start to become similar after a certain number of interviews have been conducted (Mason, 2010). Only 19 experienced participants in using Web 2.0 tools were interviewed. After an interview was conducted, a new participant was added according to the suggestion of the interviewee. Some participants named more than one new participant. Only the first 3 of the interviews were conducted face-to-face. Online interviews were conducted with 15 of the respondents and a telephone call was used only with one of the participants because of a technical hindrance.

General and necessary explanations and subject of the research were sent to the participants before the interviews. This gave them some time to contemplate. However, specific questions were not shared with the participants beforehand, in order to get more spontaneous, honest and sincere rather than prepared answers.

Snowball sampling is a technique which can be used to involve new participants to the study on the recommendation of the existing participants in the study. This type of technique is very efficient especially in the populations "wherever there is little knowledge on the target population, whose boundaries or number are hard to define and the development of a sampling database is difficult if not impossible to achieve by the researcher." (Voicu & Babonea, 2011). As the number or percentage of active users of Web 2.0 tools among the K-12 teachers were still not known at the time of research, and the boundaries of the group of users were not possible to define, snowball sampling was an appropriate technique in a qualitative data collection procedure.

As the most experienced users were contacted at the beginning of the research and the active and experienced ones were asked for from the subjects to include in the study, it

was thought that the subjects would have more knowledge and experience and richer data to provide for the research aims. Moreover, this nonprobability random sampling approach is efficient “when the population is small relative to the general population, geographically dispersed, and when population membership involves stigma or the group has networks” (Sudman & Kalton, 1986; as cited in Heckathorn, 2011). In line with these reasons, even though the exact number or percentage of active users of Web 2.0 tools were not known, most probably the population of the users were small relative to the general population and especially by means of the eTwinning platform, the group had a network connecting by not only the tools of this platform but also through social media, seminars and other tools and means. They were also geographical dispersed especially considering the active users of this platform which can be found in different parts of country but not in a single city or region.

3.4.1. The Pilot Study

The pilot study was administered as a paper and pencil questionnaire. The data were gathered from 34 participant teachers as two different groups. The first group consisted of 19 randomly selected FL teachers from a single province. The second group consisted of 15 FL teachers who were the users of eTwinning platform from different parts of the country. The data from this group was gathered during a central in-service training activity of the Ministry of National Education which was organized for the teachers who were users of eTwinning.

The data of the pilot study was used to check the reliability of the scale by testing the Cronbach's alpha coefficient. The test result of the Cronbach’s alpha coefficient for the Part D of the questionnaire which consisted of Likert-type items indicated extremely high internal consistency as .98 (Cortina, 1993). More details on the tool were given in the data collection instruments section of this thesis.

From both groups, participant teachers’ opinions on the testing tools were also interrogated. Especially as participants from one of the two groups were users of eTwinning platform, it had been considered that they might be interested and even experienced in the usage of Web 2.0 tools and might give constructive criticism about the data collection tool. However, significant changes were not made in the data collection tools after the administration of the pilot study. Because according to the feedback from the participants all

the questions were clear and there was no confusion about the questions. They did not ask any additional questions about the tool. Mistakes, typos, or specifically difficult questions were not encountered or discovered either. Duration of answering the questions were appropriate which was close to 15 minutes.

Despite that the data from the pilot study were not included to the data of the main questionnaire. The reason for this was that the data of the main questionnaire reflected only the responses of the participants from a single province. As it mentioned, there were participants from different parts of the country in the pilot study. Also, as the main questionnaire were sent to all the teachers in the application province, the ones who already filled out the questionnaire in the pilot study might have responded again. The administration process was also different in the pilot study such as it was a paper and pencil questionnaire. As it was conducted at the end of 2019, the timing of the pilot study was also different. The perception of the teachers might have been different especially considering the pandemic process at the beginning of 2020 and after that time and the impact of the COVID-19 on education. All these reasons were considered as factors which might change and interfere with the results and reliability of the application. For this reason, the data of the pilot study were not added to the data of the main study.

3.4.2. Ethical Considerations

The study involved the participation of foreign language teachers to data collection phase of the study. For this reason, several ethical considerations were considered. Some of these issues were confidentiality, anonymity, and informed consent. First, complete anonymity of the participants was ensured in the study. Personal information such as the name of the participants, the name of the schools the teachers worked in or any other personal details which could identify them personally were not reported in the research results of the study. The provinces where the data collection was conducted, and the participants worked were not declared in documenting the results because of confidentiality aspect considered in the study. In this way it was hoped to contribute to upholding their privacy.

The participation was based on voluntariness. This aspect was shared with all the participants before the interviews were conducted. They were also informed about the reason

of the study and that the data would be reported as a thesis study. If the semi-structured interview questions had been sent them before the interviews, consent form was also provided. A consent form was also provided to the subjects at the beginning of the written questionnaire and also in the online form which gave information about the study such as the aim and reason of the research, emphasizing the confidentiality and anonymity aspects in a clear way. The possibility and hope that the study could contribute to the improvement of teaching of foreign languages by using technology was also mentioned. The email address of the researcher was also provided in the consent form for the participants in case of the need for any kind of correspondence.

There were also procedures, rules and considerations defined by the Ministry of National Education to conduct research studies involving the public schools affiliated to the Ministry. The necessary correspondence was conducted between the Ministry and the University and all the data collection tools of the study and the research proposal which included the research details such as the aims and participants of the study were shared with the Ministry and their approval were also granted after the Research Committee's approval (See Appendix 2).

3.5. Data Analysis Procedures

In this study, a mixed methods research design was used to seek answers to the research questions and explore the current practices of Web 2.0 tools in foreign language teaching and teachers' opinions on these tools. It meant that both qualitative and quantitative data collection methods and analysis were used in the process. Certainly, both methods differ not only in the data collection phase but also in the analysis and interpretation of the collected data.

Bogdan and Biklen (2007) set forth the difficulty of separating the data analysis and data interpretation procedures highlighting how they are intertwined in qualitative research which was one of the essential data collection and analysis methods in this study. Moreover, they argue that for the experienced researcher, interpretation and analysis of the data is almost finished until the time all the data is collected which means that all three processes of data

collection, data analysis and data interpretation are conducted simultaneously. However, they advise that although there are lessons to learn from this approach, novices need to conduct the main part of the analysis and interpretation after the data collection stage. They also provide a definition of analysis and interpretation and make a distinction between the two as follows (p. 159):

> By data analysis we mean the process of systematically searching and arranging the interview transcripts, fieldnotes, and other materials that you accumulate to enable you to come up with findings. Data interpretation refers to developing ideas about your findings and relating them to the literature and to broader concerns and concepts. Analysis involves working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns. Interpretation involves explaining and framing your ideas in relation to theory, other scholarship, and action, as well as showing why your findings are important and making them understandable.

One of the common techniques used to analyse qualitative data is developing a coding system. In qualitative data "certain words, phrases, patterns of behavior, subjects' ways of thinking, and events repeat and stand out. Developing a coding system involves several steps: You search through your data for regularities and patterns as well as for topics your data cover, and then you write down words and phrases to represent these topics and patterns" (Bogdan & Biklen, 2007, p. 173). These are the coding categories and can be constructed by using different approaches and in different ways such as considering the time, setting, participant views, processes or from other different perspectives or as different groupings (Bogdan & Biklen, 2007). In this thesis, software package MAXQDA was used for the analysis of the interviews and open-ended questions from the questionnaire for coding of common themes and categories. All interviews were recorded with permissions from the participants and fully transcribed before the coding process. Then, by using the software package, data and transcriptions were examined and searched through. By considering the research questions, common themes, patterns, and categories were coded, summarized, and reported in line with their frequency and importance regarding the research aims.

For the quantitative data analysis, IBM's software platform Statistical Package for the Social Sciences (SPSS) was used. One of the parts of the questionnaire used for collecting quantitative data was Part B, which consisted of the items about the Web 2.0 tools and how often the teachers used them if they use any of these tools. Descriptive statistics was used to analyse the results of this part for the details such as percentages and frequency counts. This type of statistical analysis was also used to see the demographic information from Part A and Part D of the questionnaire. As it was mentioned before, data from Part C was mostly used for qualitative analysis. Participants' responses to Part B were used to analyse the differences or associations among participants. Chi-Square test of independence or as it is also called the Pearson Chi-square test was utilized to analyse whether there were any significant associations between the use of Web 2.0 tools and participants' demographic background in terms of their responses to Part B items. This type of test can be used to compare the associations between variables when there are two types of variables and when the variables are nominal, and the test could also be used to analyse ordinal data (McHugh, 2013). This type of test was also appropriate to use when other assumptions related to the data, types of groups, and variables were taken into consideration. By using this test and setting the level of significance at .05, observed frequencies of different groups were compared by taking into consideration the expected frequencies by chance. A Cramér's V coefficient was also used to determine the strength of the association among the variables when a significant result was obtained.

By using a ratio scale, the frequencies of participants who used Web 2.0 tools and teachers' opinions on using Web 2.0 tools for pedagogical purposes in foreign language teaching were analysed and reported. Descriptive statistics was the main statistical method to analyze the results for the users of the tools.

3.6. Chapter Summary

The chapter outlined in detail the methodology for this inquiry into foreign language teachers' thoughts and experiences on Web 2.0 tools in primary and secondary education. Justifications for using a mixed methods research design, and choices on methodology related issues such as how and why the participants were chosen, the preparation and implementation of data collection instruments, and data analysis procedures were presented. Further, ethical

considerations such as confidentiality and anonymity of the participants, and details on pilot survey process were also touched upon in this chapter.

In general terms, it can be mentioned that a mixed methods research design which covers both qualitative and quantitative data collection methods and analysis were conducted for the research. A twofold data collection phase was followed which involved survey data collected from a larger pool of participant teachers and individual interviews with 19 teachers who were experienced in using Web 2.0 tools for teaching purposes. Findings as qualitative and quantitative data were duly analysed and summarized according to the type of data as presented in the following chapter.

CHAPTER FOUR
FINDINGS

In this chapter, findings from data collection phases are presented. Findings from the data collection tools of questionnaires and interviews, and results of the qualitative and statistical analysis of the data from these tools are reported.

With reference to the problem statements which were defined before, the study aims to answer the following research questions:

1. What do the teachers think about the potential of Web 2.0 tools?
2. Do the FLT teachers use Web 2.0 tools for pedagogical purposes?
3. What are the pedagogical uses of Web 2.0 tools in FLT? How do FLT teachers in primary and secondary schools use Web 2.0 tools in their practices?
4. What are the advantages and challenges of using Web 2.0 tools in FLT according to teachers who use them?
5. What are the examples of best practice and the most effective ways to use Web 2.0 technologies in FLT context according to teachers?
6. Are there any significant associations between the use of Web 2.0 tools by the teachers and teachers' demographic characteristics?

4.1. Demographic data

4.1.1. Questionnaire Participants

Demographic information of the participant teachers who answered the survey questionnaire were provided in the Table 6 below. As can be seen in the table, most of the participants were female (80.8%), and most were between the ages of 30-39 (59.9%) among four age groups. According to the information provided by them, most of the participant teachers had bachelor's degrees (95%), some hold master's degrees (5%) and none hold associate degrees or doctorates.

Table 6

Demographic Information of the Participant Teachers

Variables	Groups	*n*	Percent
Age			
	20-29	20	7.4
	30-39	164	61.0
	40-49	70	26.0
	50+	15	5.6
Gender			
	Female	220	81.8
	Male	49	18.2
Education			
	Bachelor's	258	95.9
	Master's	11	4.1
Teaching Experience (Years)			
	0-4	22	8.2
	5-9	73	27.1
	10-14	85	31.6
	15+	89	33.1
Current Teaching Level			
	Primary School	53	19.7
	Middle School	121	45.0
	High School	95	35.3
	Total	269	100.0

In the education system in Turkey in general, female teachers made up 64 percent of the teachers in primary schools, 58.3 percent of the teachers in middle schools and 50.8 of teachers in secondary schools in 2018 as it was provided by Turkish Statistical Institute (2020) statistics. According to the same data, male teachers made up 36 percent of the teachers in primary schools, 41.7 in middle schools and 49.2 percent in secondary schools with a lower percentage of male teachers for all three levels among the teachers.

In the province where the questionnaire was administered, the numbers of the teachers were as follows. In total there were 920 FLT teachers who worked in public schools in the

province at that time. Among them, 151 teachers worked in primary schools, 421 teachers worked in middle schools, 321 teachers worked in high schools and 27 teachers worked in other institutions such as adult education centers. Overall, from 893 foreign language teachers, who worked in primary, middle and high schools, as the universe of this part of the study as one of the data collection phases, 302 (33.82%) of them participated in the questionnaire administration. Among the participants, 269 (30.12%) completed all the items which were used for statistical analysis.

Among 269 participants in this study, female teachers also had a higher percentage in all three levels, and the percentage of female teachers decreased in higher teaching levels even though they were still the majority which was similar to the general statistics in the country. Among the participants, female teachers particularly had a higher percentage in the primary schools (n=53) with a 96.2 percent ratio (n=51). Female teachers also made up 84.3 percent (n=102) of the participants in middle schools (n=121), and they were 70.5 percent (n=67) in secondary schools (n=95). Male teachers made up 3.8 percent (n=2) in primary schools, 15.7 percent (n=19) in middle schools and 29.5 percent (n=28) in high schools among the participant teachers in this research study.

It can be noted that as a rule of thumb, teachers who have 5 years or more teaching experience in the classroom are considered as experienced when compared to the teachers who have less than 5 years of experience (Rodríguez & McKay, 2010; Tsui, 2005). Among the participants of this study, 22 (8.2%) teachers had less than 5 years of experience, whereas 247 (91.8%) had 5 and more years of experience.

4.1.2. Interview Participants

Interview participants were foreign language teachers who were very experienced in using Web 2.0 tools. They had been using these tools at least for a few years. The participants were chosen because of their experience, and presumably their effectiveness to use these tools. It was aimed to unearth their ideas, insights, thoughts, and experiences regarding the use of Web 2.0 tools for foreign language teaching and learning. Even though

the title of the study, participant research process and participation of new teachers to the process for interviews were not limited to ELT teachers, at the end of the process, it turned out that all participants of the interviews were English teachers. The reason for this was most probably the number of English teachers in Turkey. General demographic information about the interviewees can be found in the Table 7 below. Even though their exact ages were not inquired, it was realized during the interviews that almost all of them were middle-aged and most probably none of them were much older than 45. Their teaching experiences also ranged quite similarly that they were not inexperienced teachers or beginners of teaching or much more experienced than 25 years.

Table 7

Demographic Information of the Interview Participants

No.	Teaching Experience (Years)	Education	Current Teaching Grade Level	Web 2.0 Training	Sex	Part of the Country
P1	15+	Master's	High School	Both	F	North
P2	15+	Bachelor's	High School	Both	F	North
P3	5-10	Master's (ongoing)	High School	Face-to-face	F	North
P4	10-15	Master's (ongoing)	High School	Face-to-face	F	West
P5	15+	Master's (ongoing)	High School	Face-to-face	F	Southwest
P6	15+	Master's (ongoing)	Middle School	Face-to-face	M	Southwest
P7	5-10	Master's	BİLSEM	Both	M	East
P8	10-15	Master's	BİLSEM	Both	M	Southwest
P9	10-15	Master's (ongoing)	Middle School	Both	F	Central
P10	10-15	Bachelor's	High School	Online (self)	F	Southwest
P11	15+	Bachelor's	Middle School	Both	F	Central
P12	15+	Bachelor's	BİLSEM	Both	F	North
P13	10-15	Master's	Middle School	Face-to-face	F	West
P14	10-15	Master's	High School	Face-to-face	M	South
P15	10-15	Master's	High School	Online (MEB)	F	Southwest
P16	15+	Master's (ongoing)	High School	Online (self)	F	West
P17	15+	Master's	BİLSEM	Both	F	West
P18	10-15	Master's	Middle School	Both	M	Central
P19	10-15	Master's (ongoing)	High School	Both	F	West

Another striking similarity was that 4 of the 19 teachers worked in Science and Art Centers (BİLSEM) even though the number of teachers in these centers are very limited

when compared to other schools. This is a special type of school which accepts only highly talented or gifted students. It should be noted that these centers are responsible to support the students for extracurricular activities, meaning that they have their own curriculum rather than having a regular curriculum. Moreover, the students are taught and guided in these centers in addition to their regular school day in another school. Even though it was not intended to inquire it, it could be inferred or implied that probably because of this aspect, the teachers who work in these centers are able to apply more innovative approaches, project-based implementations, or activities. This could be one of the reasons among others why the number of the participant teachers from these centers are that high when compared to the number of teachers who work in other types of schools in this study, even though the proportion of the schools and teachers who work in Science and Art Centers are much less normally when compared to other schools and educational institutions in the country, as in this study, only the teachers who are more experienced in using Web 2.0 were contacted for the interviews. Interviewees' names were designed according to the order of the interviews and mentioned with "P" letter for participant and the number of the interview to ensure confidentiality and anonymity. Participants' names were reported by using these codes as pseudonyms instead of their real names throughout the thesis for the same reason.

4.2. Questionnaire Results

4.2.1. Teachers' Experiences of Web 2.0 Tools

The types or groups of Web 2.0 tools used by the teachers, as it was also covered in the research questions, is one of the derivatives of this study about the pedagogical uses of Web 2.0 tools by the teachers. Part B of the survey questionnaire was used to unfold teachers' experiences regarding this detail. The aim of gathering this data was to find out what types or groups of Web 2.0 tools are used by the teachers, what kind of tools are used most and least, and for which functions the teachers use these tools such as personal reasons and/or teaching purposes. The results demonstrated that 269 of the participants answered each item of this part of the questionnaire. The results are provided in Table 8 below.

The Table 8 below was given in an ascending order by means of the numbers of users of the tools. This means that the type of tools which were provided towards the end of the list were the most used tools by the teachers either personally and/or professionally. So, the most used tools are demonstrated at the bottom. The least used tool is shown at the top of the list.

Table 8

Use of Web 2.0 Tools by the Teachers

Tools	Do not Use	Use Only Personally	Use (also) for Teaching	Use (also) for Teaching
	n	*n*	*n*	Percent
Bookmarking	235	19	15	5.6
Mind mapping	214	13	42	15.6
Digital storytelling	207	18	44	16.4
Data analysis	199	32	38	14.1
Virtual reality	181	51	37	13.8
Audio	171	56	42	15.6
Teaching platforms	168	18	83	30.9
Assessment	148	18	103	38.3
Republishing	100	113	56	20.8
Content and materials	87	68	114	42.4
Text based	80	129	60	22.3
File sharing	42	82	145	53.9
Photos, images	42	136	91	33.8
Video tools	30	63	176	65.4
Social networks	26	126	117	43.5

As it can be seen in the table above, bookmarking tools (delicious.com, diigo.com etc.), mind mapping tools (bubble.us etc.), digital storytelling tools (storyjumper.com etc.), data analysis tools (surveymonkey.com etc.), virtual reality tools, audio tools (soundcloud.com, podcast etc.) and teaching platforms (blackboard, webct etc.) were the least used tools in ascending order by the teachers when the personal and professional usages were added together. On the other hand, social networks (facebook.com, plus.google.com etc.),

video tools (youtube.com, kizoa.com etc.), photo and image tools (instagram.com, flickr.com etc.), file sharing tools (dropbox.com, google.com/drive etc.), text based (twitter.com, forums etc.), tools for publishing content and materials (wikis, blogs etc.) and republishing tools (pinterest.com, scoop.it etc.) were the most used tools in descending order by the teachers when personal and professional uses were included.

When only the purpose for teaching was taken into consideration, the most used tools in descending order were video tools (youtube.com, kizoa.com etc.), file sharing tools (dropbox.com, google.com/drive etc.), social networks (facebook.com, plus.google.com etc.), tools for publishing content and materials (wikis, blogs etc.), assessment tools (quizlet.com, easytestmaker.com etc.), photo and image tools (instagram.com, flickr.com etc.) and teaching platforms (blackboard, webCT etc.). The least used tools in ascending order for teaching purposes were bookmarking tools (delicious.com, diigo.com etc.), virtual reality tools, data analysis tools (surveymonkey.com etc.), audio tools (soundcloud.com, podcast etc.), mind mapping tools (bubble.us etc.), digital storytelling tools (storyjumper.com etc.) and republishing tools (pinterest.com, scoop.it etc.).

It should be noted that among the given three options, participants were able to choose only one option. This meant that if they used the tools both for teaching and personal use, they needed to choose the third option which was titled as "use also for teaching" in the table above. This meant that these tools were used for teaching in any case with without using them for personal reasons. The percentages which were given at the right end of the Table 8 above demonstrated the proportion of the participants who used the tools for teaching purposes excluding the two groups who do not use and use only personally.

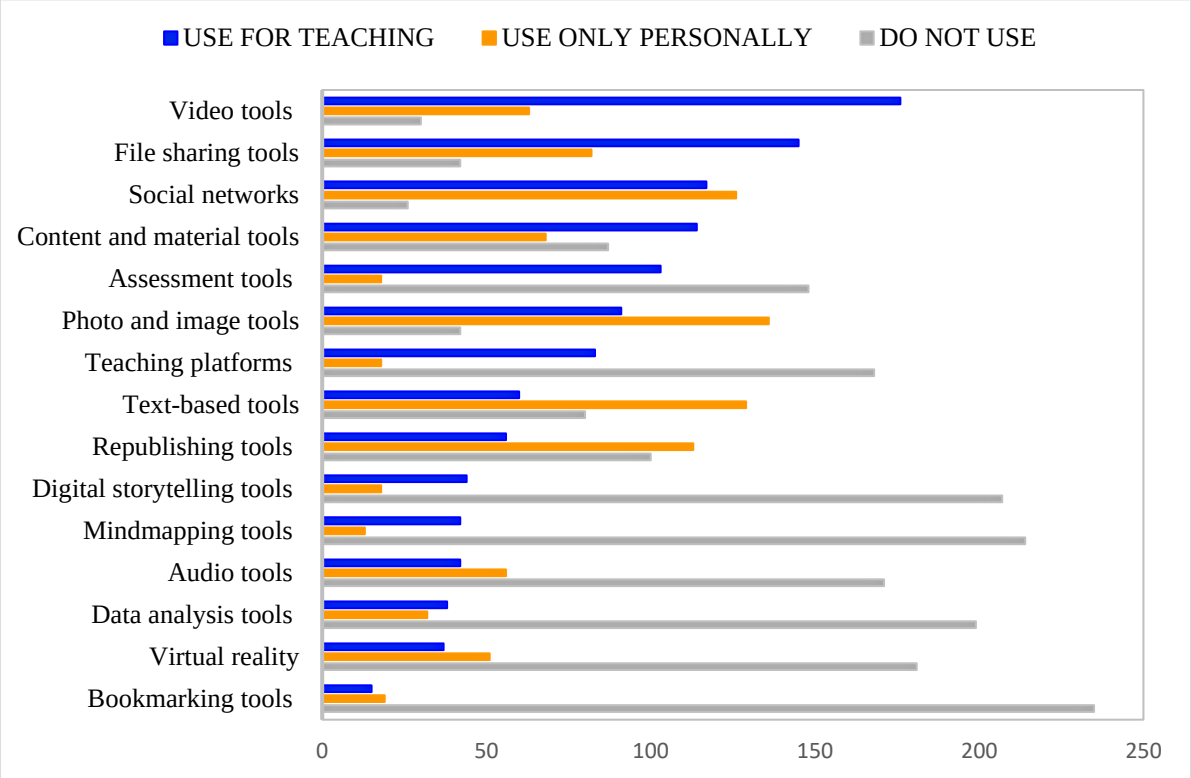
When it comes to the uses by the teachers only for personal matters excluding the ones used also for teaching, most used tools in a descending order were photo and image tools (instagram.com, flickr.com etc.), text-based tools (twitter.com, forums etc.) and social networks (facebook.com, plus.google.com etc.). The number of teachers who used these tools for solely personal matters were highest when compared to others. The least used tools for solely personal matters were mind mapping tools (bubble.us etc.). Assessment tools (quizlet.com, easytestmaker.com etc.), digital storytelling tools (storyjumper.com etc.), and teaching platforms (Blackboard, webCT etc.) followed them.

Overall, 45 (16.73%) of the 269 participants put forward that they did not use any of the given Web 2.0 tools for teaching purposes, however 224 (83.27%) of them stated that they used at least one of the tools for this aim. On the other hand, it can be added that results demonstrated that among 269 of the participants only 5 (1.85%) of them claimed that they did not use any of the tools for any reasons according to their responses to questionnaire options.

A bar chart is provided in the Figure 3 below to demonstrate the use of Web 2.0 tools by the teachers. As can be seen in the table, this time the list is organized in a descending order according to the uses of the tools by the teachers for teaching activities. The chart also demonstrates other two groups regarding the range of tools used personally and the range of tools not used at all by the participants.

Figure 3

Use of Web 2.0 Tools by the Teachers



4.2.2. Associations between Teachers' Demographic Characteristics and Their Experiences of Web 2.0 Tools

In this section, results of the differences or associations between different groups of participants according to participant teachers' demographic data and teachers' experiences of different types of Web 2.0 tools will be reported. As there were 15 groups or categories of tools in Part B such as video tools and text-based tools and about 10 types of demographic background variables which could be used to compare, some of the tool categories were chosen for comparisons or statistical analysis which were determined by considering the tools' usage frequency for teaching by the participants according to first analysis results of this thesis study. Rather than comparing all the background differences, some of the background variables were also chosen among others to run the tests according to research purposes.

The most used tool for teaching by the participants was video tools (youtube.com, kizoa.com etc.). Whether there are any relationships between using video tools for teaching and teachers' demographic differences was tested by considering 5 different types of demographic features. Educational status, teaching grade level, age and years of teaching experience were among these demographic features. The fifth feature was whether the teachers had been a partner in an eTwinning project before. Results are provided below under related titles.

Use of Video Tools and Educational Status

The first demographic background feature to analyze was educational status of the participants. Descriptive test results of the demographic features demonstrated above that there were two groups of participants according to their educational background among the participants as master's and bachelor's degree holders. When these two groups were compared according to their use of video tools, it was found out that even though test results indicated significant association between education and experience, it was not possible and meaningful to report the results because it was seen in the contingency table that one of the assumptions for conducting Chi-square test is violated. The reason was 2 of the value of *expected* cells

among 6 *expected* cells were less than 5 and one of these 2 cells was even less than 3 (McHugh, 2013).

Use of Video Tools and Teaching Grade Level

The second demographic variable which was used to compare the association with the experience of video tools was teaching grade level of the teachers. The Pearson Chi-square test was run to determine whether there is an association between teaching grade level and the use of video tools by the teachers. As it can also be seen by the frequencies cross tabulated in Table 9, there was no association between teaching grade level and the use of video tools by the teachers, χ^2 (4, N = 269) = 3.16, p > .05.

Table 9

Video Tools (youtube.com, kizoa.com etc.) and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Video tools	I have never used/ I do not use	Count	4	15	11	30
		Expected Count	5.9	13.5	10.6	30.0
		% within Teaching Grade Level	7.5%	12.4%	11.6%	11.2%
		Residual	-1.9	1.5	.4	
	I only use/have only used personally	Count	11	25	27	63
		Expected Count	12.4	28.3	22.2	63.0
		% within Teaching Grade Level	20.8%	20.7%	28.4%	23.4%
		Residual	-1.4	-3.3	4.8	
	I (also) use/have (also) used for teaching	Count	38	81	57	176
		Expected Count	34.7	79.2	62.2	176.0
		% within Teaching Grade Level	71.7%	66.9%	60.0%	65.4%
		Residual	3.3	1.8	-5.2	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0

	% within Teaching Grade Level	100.0%	100.0%	100.0%	100.0%

Use of Video Tools and Age

The second type of background feature compared between the groups was the age of the participants. In the questionnaire the ages of the participants were divided into 4 groups. When the differences with respect to the use of video tools were analysed between these four groups, it was seen in the contingency table that the assumption for the value of the expected cells for conducting Chi-square test is violated and it was not meaningful to report the results as it was mentioned above before.

As it was clarified in the research population and sample section, the ages of the participants could be grouped into two different generations by using the available data as the ones who were younger than 40 (Generation Y and Z) and the ones who were older than 40 (Generation X and Baby Boomers). It was analysed whether there was an association between these generations, namely Generation Y and Z as the first group and Generation X and Baby Boomers as the second group, and participants' experiences of video tools. The results of the Chi-square test of independence demonstrated that there is no significant association between the variable of generations as two grouped cohorts and the use of video tools, χ^2 (2, N = 269) = 1.87, p > .05. The crosstabulation of this analysis can be seen in Table 10 below.

Table 10

Video Tools and Generations Crosstabulation

			Generations		Total
			Generation Y and Z	Generation X and Boomers	
Video tools	I have never used/ I do not use	Count	18	12	30
		Expected Count	20.5	9.5	30.0
		% within Video tools	60.0%	40.0%	100.0%

		% within Generations	9.8%	14.1%	11.2%
		% of Total	6.7%	4.5%	11.2%
		Residual	-2.5	2.5	
	I only use/have only used personally	Count	41	22	63
		Expected Count	43.1	19.9	63.0
		% within Video tools	65.1%	34.9%	100.0%
		% within Generations	22.3%	25.9%	23.4%
		% of Total	15.2%	8.2%	23.4%
		Residual	-2.1	2.1	
	I (also) use/have (also) used for teaching	Count	125	51	176
		Expected Count	120.4	55.6	176.0
		% within Video tools	71.0%	29.0%	100.0%
		% within Generations	67.9%	60.0%	65.4%
		% of Total	46.5%	19.0%	65.4%
		Residual	4.6	-4.6	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within Video tools	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%
		% of Total	68.4%	31.6%	100.0%

Use of Video Tools and Teaching Experience

Another statistical analysis was conducted by considering participants' teaching experience and their use of video tools. As it was mentioned before, according to the literature, teachers who have 5 and more years of teaching experience in the classroom are considered as experienced in general (Rodríguez & McKay, 2010; Tsui, 2005). Considering these two groups, a Chi-square test of independence was run. Test result showed that there was no significant association between experience of video tools and teaching experience, χ^2 (2, N = 269) = 0.43, $p > .05$.

Table 11

Video Tools and Teaching Experience Crosstabulation

			Teaching Experience (Years)		Total
			Less than 5	5 and more	
Video tools	I have never used/ I do not use	Count	3	27	30
		Expected Count	2.5	27.5	30.0
		% within Video Tools	10.0%	90.0%	100.0%
		% within Experience	13.6%	10.9%	11.2%
		Residual	.5	-.5	
	I only use/have only used personally	Count	6	57	63
		Expected Count	5.2	57.8	63.0
		% within Video Tools	9.5%	90.5%	100.0%
		% within Experience	27.3%	23.1%	23.4%
		Residual	.8	-.8	
	I (also) use/have (also) used for teaching	Count	13	163	176
		Expected Count	14.4	161.6	176.0
		% within Video Tools	7.4%	92.6%	100.0%
		% within Experience	59.1%	66.0%	65.4%
		Residual	-1.4	1.4	
Total		Count	22	247	269
		Expected Count	22.0	247.0	269.0
		% within Video Tools	8.2%	91.8%	100.0%
		% within Experience	100.0%	100.0%	100.0%

Use of Video Tools and Project Participation

As it was mentioned before, eTwinning is a programme and an online platform by means of which teachers can work collaboratively with other teachers. By means of this platform, teachers can engage in official projects. The program which is funded by the European Commission also supports the use of digital tools and technology. Many teachers involved in these projects also use Web 2.0 tools. By means of this study, it was also analysed whether there is any significant association between the users of this platform and other teachers who does not use the platform actively. The analysis was conducted by considering the teachers who had been involved in an eTwinning project as a partner and the ones who had not been a

partner in an eTwinning project before. A Chi-square test of independence demonstrated that there is a significant relation between using video tools and being a partner in an eTwinning project for the teachers, χ^2 (2, N = 269) = 8.56, p < .05. A Cramér's V was also calculated to test the strength of the association between these variables as the Chi-square test indicated a significant relationship. The Cramér's V of .18 indicated a small association between experience of video tools and being a partner in an eTwinning project (Cohen, 1988). It can be added that Cramér's V tends to produce low correlation measures, and this situation is typical and should be "expected when a phenomena is only partially dependent on the independent variable" (McHugh, 2013).

According to the result of this analysis, as can be seen in Table 12, teachers who have been a partner in an eTwinning project before are more likely to use video tools for teaching than the teachers who have not been a partner in an eTwinning project before. Among the teachers who had been a partner in an eTwinning project before, 81.4% of them also used video tools for teaching. However, 61.0% of the teachers who had not been a partner in an eTwinning project before used video tools for teaching. Among the teachers who had been a partner in an eTwinning project before, 13.6% used video tools only for personal reasons. On the other hand, 26.2% of the teachers who had not been a partner in an eTwinning project before used video tools only personally. This difference also demonstrates that teachers who have been a partner in an eTwinning project before are less likely to use video tools only personally when compared to the teachers who have not been a partner in an eTwinning project before. As it can also be seen in the table, they are also less likely to be not using video tools at all when compared to other teachers.

Table 12

Video Tools and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
Video tools	I have never used/ I do not use	Count	3	27	30
		Expected Count	6.6	23.4	30.0
		% within Video	10.0%	90.0%	100.0%
		% within Project	5.1%	12.9%	11.2%

		Residual	-3.6	3.6	
	I only use/have only used personally	Count	8	55	63
		Expected Count	13.8	49.2	63.0
		% within Video	12.7%	87.3%	100.0%
		% within Project	13.6%	26.2%	23.4%
		Residual	-5.8	5.8	
	I (also) use/have (also) used for teaching	Count	48	128	176
		Expected Count	38.6	137.4	176.0
		% within Video	27.3%	72.7%	100.0%
		% within Project	81.4%	61.0%	65.4%
		Residual	9.4	-9.4	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within Video	21.9%	78.1%	100.0%
		% within Project	100.0%	100.0%	100.0%

Use of File Sharing Tools and Educational Status

After analysing the association between the use video tools by the teachers and teachers' 5 different demographic features, the second variable which was analysed was the use of file sharing tools (dropbox.com, google.com/drive etc.) and demographic features. The reason to analyse this tool among other tools was that, as it was stated before, it was the second most chosen and used tool by the teachers for teaching regarding the number of participants. The first analysis was conducted between experience of file sharing tools (dropbox.com, google.com/drive etc.) and educational status. The results of the Chi-square test of independence demonstrated that 2 cells (33.3%) have expected count less than 5.

Use of File Sharing Tools and Age

A Chi-square test of independence was run to test the relationship between age and the use of file sharing tools (dropbox.com, google.com/drive etc.). The result indicated that one of the assumptions for conducting this kind of test was violated for the comparison case by using four age groups (10 years interval groups). Because of this only the test result which was run to test the association between generations and the use of file sharing tools is presented below regarding the age groups of the participants. The Chi-square test of independence

demonstrated that there is no significant association between the generations of participants and the use of file sharing tools, χ^2 (2, N = 269) = 0.97, p > .05. The crosstabulation of this analysis can be seen in Table 13 below.

Table 13

Use of File Sharing Tools and Generations Crosstabulation

			Generations		Total
			Generation Y and Z	Generation X and Boomers	
File sharing tools (dropbox.com, google.com/drive etc.)	I have never used/ I do not use	Count	26	16	42
		Expected Count	28.7	13.3	42.0
		% within File Sharing Tools	61.9%	38.1%	100.0%
		% within Generations	14.1%	18.8%	15.6%
		Residual	-2.7	2.7	
	I only use/have only used personally	Count	57	25	82
		Expected Count	56.1	25.9	82.0
		% within File Sharing Tools	69.5%	30.5%	100.0%
		% within Generations	31.0%	29.4%	30.5%
		Residual	.9	-.9	
	I (also) use/have (also) used for teaching	Count	101	44	145
		Expected Count	99.2	45.8	145.0
		% within File Sharing Tools	69.7%	30.3%	100.0%
		% within Generations	54.9%	51.8%	53.9%
		Residual	1.8	-1.8	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within File Sharing Tools	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%

Use of File Sharing Tools and Teaching Grade Level

A Chi-square test of independence was run to test the connection between experience of file sharing tools (dropbox.com, google.com/drive etc.) and teaching grade level. The test results demonstrated that there is no significant relationship between the use of file sharing tools and teaching grade level. χ^2 (4, N = 269) = 0.62, p > .05. As it can be seen in Table 14 below, the proportion of the teacher users of file sharing tools are similar when the grade levels they teach are considered.

Table 14

Use of File Sharing Tools and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
File sharing tools (dropbox.com, google.com/drive etc.)	I have never used/ I do not use	Count	8	21	13	42
		Expected Count	8.3	18.9	14.8	42.0
		% within File Sharing Tools	19.0%	50.0%	31.0%	100.0%
		% within Teaching Grade Level	15.1%	17.4%	13.7%	15.6%
		Residual	-.3	2.1	-1.8	
	I only use/have only used personally	Count	16	37	29	82
		Expected Count	16.2	36.9	29.0	82.0
		% within File Sharing Tools	19.5%	45.1%	35.4%	100.0%
		% within Teaching Grade Level	30.2%	30.6%	30.5%	30.5%
		Residual	-.2	.1	.0	
	I (also) use/have (also) used for teaching	Count	29	63	53	145
		Expected Count	28.6	65.2	51.2	145.0
		% within File Sharing Tools	20.0%	43.4%	36.6%	100.0%
		% within Teaching Grade Level	54.7%	52.1%	55.8%	53.9%
		Residual	.4	-2.2	1.8	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0

	% within File Sharing Tools	19.7%	45.0%	35.3%	100.0%
	% within Teaching Grade Level	100.0%	100.0%	100.0%	100.0%

Use of File Sharing Tools and Teaching Experience

A Chi-square test of independence was run to test the association between experience or use of file sharing tools (dropbox.com, google.com/drive etc.) and teaching experience as number of years. The test results demonstrated that there is no significant association between the use of file sharing tools and teaching experience, χ^2 (2, N = 269) = 0.69, p > .05. As it can be seen in Table 15 below, the proportion of the users of file sharing tools are similar when teachers' experience as years are considered.

Table 15

File Sharing Tools and Teaching Experience Crosstabulation

			Teaching Experience		Total
			Inexperienced	Experienced	
File sharing tools (dropbox.com, google.com/drive etc.)	I have never used/ I do not use	Count	4	38	42
		Expected Count	3.4	38.6	42.0
		% within File Sharing Tools	9.5%	90.5%	100.0%
		% within Experience	18.2%	15.4%	15.6%
		Residual	.6	-.6	
	I only use/have only used personally	Count	5	77	82
		Expected Count	6.7	75.3	82.0
		% within File Sharing Tools	6.1%	93.9%	100.0%
		% within Experience	22.7%	31.2%	30.5%
		Residual	-1.7	1.7	
	I (also) use/have (also) used for teaching	Count	13	132	145
		Expected Count	11.9	133.1	145.0
		% within File Sharing Tools	9.0%	91.0%	100.0%

	% within Experience	59.1%	53.4%	53.9%
	Residual	1.1	-1.1	
Total	Count	22	247	269
	Expected Count	22.0	247.0	269.0
	% within File Sharing Tools	8.2%	91.8%	100.0%
	% within Experience	100.0%	100.0%	100.0%

Use of File Sharing Tools and Project Participation

A Chi-square test of independence was run to test the relationship between experience or use of file sharing tools (dropbox.com, google.com/drive etc.) and eTwinning project participation. The test results demonstrated that there is no significant relationship between the use of file sharing tools and project participation, χ^2 (2, N = 269) = 3.17, p > .05. As it can be seen in Table 16 below, the proportion of the users of file sharing tools were similar when whether they had been a partner in an eTwinning project was considered.

Table 16

File Sharing Tools and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
File sharing tools (dropbox.com, google.com/drive etc.)	I have never used/ I do not use	Count	5	37	42
		Expected Count	9.2	32.8	42.0
		% within File Sharing Tools	11.9%	88.1%	100.0%
		% within Project	8.5%	17.6%	15.6%
		Residual	-4.2	4.2	
		Count	21	61	82
		Expected Count	18.0	64.0	82.0

	I only use/have only used personally	% within File Sharing Tools	25.6%	74.4%	100.0%
		% within Project	35.6%	29.0%	30.5%
		Residual	3.0	-3.0	
	I (also) use/have (also) used for teaching	Count	33	112	145
		Expected Count	31.8	113.2	145.0
		% within File Sharing Tools	22.8%	77.2%	100.0%
		% within Project	55.9%	53.3%	53.9%
		Residual	1.2	-1.2	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within File Sharing Tools	21.9%	78.1%	100.0%
		% within Project	100.0%	100.0%	100.0%

Use of Social Networks and Education

Social networks are the third most used tool for teaching purposes according to initial research results of this study. Among 269 participants 117 (43.5%) used this tool for teaching. As it was not asked separately, these group of user teachers may or may not be using it for personal reasons additionally. As the ones who use it *only* personally was enquired, it was found that social network is also the third most used tool by 126 (46.8%) of the teachers who use it only personally. When the numbers of users for these two purposes (teaching and personal usage) are added together, these two ranks also make social networks the most used tool overall among all the tool groups in this study. Among 269 participants, 243 (90.3%) use social networks one way or another.

A Chi-square test was performed to test the relation between teachers' uses of social networks (facebook.com, plus.google.com, researchgate.com etc.) and their educational status. The test results indicated that one of the assumptions for conducting this kind of test was violated as 2 cells (33.3%) had expected count less than 5 in the crosstabulation table.

Use of Social Networks and Teaching Grade Level

A Chi-square test of independence was run to test the relationship between the grade levels teachers work for and teachers' uses of social networks (facebook.com, plus.google.com, researchgate.com etc.). The test results showed that there is a significant association between their use of social networks and their teaching grade level, χ^2 (4, N = 269) = 10.44, p < .05. A Cramér's V was also calculated to test the strength of the association between the teaching grade level and the use of social networks. The Cramér's V of .20 indicated a medium association between experience of video tools and being a partner in an eTwinning project (Cohen, 1988). As it can be seen in Table 17 below, the count for the use of the social networks for *I (also) use/have (also) used for teaching* is lower than expected count in high school when compared to other two grade levels. Also, when only personal usage is considered, the count is higher than expected count for high school level, and it is lower than expected count for primary and middle school levels.

Table 17

Social Networks and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Social networks	I have never used/ I do not use	Count	7	10	9	26
		Expected Count	5.1	11.7	9.2	26.0
		% within Social Networks	26.9%	38.5%	34.6%	100.0%
		% within Teaching Grade Level	13.2%	8.3%	9.5%	9.7%
		Residual	1.9	-1.7	-.2	
	I only use/have only used personally	Count	20	50	56	126
		Expected Count	24.8	56.7	44.5	126.0
		% within Social Networks	15.9%	39.7%	44.4%	100.0%
		% within Teaching Grade Level	37.7%	41.3%	58.9%	46.8%
		Residual	-4.8	-6.7	11.5	
	I (also) use/have	Count	26	61	30	117
		Expected Count	23.1	52.6	41.3	117.0

	(also) used for teaching	% within Social Networks	22.2%	52.1%	25.6%	100.0%
		% within Teaching Grade Level	49.1%	50.4%	31.6%	43.5%
		Residual	2.9	8.4	-11.3	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0
		% within Social Networks	19.7%	45.0%	35.3%	100.0%
		% within Teaching Grade Level	100.0%	100.0%	100.0%	100.0%

Use of Social Networks and Teaching Experience

A Chi-square test of independence was run to test the association between social networks (facebook.com, plus.google.com, researchgate.com etc.) use and teaching experience of teachers. The test results indicated that there is no significant relation between the use of social network tools and teaching experience, χ^2 (2, N = 269) = 0.89, p > .05. The count and expected count for each group, and other details can be seen in Table 18 below.

Table 18

Social Networks and Teaching Experience Crosstabulation

			Experience		Total
			Inexperienced	Experienced	
Social networks	I have never used/ I do not use	Count	1	25	26
		Expected Count	2.1	23.9	26.0
		% within Social networks	3.8%	96.2%	100.0%
		% within Experience	4.5%	10.1%	9.7%
		Residual	-1.1	1.1	
	I only use/have only used personally	Count	10	116	126
		Expected Count	10.3	115.7	126.0
		% within Social networks	7.9%	92.1%	100.0%

		% within Experience	45.5%	47.0%	46.8%
		Residual	-.3	.3	
	I (also) use/have (also) used for teaching	Count	11	106	117
		Expected Count	9.6	107.4	117.0
		% within Social networks	9.4%	90.6%	100.0%
		% within Experience	50.0%	42.9%	43.5%
		Residual	1.4	-1.4	
Total		Count	22	247	269
		Expected Count	22.0	247.0	269.0
		% within Social networks	8.2%	91.8%	100.0%
		% within Experience	100.0%	100.0%	100.0%

Use of Social Networks and Age

The ages of the participants were grouped into two different generations by using the available data as the ones who were younger than 40 (Generation Y and Z) and the ones who were older than 40 (Generation X and Baby Boomers). It was analysed whether there was an association between these two generations and participants' social networks (facebook.com, plus.google.com, researchgate.com etc.) use. The results of the Chi-square test of independence demonstrated that there is no significant association between the variable of generations as two grouped cohorts and social networks use, χ^2 (2, N = 269) = 4.13, p > .05. The crosstabulation of this analysis can be seen in Table 19 below.

Table 19

Social Networks and Generations Crosstabulation

		Generations		Total
		Generation Y and Z	Generation X and Boomers	
Social networks	Count	14	12	26

	I have never used/ I do not use	Expected Count	17.8	8.2	26.0
		% within Social networks	53.8%	46.2%	100.0%
		% within Generations	7.6%	14.1%	9.7%
		Residual	-3.8	3.8	
	I only use/have only used personally	Count	84	42	126
		Expected Count	86.2	39.8	126.0
		% within Social networks	66.7%	33.3%	100.0%
		% within Generations	45.7%	49.4%	46.8%
		Residual	-2.2	2.2	
	I (also) use/have (also) used for teaching	Count	86	31	117
		Expected Count	80.0	37.0	117.0
		% within Social networks	73.5%	26.5%	100.0%
		% within Generations	46.7%	36.5%	43.5%
		Residual	6.0	-6.0	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within Social networks	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%

Use of Social Networks and Project Participation

A Chi-square test of independence was run to test the association between teachers' social networks (facebook.com, plus.google.com, researchgate.com etc.) use and eTwinning project participation. The test results demonstrated that there is no significant association between the use of file sharing tools and project participation, χ^2 (2, N = 269) = 3.44, p > .05. The crosstabulation of this analysis can be seen in Table 20 below.

Table 20

Social Networks and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
Social networks	I have never used/ I do not use	Count	2	24	26
		Expected Count	5.7	20.3	26.0
		% within Social networks	7.7%	92.3%	100.0%
		% within partners in an eTwinning project	3.4%	11.4%	9.7%
		Residual	-3.7	3.7	
	I only use/have only used personally	Count	29	97	126
		Expected Count	27.6	98.4	126.0
		% within Social networks	23.0%	77.0%	100.0%
		% within partners in an eTwinning project	49.2%	46.2%	46.8%
		Residual	1.4	-1.4	
	I (also) use/have (also) used for teaching	Count	28	89	117
		Expected Count	25.7	91.3	117.0
		% within Social networks	23.9%	76.1%	100.0%
		% within partners in an eTwinning project	47.5%	42.4%	43.5%
		Residual	2.3	-2.3	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within Social networks	21.9%	78.1%	100.0%
		% within partners in an eTwinning project	100.0%	100.0%	100.0%

Use of Content and Material Tool and Demographic Associations

According to survey results of this study, tools for publishing content and materials (wikis, blogs etc.) were the fourth most used Web 2.0 tool for teaching by the participants of this study. Among 269 participants, 114 (42.4%) used these tools for teaching.

When Chi-square tests were run to test the association between teachers' use of content and material tools (wikis, blogs etc.) and teachers' educational status, age, and teaching experience, it was found that assumptions for conducting this kind of test were violated as at least 2 cells (33.3%) had expected count less than 5 for each comparison case in the crosstabulation tables.

Another Chi-square test was performed to test the relationship between use of tools for publishing content and materials (wikis, blogs etc.) and teachers' grade level. The test results demonstrated that there is no significant association between the use of content and material tools and their teaching grade level, $\chi 2$ (4, N = 269) = 1.87, p > .05. The details of the crosstabulation of this test can be seen in Appendix 3. Among the participants, there were 53 teachers in primary school, 121 teachers in middle school and 95 teachers in high school. According to the results of the tests, 26 of the teachers in primary school (49.1% among teachers in primary school), 47 of the teachers in middle school (38.8% among teachers in middle school), 41 of the teachers in high school (43.2% among teachers in high school) used these tools for teaching.

After testing the associations between the use of tools for publishing content and materials and teachers' educational status, age, teaching experience and teachers' grade level, a Chi-square test of independence was run to test the association between the use of tools for publishing content and materials and the variable of partnership experience in an eTwinning project. Test results indicated that there is a significant association between teachers' uses of tools for publishing content and materials and their partnership experience in an eTwinning project, $\chi 2$ (2, N = 269) = 12.81, p < .05. As Chi-square test results demonstrated significance, a Cramér's V was calculated to determine the magnitude of the association between the variables. The Cramér's V of .22 indicated a medium association between use of the tools for publishing content and materials and being a partner in an eTwinning project (Cohen, 1988).

Table 21

Content and Material Tools and Project Participation Crosstabulation

	Partnership in an eTwinning project		Total
	Yes	No	

Tools for publishing content and materials (wikis, blogs etc.)	I have never used/ I do not use	Count	12	75	87
		Expected Count	19.1	67.9	87.0
		% within Tool Use	13.8%	86.2%	100.0%
		% within Partnership	20.3%	35.7%	32.3%
		Residual	-7.1	7.1	
	I only use/have only used personally	Count	10	58	68
		Expected Count	14.9	53.1	68.0
		% within Tool Use	14.7%	85.3%	100.0%
		% within Partnership	16.9%	27.6%	25.3%
		Residual	-4.9	4.9	
	I (also) use/have (also) used for teaching	Count	37	77	114
		Expected Count	25.0	89.0	114.0
		% within Tool Use	32.5%	67.5%	100.0%
		% within Partnership	62.7%	36.7%	42.4%
		Residual	12.0	-12.0	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within Tool Use	21.9%	78.1%	100.0%
		% within Partnership	100.0%	100.0%	100.0%

Use of Assessment Tools and Demographic Associations

Assessment tools (quizlet.com, easytestmaker.com etc.) were the fourth most used tool for teaching purposes by the teachers. On the other hand, it was among one of the three least used tools when the reasons other than teaching were considered, thus the teachers mostly used these tools for professional reasons.

A Chi-square tests was run to test the association between teachers' uses of assessment tools and their educational status, it was found that assumptions were violated because according to the results at least 2 cells (33.3%) had expected count less than 5. Because of this, only the results of other tests are reported below regarding the use of assessment tools by the teachers.

A Chi-square test was performed to test the relationship between the use of assessment tools and teachers' grade level. The test results demonstrated that there is no significant

association between the use of assessment tools and their teaching grade level, $\chi 2$ (4, N = 269) = 0.57, p > .05. The details of the crosstabulation of this test can be seen in Appendix 3.

When a Chi-square test was performed to test the association between the use of assessment tools and teachers' experience, the test results again demonstrated that there is no significant association between the use of assessment tools and teachers' experience, $\chi 2$ (2, N = 269) = 0.36, p > .05. The details of the crosstabulation of this test can also be seen in Appendix 3.

Another Chi-square test was performed to test the relationship between the use of assessment tools and teachers' ages as generations. The test results demonstrated that there is no significant association between the use of assessment tools and participants' generations of ages, $\chi 2$ (2, N = 269) = 2.26, p > .05. The details of the crosstabulation of this test can be seen in Appendix 3.

Table 22

Content and Material Tools and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
Assessment tools (quizlet.com, easytestmaker.com etc.)	I have never used/ I do not use	Count	25	123	148
		Expected Count	32.5	115.5	148.0
		% within Assessment tools	16.9%	83.1%	100.0%
		% within Partnership	42.4%	58.6%	55.0%
		Residual	-7.5	7.5	
	I only use/have only used personally	Count	2	16	18
		Expected Count	3.9	14.1	18.0
		% within Assessment tools	11.1%	88.9%	100.0%
		% within Partnership	3.4%	7.6%	6.7%
		Residual	-1.9	1.9	
	I (also) use/have (also) used for teaching	Count	32	71	103
		Expected Count	22.6	80.4	103.0
		% within Assessment tools	31.1%	68.9%	100.0%
		% within Partnership	54.2%	33.8%	38.3%

	Residual	9.4	-9.4	
Total	Count	59	210	269
	Expected Count	59.0	210.0	269.0
	% within Assessment tools	21.9%	78.1%	100.0%
	% within Partnership	100.0%	100.0%	100.0%

Another Chi-square test was run to test the relationship between the use of assessment tools and teachers' ages as generations. The test results demonstrated that there is no significant association between the use of assessment tools and participants' generations of ages, $\chi 2$ (2, N = 269) = 2.26, p > .05. The details of the crosstabulation of this test can be seen in Appendix 3.

A Chi-square test was performed to test the association between the use of assessment tools and teachers' participation to eTwinning projects. The test results were statistically significant. They indicated that there is a significant association between the use of assessment tools and participation to eTwinning projects, $\chi 2$ (2, N = 269) = 8.45, p < .05. The details of the two groups can be seen in Table 22 above. A Cramér's V was calculated to determine the magnitude of the association between the use of assessment tools and teachers' participation to eTwinning projects. The Cramér's V of .18 indicated a small association between these two variables (Cohen, 1988).

Use of Photo and Image Tools and Demographic Associations

Survey results of this study demonstrated that photo and image tools (instagram.com, flickr.com etc.) were the most used tool among other Web 2.0 tools when the tools were ranked according to "only personal usage" choice. When "personal and professional usage" and "only personal usage" choices were added together, photo and image tools and file sharing tools were the third most used tool following social networks and video tools.

When a Chi-square test was performed to test the association between teachers' uses of photo and image tools and teachers' educational status, it was found that assumptions were violated as at least 2 cells (33.3%) had expected count less than 5 in the crosstabulation of the test, like some other comparison cases which were reported above.

A Chi-square test was performed to examine the association between the use of photo and image tools and teaching grade level of teachers. The test results demonstrated that there is no significant association between the use of these tools and participants' teaching grade level, $\chi 2$ (4, N = 269) = 5.92, p > .05. The details can be seen in Appendix 3.

A Chi-square test was run to test the association between teachers' use of photo and image tools and their teaching experience. As the details can be seen in Appendix 3. the test results demonstrated that there is no significant association between teachers' use of photo and image tools and their experience, $\chi 2$ (2, N = 269) = 2.31, p > .05.

Another chi-square test was performed to examine the association between teachers' uses of photo and image tools and their age categorized as generations. According to the results there is no significant association between teachers' use of photo and image tools and their generations, $\chi 2$ (2, N = 269) = 1.21, p > .05. The details can be seen Appendix 3.

A chi-square test to examine the association between teachers' use of photo and image tools and their eTwinning project participation status showed that there is a significant association between teachers' use of photo and image tools and their eTwinning project participation, $\chi 2$ (2, N = 269) = 8.71, p < .05. Regarding the magnitude of the association between these two variables, the Cramér's V of .18 indicated a small association between the use of photo and image tools and teachers' participation to eTwinning projects (Cohen, 1988).

Table 23

Photo and Image Tools and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
Photo and image tools (instagram.com, flickr.com etc.)	I have never used/ I do not use	Count	5	37	42
		Expected Count	9.2	32.8	42.0
		% within Photo and image tools	11.9%	88.1%	100.0%
		% within Partnership	8.5%	17.6%	15.6%

		Residual	-4.2	4.2	
	I only use/have only used personally	Count	25	111	136
		Expected Count	29.8	106.2	136.0
		% within Photo and image tools	18.4%	81.6%	100.0%
		% within Partnership	42.4%	52.9%	50.6%
		Residual	-4.8	4.8	
	I (also) use/have (also) used for teaching	Count	29	62	91
		Expected Count	20.0	71.0	91.0
		% within Photo and image tools	31.9%	68.1%	100.0%
		% within Partnership	49.2%	29.5%	33.8%
		Residual	9.0	-9.0	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within Photo and image tools	21.9%	78.1%	100.0%
		% within Partnership	100.0%	100.0%	100.0%

Use of Text-Based Tools and Demographic Associations

Text-based tools (twitter.com, forums etc.) were the fifth most used tool by the participants of this study following social networks, video tools, photo and image tools and file sharing tools according to the ranking of the tools for which participants who only used them personally and the ones who also used them for teaching were added together. Among 269 participants, 129 (47.9%) used them only personally and 60 (22.3%) used these tools also for teaching.

As the assumptions for conducting Chi-square test were violated when the test was run to examine the associations between education and use of text-based tools, akin to the cases reported above regarding the values of expected cells, only the results of other tests are reported below.

According to the results of a Chi-square test between the variables of text-based tools and teaching grade level of the participants (see Appendix 3), there is no significant association between the variables of text-based tools and the teaching grade level of the teachers, χ^2 (4, N = 269) = 1.79, p > .05.

As the crosstabulation can be seen in Appendix 3, when a Chi-square test was run to examine the association between the use of text-based tools and teaching experience of teachers, the results demonstrated that there is no significant association between the variables of text-based tools and teachers' experience, $\chi 2$ (2, N = 269) = 0.68, p > .05.

A Chi-square test was run to examine the association between the use of text-based tools and generations of teachers. The results demonstrated that there is no significant association between the variables of text-based tools and teachers' generations, $\chi 2$ (2, N = 269) = 0.11, p > .05. The details of the crosstabulation can be seen in Appendix 3.

A Chi-square test of independence was conducted to examine the association between teachers' use of text-based tools and teachers' eTwinning project participation status. Results demonstrated that there is a significant association between teachers' use of text-based tools and teachers' eTwinning project participation, $\chi 2$ (2, N = 269) = 6.30, p < .05. Regarding the magnitude of the association between the use of text-based tools and teachers' participation to eTwinning projects, the Cramér's V of .15 indicated a small association (Cohen, 1988). As it can be seen in Table 24 below, among the project partner teachers, 33.9% use text-based tools for teaching. On the other hand, only 19% of the other teachers use them for teaching. Also, the number of the participants who "never use these tools" and "use them only personally" are lower than expected statistically among project partner teachers. Contrarily, the number of the participants who "never use these tools" and "use them only personally" are higher than expected statistically among teachers who have not participated a project before.

Table 24

Text-based Tools and Project Participation Crosstabulation

			Have you been a partner in an eTwinning project?		Total
			Yes	No	
Text-based tools (twitter.com, forums etc.)	I have never used/ I do not use	Count	13	67	80
		Expected Count	17.5	62.5	80.0
		% within Text-based tools	16.3%	83.8%	100.0%
		% within Partnership	22.0%	31.9%	29.7%
		Residual	-4.5	4.5	
	I only use/have only used personally	Count	26	103	129
		Expected Count	28.3	100.7	129.0
		% within Text-based tools	20.2%	79.8%	100.0%
		% within Partnership	44.1%	49.0%	48.0%
		Residual	-2.3	2.3	
	I (also) use/have (also) used for teaching	Count	20	40	60
		Expected Count	13.2	46.8	60.0
		% within Text-based tools	33.3%	66.7%	100.0%
		% within Partnership	33.9%	19.0%	22.3%
		Residual	6.8	-6.8	
Total		Count	59	210	269
		Expected Count	59.0	210.0	269.0
		% within Text-based tools	21.9%	78.1%	100.0%
		% within Partnership	100.0%	100.0%	100.0%

Summary of the Associations between Teachers' Experiences and Their Demographic Characteristics

The results of the conducted statistical tests by using the Chi-square test of independence and the associations found as significant and not significant between teachers' use of tools and their demographic characteristics are summarized and presented below in a table for a general overview. As it can be seen in the table, among 35 statistical tests, 6 of them found as significant demonstrating the associations between teachers' use of different tools and teachers' demographic characteristics.

Table 25

Significant Associations between Demographic Features and Use of Web 2.0 Tools

	Education	Teaching Grade Level	Experience	Age	eTwinning Project Participation
Video Tools	*				Significant at $p < .05$
File Sharing Tools	*				
Social Networks		Significant at $p < .05$			
Content and Material Tools	*		*	*	Significant at $p < .05$
Assessment Tools					Significant at $p < .05$
Photo and Image Tools	*				Significant at $p < .05$
Text-based Tools	*				Significant at $p < .05$

***** It was not possible and meaningful to report the results in these tests because at least one of the assumptions for conducting Chi-square test is violated (e.g., 2 or more cells have expected count less than 5 in crosstabulations).

Note. See other tables for the details of these test results in related sections.

4.2.3. Teachers' Thoughts on Web 2.0 Tools

In the three sections below, responses of the survey participants to Likert-type items (Part D), statistical comparisons of these results, and responses to open-ended questions (Part C) of the questionnaire are reported.

Responses to Likert-Type Items (Part D)

In this section, results of the Part D of the questionnaire are reported. This part of the questionnaire consisted of 17 five-point Likert-type items which were used to receive participants' agreements ranging from "strongly disagree" to "strongly agree". "Neither agree nor disagree" was used as the mid-point in addition to other options as "somewhat agree" and "somewhat disagree". They chose which of these five options best described their thoughts on Web 2.0 tools. Table 26 demonstrated the answers of the 269 participants.

Table 26

Results of Part D of the Questionnaire, Thoughts on Web 2.0 Tools

ITEMS		SD	D	NAND	A	SA	Total
1. Help develop teacher-learner	**N**	5	9	34	93	128	269
communication skills	**%**	1.9	3.3	12.6	34.6	47.6	100
2. Allow learners innovative thinking	**N**	2	5	24	81	157	269
	%	0.7	1.9	8.9	30.1	58.4	100
3. Improve learner's presentation skills	**N**	4	4	29	82	150	269
to a large class of people	**%**	1.5	1.5	10.8	30.5	55.8	100
4. Provide immediate feedback between	**N**	5	6	23	96	139	269
teacher and learner	**%**	1.9	2.2	8.6	35.7	51.7	100
5. Improve the technological skills	**N**	3	2	21	54	189	269
required in today's world	**%**	1.1	0.7	7.8	20.1	70.3	100
6. Assist in the integration and	**N**	5	2	30	89	143	269
development of learned societies	**%**	1.9	0.7	11.2	33.1	53.2	100
7. Allow the learner to express his/her	**N**	4	4	38	92	131	269
uniqueness and creativity	**%**	1.5	1.5	14.1	34.2	48.7	100
8. Develop the learner's ability to ask	**N**	6	11	46	100	106	269
questions	**%**	2.2	4.1	17.1	37.2	39.4	100

9. Facilitate learning participation	**N**	2	7	27	72	161	269
through multimedia elements and files	**%**	0.7	2.6	10	26.8	59.9	100
10. Increase teachers and students'	**N**	3	10	40	93	123	269
discussion of various topics	**%**	1.1	3.7	14.9	34.6	45.7	100
11. Allow teachers and learners search	**N**	5	4	24	67	169	269
and share educational resources	**%**	1.9	1.5	8.9	24.9	62.8	100
12. Provide the opportunity to exchange	**N**	2	6	20	67	174	269
knowledge	**%**	0.7	2.2	7.4	24.9	64.7	100
13. Encourage learners to add value to	**N**	2	8	33	88	138	269
the applications that they use	**%**	0.7	3	12.3	32.7	51.3	100
14. Allow learners share their thoughts	**N**	3	7	23	91	145	269
and experiences	**%**	1.1	2.6	8.6	33.8	53.9	100
15. Open unlimited horizons for learners	**N**	3	12	36	82	136	269
	%	1.1	4.5	13.4	30.5	50.6	100
16. Allow learners to be productive with	**N**	2	10	30	79	148	269
their knowledge	**%**	0.7	3.7	11.2	29.4	55	100
17. Enable learners link between the	**N**	2	6	34	89	138	269
sources of ideas and people	**%**	0.7	2.2	12.6	33.1	51.3	100

Note. SD: strongly disagree, D: somewhat disagree, NAND: neither agree nor disagree, SA: strongly agree, A: somewhat agree.

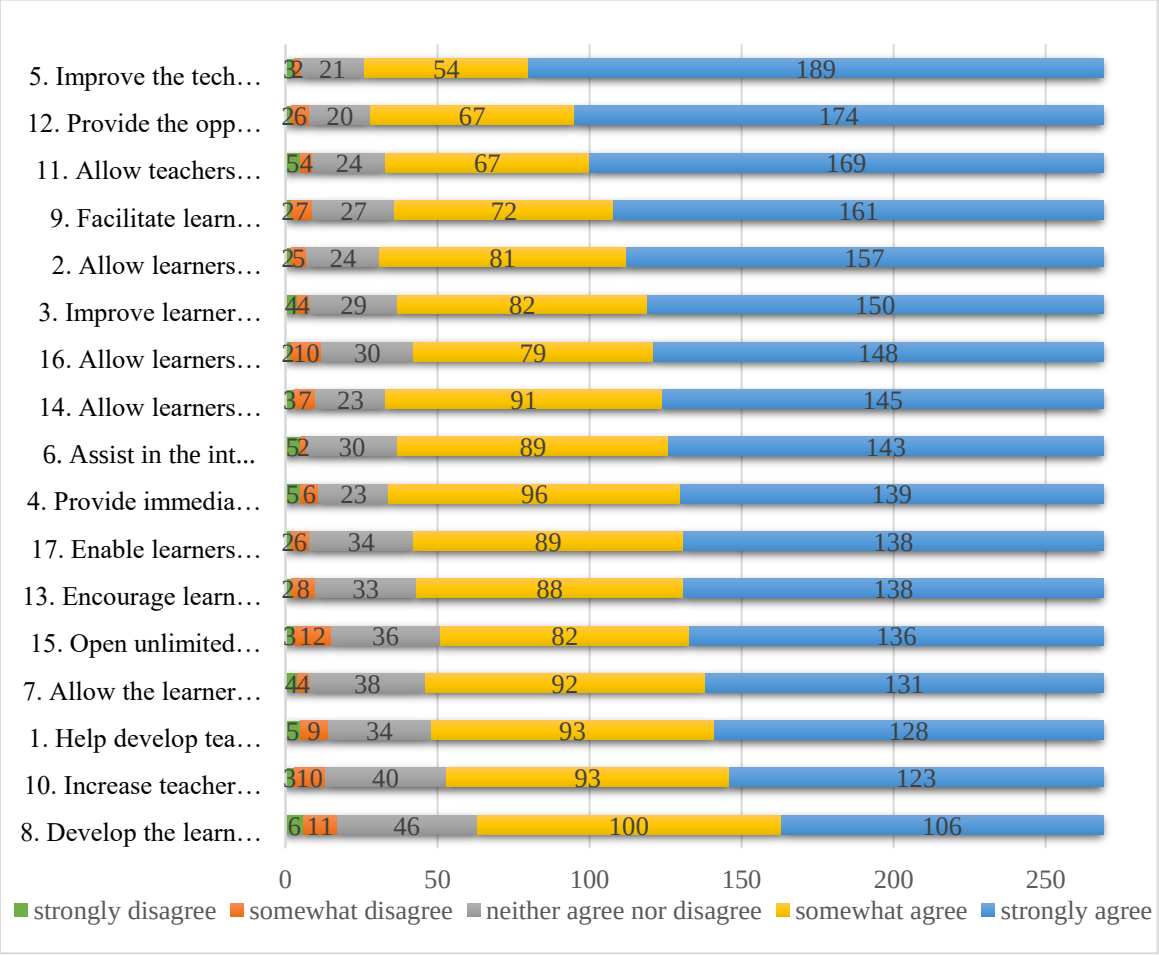
According to the participants' responses to Part D which were related to their thoughts on Web 2.0 tools, among five given options the mode (the option which was selected the highest number of times) was "strongly agree" for all five options of 17 items. As all the 17 items were positive stating the possible benefits of Web 2.0 tools, it could be inferred from this result that this demonstrated that most of the participants were very positive about the usage of Web 2.0 tools for teaching and learning in general.

According to the ranking of the frequency of the selected options and how many times they were chosen for all 17 items, the most repeated option was "strongly agree" for the item "Web 2.0 tools improve the technological skills required in today's world". It was chosen by 189 participants. Other four most chosen options were "strongly agree" too. The second most chosen option was "strongly agree" by 174 teachers for the item "Web 2.0 tools provide the

opportunity to exchange knowledge". As the third one, 169 subjects selected the item of "Web 2.0 tools allow teachers and learners search and share educational resources". Among all items, as the fourth most chosen option, 161 participants strongly agreed that "Web 2.0 tools facilitate learning participation through multimedia elements and files". The ranking of the most chosen options can be seen in figure 4 below as a bar chart.

Figure 4

Results of Part D: Teachers' Thoughts on the Use of Web 2.0 Tools



Teachers' Thoughts on the Use of Web 2.0 Tools and Demographic Associations

As it was conducted according to the answers of Part B, Chi-square tests were utilized to analyse whether there were any significant associations between the thoughts of participants on Web 2.0 tools regarding their answers on Part D and participants' demographic background information. "Education", "teaching grade level", "experience", "age", "gender" and

"eTwinning project participation" options were used to compare the answers. When the number of items and background options and limits of this thesis study is considered, statistical analysis were conducted with only a selected number of items of the questionnaire. Because of this, only one of the items were selected among 17 items. It was the item which received the highest number of positive responses.

As the number of categories is higher and it is necessary to reach a certain number of responses in each cell, in this part of the analyses, as they are meaningfully related, positive responses as "strongly agree" and "somewhat agree" were analysed as one category. Also, negative responses "strongly disagree" and "somewhat disagree" were coded into another category. When the mid-point is also taken into consideration, analyses were conducted with three different categories as "agree", "disagree" and "neither agree nor disagree".

According to analysis of the results of the questionnaire which were reported above, the fifth item which stated that "Web 2.0 tools improve the technological skills required in today's world" was the one which received the highest number of positive responses. Among 269 participants, 189 participants strongly agreed and 54 of the participants somewhat agreed with the statement. When "neither agree nor disagree" mid-point answers are left out, in total only 5 (1.8%) of the participants somewhat or strongly disagreed with this statement. Because of this, the first Chi-square analyses were conducted comparing the responses of this item. However, in all six cases assumptions were violated as more than two cells had expected count less than 5 in crosstabulation tables.

Responses to Open-Ended Questions (Part C)

In this section, responses of the participants to open-ended questions of the survey are reported. Some of the survey participants left after answering the multiple-choice and Likert-type items. Because of this only 206 of the participants answered the open-ended questions. Common themes were coded and reported with their frequencies. In the first question, the advantages of using Web 2.0 tools for foreign language teaching were interrogated. Responses are reported below with their frequency scores.

Table 27

Responses to 1st Open-Ended Question (Part C) of the Questionnaire - What could be the advantages of using Web 2.0 tools for foreign language teaching?

No.	**Responses**	**Frequency**
1.	Students can communicate, interact, participate, and collaborate so that they can use the foreign language more actively.	27
2.	Language learning can be more fun and enjoyable thanks to these tools.	16
3.	Teachers will be able to reach materials easily such as audio and textual but especially visual.	12
4.	Students can improve their language skills.	11
5.	It enables students to access information in an easy and fast way.	11
6.	Both teachers and students can be creative.	10
7.	It can motivate the students.	7
8.	They increase learners' attention.	6
9.	Students can join anywhere and anytime.	2
10.	They are practical and timesaving.	2

In the second question, challenges/problems of using of Web 2.0 tools for foreign language teaching were interrogated. Responses are reported below with their frequency scores. As it can be seen from the answers below aspects such as communication, interaction, and active participation to the lessons by the students was seen some of the teachers (27) as one of the most important advantages. Second one was making language learning fun and enjoyable. Other aspects were easy access to audio, textual and especially visual content and materials, and information, improving learners' language skills and the chance to be creative for the students and teachers.

Regarding the challenges and problems, an overwhelming majority of participants (99) mentioned lack of devices, internet, and other technical problems and lack of opportunities for some students in this respect. It is followed by time issues and lack of knowledge or information to use the tools properly.

Table 28

Responses to 2nd Open-Ended Question (Part C) of the Questionnaire - What could be the challenges/problems of using Web 2.0 tools for foreign language teaching?

No.	**Responses**	**Frequency**
1.	Lack of devices such as computer, tablet or mobile phones, lack of internet connection or other infrastructure/technical problems.	99
2.	Sometimes they can be time consuming.	12
3.	Lack of information for using the tools.	7
4.	E-safety issues such as unwanted content, personal information etc.	4
5.	They may cause a lack of attention.	2

4.3. Interview Results

In this section, results of the interviews conducted by 19 foreign language teachers who were very experienced in using Web 2.0 tools for teaching a foreign language are reported. All the 19 participant teachers of the individual interviews were EFL teachers and had at least a few years of experience in using Web 2.0 tools. Results were reported according to the common themes and patterns which were found at the end of the coding process of the interviews.

4.3.1. Teachers' Experiences and Thoughts of Web 2.0 Tools

The interviews were conducted to shed light on teachers' experiences, and thoughts on Web 2.0 tools in line with research aims and the research questions. For instance, it was interrogated how the teachers used Web 2.0 tools for teaching the foreign language like whether they use the tools in the class or outside the class for teaching and learning purposes, the frequency of using the tools, the most effective ways to use Web 2.0 technologies, advantages, and challenges of using Web 2.0 tools in FLT, etc. Some of the common themes and patterns in relation to the research and interview questions are as follows. Results were given in separate sections by grouping them into these common themes, categories, and patterns. An overview of these common themes, categories, and patterns is also provided in the Table 29 below. It should be noted that some of these subtitles are directly related to the

questions used during the interviews. For instance, it was asked the teachers whether they used the tools for assigning homework or not. Frequency scores for some of these themes and patterns and related other ones mentioned during the interviews by the participants are as follows: project (79), project-based (7), eTwinning (29), introduce (7), enjoy (27), fun (18), homework (27), generation (20), generation Z (6), group work (13), individual (13).

Table 29

Common themes, categories, and patterns of interview responses

No.	**Responses**	*No.*	**Responses**
1.	Common Purposes of Use by the Participants	**16.**	Advantages
2.	Common Web 2.0 Tools and Web 2.0 Tool Types Used by the Participants	**17.**	Challenges
3.	Introduction of the Tool	**18.**	Tools That do not Work
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Common Purposes of Use by the Participants

Interviews indicated that there are some common purposes of use of the Web 2.0 tools by the teachers. Certainly, the purposes were in line with the mostly mentioned and most used tools by the interviewees which were reported above.

Firstly, ***evaluation*** was one of the common aims to use Web 2.0 tools during the classes according to the answers of participants of the interviews. Teachers mostly use evaluation tools during the lessons. They can use them at the beginning, during or at the end of the classes. Even though *Kahoot* was one of the most popular tools, teachers also like using *Quizlet*, and also *Quizizz*. In general, there were positive responses regarding the evaluation tools of *Quizizz* and *Quizlet*, but for instance, P12 pointed out that her students do not find *Quizizz* as enjoyable as *Kahoot.* P16 also stated that personally she used *Quizizz* and *Quizlet* more than *Kahoot* and she likes them more than *Kahoot*. P6 pointed out for *Kahoot* that "Students like it a lot. Teachers also like it".

Secondly, the interviews demonstrated that ***video*** recording and editing are also used very often by the teachers. Another purpose to use Web 2.0 tools for the teachers is to foster ***speaking***. ***Vocabulary*** teaching can be noted as another purpose to use Web 2.0 tools for the teachers. ***Gamification*** is one of the common purposes too. A few of the participants stated this directly. Some others mentioned it in their examples or hinted it. ***Preparing presentation*** and ***poster preparation*** were among other common purposes of use in addition to some other skills usages such as integrating ***writing***, ***listening***, and ***reading*** as language teaching necessities.

Common Web 2.0 Tools and Web 2.0 Tool Types Used by the Participants

Some tools were mentioned more often by the teachers who participated in the interviews when compared to other tools. Starting from the ones which were mentioned by more participants, with their frequency scores in parentheses, "*Kahoot*" (13), "*Canva*" (10), "*Padlet*" (10), "*Quizlet*" (8), "*Quizizz*" (5), "*Learning Apps*" (5), "*Powtoon*" (5),

"*Actionbound*" (5) and "*Flipgrid*" (4) are among these tools. "*mind mapping tools*", "*Voki*", "*Cram*", and "*Mentimeter*" follow these tools by means of the number of times the participants mentioned them in their examples during the interviews, and they stated that they used these tools. However, it should be noted that, the aim was not to determine which tool was used more often by the participants and it was not directly asked with this aim in mind. And this does not mean that the participants who did not mention some of the tools did not use them. However, the given numbers in parenthesis mean that those were the minimum number of participants who used the given tool. For example, "*Kahoot*" was used at least 13 of the 19 participants. These participants particularly mentioned "*Kahoot*" in their examples about how they used the tools or in response to other questions about their thoughts and experiences with Web 2.0 tools. It was one of the mostly used tools. As a sample of the one of the commonly used tools by the participants, P14 gave an example about "*Powtoon"* and how he used it as follows.

> First you write a script. First a teacher speaks. She says that "we will travel around the world today and our subject is sport." A character speaks about Lithuania and says, "welcome to Lithuania." A 15-minute script like this. Finally, the teacher makes an evaluation and ask questions in the video. She gives the answer finally and congratulate, clap hands. We prepared such a thing in *Powtoon*. (Individual interview with participant 14).

Introduction of the Tool

Regarding how the teachers use Web 2.0 tools, many of the participant teachers mentioned that first they give an example by using the tool to the students in order to demonstrate what they can do. It can also sometimes be necessary to introduce the tool if the students have not used it before. Regarding the first introduction of the tool and how the students start to use it, P6 explained it very clearly and in detail as follows.

> First, I give an example. If the tool is complicated and we are in the school, I show them on the smartboard. During online lessons, I explain it by sharing my screen. I tell them about technical information like logging in, membership etc. As the students are generation Z, they grasp it very quickly. As they use their creativity afterwards,

> it is not difficult for us. If some of them cannot still do it, they ask me, and I explain. This is only at the beginning of the class. After they learn how the tools are used, they can do them themselves. Most of the tools work similarly. Then I only help them when they need technical assistance sometimes. (Individual interview with participant 6).

P5 stated that as she works in a Vocational Education and Training (VET) school and her students' motivation is not very high for the lesson, when she prepares a sample task and demonstrate how to do it, her students are more motivated, and it helps them to prepare a similar task. A few other teachers pointed out that in order to prevent a mistake in the class, they try the tool at home beforehand. P19 emphasized the same in detail by mentioning the importance of preparation and introduction of the tool in detail and in a clear way to the students in order to help them use the tools in an effective way as reported below.

> You need to be prepared. You can use someone else's work, but you can also prepare your own work. And both mean some effort from the point of teacher. And you should always have a Plan B because, you know, you cannot trust technology all the time. You can encounter electricity cuts or internet connection problems. It can ruin everything. You need to have a Plan B. So, when a problem occurs, you will not stop teaching, you will not stop the lesson, and you will continue. We should not be so dependent on the technology. And we should always have a Plan B and we should always be very well prepared. Because if we are not prepared, our time management will be a problem. Yes, new generation is very familiar with technology but there are some students with low socio-economic background or other family problems. I think sometimes they are afraid because they are not familiar with technology like the rest of their friends and their peers. The teacher should explain very clearly and accurately what to do, how to do, and how to use that web tool. If we give instructions clearly, then they can be comfortable, and they will try. But if we do not and if we just say, "go and use that tool", they will fear and maybe they will have low self-confidence. Maybe they will fear from making mistakes. (Individual interview with participant 19).

Frequency of Use of the Tools

The participants were interviewed about the frequency of use of Web 2.0 tools in their teaching practices. Most of them stated that how often they use them depends on the tool, the students, and the subject of the lesson. Participant 16 stated that,

> I like change. That is why I use the tools interchangeably. The most important thing is whether the tool serves my aims. I can use a tool once during a term, for instance, but I can also change it. For instance, I use *Quizlet* in my lessons for some activities and implementations. In my other lessons, I use *Kahoot* instead of *Quizlet*. By the way, personally I do not like using *Kahoot* so much. For students' assignments, I encourage them to use different tools. For example, one student will use *Genially*, while the other one will use *Prezi*. I tell them to do their search and then prepare their presentation by using a different tool. This was my motto. That is why I also use very different Web 2.0 tools in different levels. (Individual interview with participant 16).

Some of the participants pointed out that there are some or a few tools that they use regularly but it depends on the topic, too. Only one of the interviewees (P7) told that he uses each tool only once or twice. It should be noted that this teacher works in a Science and Art Center (BİLSEM). He stated that if he uses a tool more than once, his students are bored and are not very eager to follow the class. He uses them for the second time only if he really likes the tool a lot or if only the tool is highly effective. When he was asked why he does not use them more often, he put forward that the students are bored, they perceive it as the same thing, or they assume that the same subject will be repeated. But the students also enjoy using such tools a lot. Before the lesson he tells them that he will use the specific tool only once and there is no repetition. As they liked the tool a lot, even the students who do not attend the classes always comes to this class to use the tool. P8 who also worked in BİLSEM told as an answer to the same question that "There are some tools that I use regularly but mostly it depends on the topic. When you are teaching something, for example vocabulary, you cannot use all the tools. If you want me to be specific, I use *Kahoot* and *Quizlet* to teach vocabulary. I use *Flipgrid* tool to teach speaking. . . . I use word art tools or mind mapping tools once or twice." (Individual interview with participant 8).

The Number of Tools a Teacher Uses

Even though it was not directly asked to majority of the participants, some of them mentioned about it and a few of the participants were interrogated about the numbers of the tools they know and use. Upon a question, P2 stated that she can count 60-70 tools and in their previous project she used about 55 different tools. Another teacher (P3) told that she uses 7 or 8 web tools.

Regarding the number of tools known and used by the teachers, there was a theme which repeated itself noticeably during the interviews. Some participants especially emphasized that the aim should not be knowing a lot of tools, rather than that it is more important to use the known tools efficiently. Details and some examples about this were given in the *suggestions* section below. As an instance, P6 talked about it as below also mentioning the advantages and disadvantages discussed in other related sections in detail too.

> Rather than using many tools, using them for specific aims is important. For example, if the teacher knows to use the tools which make it possible to give feedback to students about their progress, they can utilize the process with utmost efficiency. So, I think that there are more advantages than disadvantages. (Individual interview with participant 6).

Project-Based Learning

A few participants stated that they use some of the tools only for specific project activities like for eTwinning or Erasmus projects. For instance, as an answer to the question whether the students use the tools in order to connect other people, for example, in order to speak or write to others outside the class, P6 stated that, “We do it by means of projects like Erasmus or eTwinning in a controlled way, but I did not see any other such communication or dialogue between our students and foreigners by means of e-safety.” (Individual interview with participant 6).

P18 argued and emphasized the importance of project-based tasks in order to use Web 2.0 tools efficiently as follows.

> First of all, I am very happy with these tools. My teaching motivation increase with these tools. For example, I can record, assign what I give to my learners. It is a practical thing, I think. Also, my students can take advantage of communication, collaboration by using these tools. Let's say 21st century skills. But if I do not use any Web 2.0 tools in a project-based task, they are just colours. They are just an addition. But if I use web tools in a project-based task, they work very well. To sum up, I can state that I love web tools when I use them in the projects. (Individual interview with participant 18).

Enjoyment and Fun

If not the most emphasized, one of the most emphasized themes of the interviews was that the students like, enjoy, and think that it is fun to use technology in general and especially some of the Web 2.0 tools. For example, P3 simply and clearly stated that, "When we use Web 2.0 tools, students enjoy it a lot that they do not even understand how the time passes. It is not like a lesson for them. They do not want to leave the school laboratory even at recess. They want to go on." (Individual interview with participant 3).

P2 who gave assignments or homework for the students to do by using Web 2.0 tools put forward that,

> Normally none of the students like doing homework. But when I give them such homework, they become more involved, and they spent a certain amount of time to do it. This also helps them to repeat the same things, same structures, or sentences, and automatically they learn it. And they develop their self-confidence because they present in front of other students in the classroom what they have prepared before. They show their products, and they feel proud. (Individual interview with participant 2).

There are many tools in this category mentioned by the participants. *Autorap* is a tool which turns students' voices into a rap song after they record their voices. P4 stated that it is very effective for her classes, and you can get reaction and even interaction even in classrooms

which are not highly motivated. Also, some other teachers indicated that it is very fun to use this tool for the students during the classes.

Another tool which is very enjoyable for the students according to participants' reports is *Kahoot* as an evaluation tool. As P6 put forwards it, his students do not say it is an evaluation or an exam. They say, "let's play *Kahoot*!" (Individual interview with participant 6). Nevertheless, it can also be added that a few of the teachers also pointed out that there are particularly a few students in each class who do not like using Web 2.0 tools and do not want to use them because of different reasons.

What do They Like about Web 2.0 Tools?

Some teachers mentioned that they like using Web 2.0 tools. Some of the reasons why they like them are as follows. They like them because they find them easy and fun. Students can use their creativity by using the tools. Students are more involved while doing assignments by using the tools. They like that they are practical. They do not waste time. They help the students to practice English. Students like the technology and they are active while using the tools. A positive learning atmosphere is created. As they are into technology, the students are not bored. Students also discover new features of the tools. P14 stated that he had learnt about more complicated tools and spent a lot of time on them before, but later he found out that he could already do many things with simpler Web 2.0 tools.

Homework vs Classwork

Most of the participants stated that they give homework or assignments to the students which can be done by using Web 2.0 tools. In general, almost all the participant teachers of the interviews and their students use Web 2.0 tools both at home as a homework or assignment and during class time or at school. A few participants especially emphasized that they use the tools more during class time. For home use, a few teachers mentioned that they assign them such usage for project work. There were only two teachers who mentioned that their students usually use Web 2.0 tools only at home because of technical shortcomings in their school. The basic reason was lack of smart boards in their schools. Below is how one of these two teachers, P14 defined his situation,

> I used to work in a middle school in a village. At that time, because of the shortcomings, I gave the students homework which could be done using Web 2.0 tools in general. Now, I am in a high school. I give them as homework, and they use the tools at home in general too. Because we do not have smart boards in the classroom now. It is very difficult to use Web 2.0 tools when you do not have smart boards in the classroom. That is why I give them as homework. For instance, they prepare presentations or prepare videos. Now there are some apps which can be used in mobile phones. Students can use the apps to do many things. For example, they edit videos by using these tools. I am not sure whether they are Web 2.0 tools. . . . What they like about working on these tools at home is that they can work as they want. They can create or produce something as they wish. (Individual interview with participant 14).

Even though lack of technology and devices was a reason for two of the teachers to use them only at home, it was also a reason not to use the tools at home for some other teachers. They stated that as some of their students do not have devices or internet connection at home, they only use Web 2.0 tools in the classroom or during school time. But as it was stated above, almost all the participants' students use them both at home and at school in general. Regarding some of the tools which were particularly used at home or school, some of the participants as P14 put forward that the students prepare videos or presentations at home, a few others told that they use tools like collaborative boards or cloud technology at home. On the other hand, evaluation or quiz tools, tools for vocabulary, gaming, presentation, brainstorming, and voting are among the tools which are used more often during class time or at school when compared to others according to the participants' reports.

Group Work vs Individual Work

Even though it was not directly interrogated whether the students use the tools as a kind of group work or individual work, 6 of the 19 participant teachers pointed out that some of the tools and activities are conducted as group work in the classroom. A few of these teachers who mentioned group work also told that they use group work as a kind of solution for the challenges like lack of devices or other technical difficulties.

As it was stated above, the students of P5 are not high academic achievers and have low motivation for the lesson. Here is how she clarified their transformation from individual work to group work usage for their own particular case.

> They prepare presentations and videos before the classroom. In general, they prepare them as a group work. Some of the members of the groups take more responsibility. I have seen lately that it is more efficient in that way. Before, I used to give them homework individually. But not all of them did the homework. When many of them did the homework at that time, they wanted to present them in the classroom, and it took a lot of time. The time was limited and not enough for presenting all the products. In general, according to me group work works better while preparing activities by using Web 2.0 tools. (Individual interview with participant 5).

Best Practice

As an answer to the question about the best practice examples and the most effective ways to teach a foreign language by using a Web 2.0 tool, participants named different tools and types of tools. However, there were a few common points. Sometimes they named more than one tool or type of tool and gave examples related to how they used these tools. The result was a bit parallel to how the teachers use Web 2.0 tools or which tools are used more often in general. Nevertheless, there were a few specific tools which were not mentioned or at least not emphasized as best practice from the tools which are used very often or as common.

As a type of tool which is used more often, evaluation and quiz tools were also mentioned for best practice examples by almost half of the 19 interviewees. According to a few of them, it seems, not particularly for the teachers but especially for the students, *Kahoot* is among the best tools. *Quizlet* and *Quizizz* were also among the tools which were mentioned for the best practice examples as evaluation tools by a few teachers in addition to *Kahoot*.

Even though video tools were mentioned often among the tools used often and how the teachers used Web 2.0 tools, they were not mentioned among the best practice examples very often. Still a few examples were given by means of video usage or recording, but they

were more related to the usage of videos in gamification tools. A few of the participants mentioned presentation tools too. P15 emphasized the importance of gamification in the tools and how the students liked it and that they learn by means of gamification without even realizing it.

Although only a few of the participants mentioned it in this category, probably the most emphasized tool for best practice examples and most effective tools was *Actionbound*. They especially named it as their favourite tool and put forward that it is not like any other. Namely, among 19 participants, P6, P7, P10 and P18 specifically indicated it as the most effective tool and their favourite, and they explained their justifications about it as it is explained in the quotations below. Also, P8 mentioned it as one of the best ones among a few other tools. In line with the explanations of other teachers, his justification for his favourite or best tools depended on *"forcing the use of at least three of the 4 basic skills" (Individual interview with participant 8).* He also mentioned some evaluation and gamification tools.

Below is how P18 specified *Actionbound* as the most effective tool and gave details about it by giving examples of its challenges.

> I think the tool which works best is *Actionbound*. If you ask why, by means of *Actionbound*, I can include four language skills to the lesson. *Actionbound* enables learners to record their voice, to video themselves, to write, to send, to produce textual material. But not all the students do not have mobile devices at their homes or on their own. For this reason, *Actionbound* cannot be very economical. When all the students have their mobile devices at home or at school, it works very very very best. But under the economic conditions in my school, some students do not have any mobile devices, tablet, or mobile phone, so I had to create or prepare pairs or groups to complete some tasks using *Actionbound*. Not all the students could taste the experience of using *Actionbound*. It is the general problem, financial problem. (Individual interview with participant 18).

Certainly, interviewees' thoughts were not common all the time, but similarly to the thoughts of P18 mentioned above, P10 summarized why she thinks *Actionbound* is the most effective tool according to her, "Because you can make the student talk, read, and write with

one preparation, with one output. You can evaluate his grammar and comprehension. You can both develop and evaluate students' progress in language with one tool. . . . It is a collaborative tool, digital and interactive learning technique." (Individual interview with participant 10).

Upon a question, P6 gave an example about the usage of it in his classes and explained the importance of *Actionbound* according to him,

> By using Actionbound, students not only use technology but also learn by doing. We give the students a QR code by sticking it on the wall. Then they start the game by reading the QR code on the wall. There are different kinds of modules. For example, you can do multiple choice or listening. There are quiz or game parts. You can use GPS to go to a location. Students enjoy it. We do it in groups for 3-4 or 5 students. For example, we define a duty, for example, buying something from the canteen. All the directions are in English. For example, I tell them to take a photo (selfie) with the responsible person in the canteen. Or I tell them to sing a song in English. They are amused and there is physical activity too. We use the school garden. By giving directions, I want them to find QR codes in different places. A treasure hunt, a game, amusement, team collaboration, and a physical activity. Middle school students love it, but it was also very effective in high school too. We also play it with my teacher students in the courses. The more creative you make the games, the more the students enjoy it. The important part of Actionbound is that it contains all in the same place. You can use listening, for example, I add a song. Both it plays a song with the question, and I also embed the listening audio in our book as a question in the application. The students answer the question by listening to it. They can also be questions with short answers. You can involve all four skills. The reason I like it a lot is that it is versatile, and the students find it enjoyable. . . . You must work on it more and prepare something good, but I can say that it is better than all (Individual interview with participant 6).

A few of the tools were also named by more than one participant in the best practice category in addition to the others mentioned above. Among them there were *Flipgrid, Autorap, Padlet, Canva, Voki, Learningapps, Mentimeter, Cram, Wordwall, Postermywall*.

Cloud technology (*Google Docs* etc.), *Powtoon*, and *Emaze* were named by two different teachers.

A few teachers stated that speaking is the most challenging skill to develop. That is why they named a few tools which can be used to foster speaking ability. For instance, P9 mentioned *ChatterPix* as "an enjoyable way for engaging [her] students for developing their speaking skill" which can be used to convert pictures and inanimate objects into talking pictures. P4 mentioned similarly about speaking skill that her students feel very shy about talking. Because of that she named *Vocaroo* and *Autorap* to use for speaking as the most effective tools. P15 mentioned *Flipgrid* for the same reasons that the students sometimes feel ashamed or shy to speak. P5 remarked *Autorap* because of its efficiency to support pronunciation skills as a neglected skill. *Powtoon, Mystory, Stroybird, Zeemaps, Thinglink, Futureme, Jigsawplanet, Prezi, Emaze, Educandy, Metaverse,* and *Chatterpix* were mentioned each one once by different teachers.

However, it should be noted that sometimes the most effective tool or best practices may change according to the situation or case. In line with this, P4 stated that if she worked in another school and their students were different, she would have chosen different tools as her best ones. P19 also told that she does not believe that there is a best way indicating that every teacher and their students are unique.

Comprehensible Input

The participants of the interviews were asked whether Web 2.0 tools they used help provide comprehensible input to the students. The term's meaning as it is used in foreign language learning and teaching context and within the framework of this thesis was explained to the participants. Most of the teachers stated that it can be done by means of some of the tools and gave different specific tools and examples. A few of them especially argued that it cannot be done by means of other tools than they mentioned. A small number of the participants (2 or 3 of them) discussed that comprehensible input cannot be provided by means of Web 2.0 tools alone. One of them claimed that it is possible to provide new vocabulary but not possible for new grammar structures as comprehensible input.

However, there was not a complete consensus between the answers regarding the type of tools or specific tools which could be used in this sense. A few of the teachers mentioned evaluation tools again as the tools which can be used to provide comprehensible input. One of the teachers stated that sometimes there are some new words or structures in the given texts by means of evaluation tools and students need to infer their meaning. One of the teachers put forward story tools as a tool which could be used with this aim in mind. Another one noted a writing tool as other students need to read what a student has written beforehand. Overall, some of the tools which were mentioned in this category by the participants were *Vocscreen*, *Autorap*, *Google Jamboard*, *Actionbound*, *Padlet*, *Kahoot*, *Quizizz*, *Quizlet*, *Canva*, *Postermywall*, *Flipgrid*, *Storyjumper*, *Storyports*, *Blooket*, *Learningapps*, *Powtoon* and *Educandy*.

As a result, there seemed to be a common uniformity among ideas that many of them believed that it is in the hands of the teachers to provide comprehensible input by using Web 2.0 tools and how a teacher uses the tools is important in this sense. It also depends on the activity and the content. If one organizes the tool in a way to provide comprehensible input, it could be possible by means of different specific tools. In line with this, P18 stated that, if the teacher finds an authentic video on *YouTube* for a class for instance, first he/she needs to work on it to make changes and make it appropriate for providing comprehensible input. Otherwise, it would not be appropriate. As P11 put forward it, "Web 2.0 tools are like soldiers. Where you lead them, they go that way. So, if an instructor uses it in appropriate ways to guess or require new words…" (Individual interview with participant 11). Also, two teachers put forward that students acquire at least some common words or structures just by using the tools because some vocabulary or structures are necessary to use such technological tools as English as a foreign language is the language of the technology. It can also be noted that in addition to this, P19 asserted the significance of the opportunity for the learners to work individually and on their own pace or time to infer the meaning of the linguistic items while they are studying language.

Social Collaboration

The interviewees were interrogated whether Web 2.0 tools encourage social collaboration or not between the students. This was inquired in two ways in general. Firstly, Web 2.0 tools they noted as best practice examples were under scrutiny if it is meaningful to do it, and secondly Web 2.0 tools in general were questioned.

Even though there were a small number of opposing views, in general there was a consensus among the participants that Web 2.0 tools can be used to encourage social collaboration and especially some tools, because of the way the tool is used or its options such as group work or individual work, are very good at doing that.

Especially four of the nineteen interviewees indicated the importance of projects or international projects such as Erasmus, Scientix and eTwinning in this sense or gave examples related to these projects to specify social collaboration between the learners. By involving the students in such projects, they can encourage social collaboration by assignments or project-based tasks.

Regarding the specific Web 2.0 tools, as it was emphasized by some of the teachers among best practice examples mentioned above, it can be noted that *Actionbound* was also remarked as being effective to encourage social collaboration by some teachers.

On the use of evaluation tools, there were a few opposing views which meant that they are not good at encouraging social collaboration. On the other hand, a few other teachers directly gave examples related to evaluation tools by stating that they can encourage social collaboration considering that some of them have group or individual options.

Some teachers specified document sharing tools such as *google docs* or collaborative idea sharing tools such as *Google Jamboard* as effective for encouraging collaboration and communication between the students. A few others indicated story writing tools as effective in this sense. P11 and P12 mentioned *Mentimeter* to collect ideas from the students as also being effective to encourage collaboration between the learners. P17 stated that her students also work collaboratively by using some gaming tools as teams. P19 explains how teachers'

guidance is important to encourage social collaboration between the students and gives some examples below.

> I think it depends on teachers' guidance. If I tell the students to go to Padlet and upload their work, they will just do that. But if I tell them upload their work and check what others did and give feedback and encourage that, it is a kind of peer assessment, peer evaluation, or peer feedback. It will increase social interaction. . . . We write collaborative stories with my students. It improves both their creativity and their collaboration skills. Sometimes I give them the pictures and they write according to those pictures. Sometimes they even draw the pictures themselves and write according to those pictures. But there is always a collaboration and creativity. For example, we make a song together. Each student writes a line of this song or a poem. Technological web tools make everything easier. They collaborate and they do it in a limited time and we have a great output in the end. (Individual interview with participant 19).

Real World Relation

During the interviews, it was also interrogated whether Web 2.0 tools are or can be used to relate students' learning to the real world. Efficiency of the reported good practice examples by the participants for FLT with Web 2.0 tools was also taken into consideration.

As in the answers relating to the other aspects such as social collaboration and comprehensible input pointed out above, there were a few contradictory views regarding the real-world relationship while using the tools. However, eventually, it can be put forward that most of the teachers believed that the Web 2.0 tools can be used to relate students' learning to the real world, but it also depends on the task, activity, teacher's goal, guidance and how the teacher uses the tool. As P13 summarized "I always liken them to cutlery, a fork and a knife. You choose the method. By using them, you can teach the students the real world or just the opposite you can give them imaginative news" (Individual interview with participant 13). Similarly, P15 also emphasized the importance of teachers' vision and the methods they use rather than the tools.

As for the examples, P5 stated that because of her students' special case, their academic achievement as well as real world knowledge are very limited. She states that because of this, she includes from their daily life to attract their attention. For example, once by using materials from their real life such as cars, materials etc., the students recorded videos and prepared some stop motion movie to talk about environmental and pollution problems by using a web tool.

Regarding a tool which was given as a best practice example by the participants, P10 and P18 specified *Actionbound* and P10 gave examples about it. She stated that "you can give the students very different types of duties or tasks. You can ask them to find a location or sing a song at that moment. Or you can just ask them to send videos and answer the question in the video such as 'what should be done for Covid-19?'" (Individual interview with participant 10).

Another example was from P17 who stated that she uses mind mapping which could be linked to real world issues. By means of it, the topic may expand, and the students find new vocabulary. P12 and P18 indicated virtual reality, virtual life, second life tools and augmented reality as tools which could be very effective in this sense. Even though P18 did not start to use them yet, P12, for instance, used an application called *virtual tee* to introduce humans' internal organs about health issues. P19 gave story writing tools as examples. She discussed that by means of such tools, students can develop 21st century skills, their creativity and mentioned an instance when they used a Web 2.0 tool to make the students aware of fake news and misinformation eventually as a real-world problem.

Positive Learning Environment

As it was mentioned before, one of the most emphasized themes of using Web 2.0 tools for teaching by the teachers was that the students find using the tools very enjoyable and think that it is a fun way of learning. All the 19 participants agreed with this statement and none of them objected it.

However, a few of the teachers suggested some requirements to attain a positive learning environment by using Web 2.0 tools. According to P6, first of all the teacher should

choose the right tool, and secondly give the instructions well. Some of the tools work better with different types of devices such as PC or mobile phone etc. The teachers need experience or knowledge in this regard. According to P8, the tool should be appropriate to the level of the students. If the tool is too difficult for them to use, it may have a negative effect and hinders it.

As a challenge of Web 2.0 tools in this sense, P5 stated that she does not have too much time in the classroom. VET schools have 2 hours of regular EFL classes. So, the students would like to present the things they have prepared beforehand, and it is not always possible because of the time limit. So, their class becomes a positive learning environment, but this could also become a challenge. In a similar vein, as a regular user of technological tools in her classes, P13 puts forward that if she does not use the technological tools in a lesson, her students give her feedback telling her that it has been a boring lesson.

Below is how P4 answered the question on whether Web 2.0 tools create a positive learning environment and why it is the case according to her.

> All the time. Not one tool, but many tools can do that. When a student presents something to you, they like being listened. There are many students who do not like speaking in front of people in high school. But they like creating, preparing, and presenting something. They like being recognized. Also, because when you use Web 2.0 tools, you create an interactive atmosphere for the students. If they are interactive, and as long as they interact with each other, you can create a more relaxed atmosphere. (Individual interview with participant 4).

In addition to the requirements stated by the teachers for a positive learning environment in this regard, they also predicted some reasons. Positive effect of playing, not limiting learning to class time, and increasing learners' self-confidence are among other suggested reasons. Because of the confidentiality of some of the evaluation tools as students do not know who answered what, they may feel more comfortable. Another example was the effect of ice-breaking activities for creating a positive atmosphere in the classroom. According to P14, students are bored of classical and teacher-centred education. In addition to creating, preparing, and presenting something, being interactive and recognized as mentioned above by

P4 as some of the reasons, according to some of the participants, students like the technology itself as well as some of the teachers as they stated it. P10 commented on it as follows,

> We have a very different generation before us. . . . They want speed for everything. As they are accustomed to reaching everything very fast, also the information, they can be bored very easily. It is very difficult to attract their attention in the lesson. We cannot attract their attention by means of a book. That is why we need to use different applications. And I really believe that these tools really prepare a very good learning environment in the classroom. They increase their knowledge. . . . Even a student who is not interested in a lesson can pay attention well when I use these tools. Also, when I see their eyes bright after my lesson and when I see them very bored at the end of other lessons, this should be the best [indicator], I think. (Individual interview with participant 10).

P17 also mentioned students' interest in technology and the advantage of BİLSEM where they can work with 3-4 students or even individually. She stated that the students could also go on using the tools at home if they really like it. P16 put forward the difficulty of motivating their students and that many do not even attend the classes. She put forward that Web 2.0 tools helped a bit to involve them and speak in English during the classes which was more difficult before according to her.

Advantages

There were also some common themes and patterns regarding the advantages of using Web 2.0 tools for teaching. First of all, many of the teachers think that the tools are interesting for the students, and they are good at motivating the learners. They can use their creativity and they like creating something such as posters, videos etc. Some of the teachers also like using the tools and technology and find them interesting and fun. Another stated advantage was that some of the tools could give detailed reports about students' productions or achievements.

As it was discussed in a specific section above, students find them enjoyable and fun according to the participant teachers' statements. The students could be "more enthusiastic,

more eager, and more curious to learn" (Individual interview with participant 10). In line with this, according to many participants, as the tools are engaging, the teachers are able to attract the attention of the students easily. They do not need to waste time on trying to concentrate them. Another common opinion stated by many of the interviewees was that the tools make teachers job easier. Even though it takes time to prepare them, once the materials are ready, teachers can use them again and again for a long time. Some of the interviewees also told that the tools are easy to use and make their lives.

Also, each student can regulate their learning at their individual speed and the tools are helpful in terms of learner autonomy. According to some of the teachers, another advantage is making learning English more effective, reinforcing learning and increasing students' success and rising their achievement levels. The students could be exposed to language more by means of the tools. They mentioned that it provides learning beyond classroom walls and reaching to different types of intelligences. Authentic visual, audio and textual materials can be provided to the students by means of Web 2.0 tools.

In addition to the common themes and patterns, some of the interviewees touched on different advantages of the tools. P5 stated that the tools are efficient for group work, the students can produce something better as their differences and strengths are different. According to P7, using such tools also contribute to the image of a teacher in students' point of view. The students regard the effort as important and they think that "my teacher has prepared something for me, gives me importance and values me" (Individual interview with participant 7). According to P8, most importantly as an advantage, the tools help use the time efficiently in a lesson because of their features or specifications such as limiting the time on specific activities etc. P11 stated that the tools give the opportunity to provide various and diverse range of materials to the students. One material such as a picture can be used in different activities by means of the tools too. P13 told that if all the students have internet connection and devices, each one may have equal chances and teaching by Web 2.0 tools is a necessity in 21st century. P19 added that by means of Web 2.0 tools she can get more feedback from her students and learn each ones' opinions. In a tradition lesson, it is difficult to learn what each student thinks about a subject, but the tools make it possible.

In line with the common ideas stated above, P18 emphasized the importance of "ubiquity" of the tools and put forward that "Web 2.0 tools can reinforce students' motivation and if the students use Web 2.0 tools consciously, in an educated way, I think their academic achievement can also rise." (Individual interview with participant 15). In a similar vein to other ideas as mentioned above, additionally, P15 emphasized the importance of learning how to learn as below.

> Actually, they make teachers' job easier. They make the teacher more of a facilitator rather than a lecturer. They teach the students how to learn. Actually, this is our problem. We do not teach the students how to learn. The students should learn how to learn. And they should enjoy learning. By these tools, you learn how to learn. For example, I also wondered and learnt these tools by myself and integrated them into my life personally too. I also use them for other things sometimes. They also make your life easier. I believe it will be so for the children too. (Individual interview with participant 15).

Challenges

Regarding the challenges and disadvantages of using Web 2.0 tools for teaching, it should be noted that at least some of the interviewees stated that advantages outweigh the disadvantages in general although one of them especially remarked that advantages and disadvantages are equal. Among the most common themes about challenges, e-safety issues, technical difficulties, and financial constraints were most remarkable and commonly repeated. Among the participants' explanations, P6's interview covers these common issues in general and some in detail. He also touched on a different pattern as a challenge regarding some parents' attitudes. However, he also noted that it is not a very recent issue and mostly on the wane.

> I am appointed to a new school. In this school, I realized that students do not have enough knowledge about Web 2.0 tools. They do not have experience. So, we need to introduce them. So, I have to save one or two hours of classes for this. After they learn the basic things like using an email address etc., they will not have to learn a lot more. They will be able to adapt to different tools very easily. The second

> difficulty is finding free tools. If you do not have the licensed product, you may need two or three different email addresses, or you can use them in a limited way. Or if you are in a private school or in a school where students' socio-economic conditions are good, you can buy them. So, it may be a handicap to look for free versions in general. A third one would be internet infrastructure in the school. The fourth one is parents' prejudices. Some parents are positive about it, but some parents say that they are against the technology. They say that they do not want their kids to receive radiation, or they forbid their children using technology. But the pandemic demonstrated that it is indispensable. So, I tell the students that "of course using the technology for very long periods is hazardous but we use it for education as a training tool". Especially a few years ago, this was more of a problem. This was also a challenge by means of the teachers and the school administration who did not have digital literacy. So, this type of a prejudice is a disadvantage. But this has not been a serious challenge in the recent years. (Individual interview with participant 6).

Some of the details of the common challenges mentioned above such as e-safety issues, technical difficulties, and financial constraints were as follows without any particular order. Firstly, there are e-safety challenges for the students. Some of the students may not know how to be secure online. Secondly, it could be a challenge to explain how to use the tools to the students sometimes if they do not know it or experienced it before. It may take some time to teach them. In relation to this, thirdly, time could be a challenge. It may take a lot of time to prepare or use the tools. Some of the teachers stated that they have a limited time in the classroom, and it is difficult to spare time for the tools. For the students who will use the tools at home rather than in the school, it could also be another challenge because they may not want to spend time on them at home. But as it was stated in the advantages section above, it is also practical sometimes to use the same products by the teachers again, once the materials are ready. Fourthly, some of the tools are not free and if the teachers do not have the licensed version, they can use them in a limited way. As the fifth challenge, lack of devices could be a problem. There are no smartboards in some of the schools or classrooms. Some of the students or even teachers may not have the necessary devices. Some tools work better on specific devices, such as either PCs or mobiles phones etc. As for the sixth one, internet connection is another challenge. Sometimes bandwidth is not enough in a school or at home, or sometimes there may not be any internet connection availabilities at all for some of the students,

classrooms etc. It can also be added that, as a seventh challenge, because of their socio-economic problems, digital literacy of some of the students may suffer. While using the tools during the classes, teachers may also encounter technical problems or other errors etc. When she was asked whether she encounters difficulties to learn about the tools or use them, P2 told the following about learning how to use Web 2.0 tools and gaining experience before she laughed,

> I did not have any difficulty because in YouTube there are many videos. If I do not know something to use, I watch the videos or I ask my colleagues. When I first started to use these tools, of course it was a little bit hard for me, but day by day you get used to using them and now it is a piece of cake for me. (Individual interview with participant 2).

In addition to the more common ideas suggested by more than one participant, P1 specifically mentioned the difficulty of assessments during some of the processes and for some tools. P3 stated that her students would like to use them very often as a challenge because it was not possible to do always. P8 who worked in BİLSEM mentioned that some of his students do not want to use them and one of his students put forward the following as a reason: *"Sir, using a web tool is like playing a computer game for me. I do not want to do that. I always do that at home." (Individual interview with participant 8).* P9 mentioned overusing the tools as a problem. She stated that the students also need to learn playing and creating by other means. P19 indicated changing the used tools very often by the teachers as another challenge for the students.

Tools That do not Work

As the best tools and most effective tools were questioned according to teachers' experiences, the tools which did not work for the teachers were also investigated. It was asked whether there were such tools that they tried to use for language teaching and learning but eventually the tool did not work, was ineffective or even time wasting for these purposes. Common opinion among the participant experienced teachers was that there were no such tools in general. They pointed out that some tools are more appropriate depending on the circumstances. It may depend on the circumstances such as subject or the age of the students

or different features of the tools. Some tools work better with younger learners. However, there were a few tools pointed out by some participants as which did not work very well in their particular case. In P17's answer below, the common answer of the participants can be seen in general with specific examples.

> Even though some tools are similar, they also have different features. So, I choose not to use some of the tools when there is another tool which could be more appropriate. Some tools are free to use only a certain number of times, so sometimes I do not use them because of that. For example, *bubbl.us* and *popplet* were among the tools that I use very often for mind mapping. But there are also other tools for mind mapping. For example, I like adding pictures in *popplet*. But, for example, I do not like it when there is a name of it on the figure and I do not want this feature. So, sometimes I use different tools for the same task to combine, for example, by using screen shot. (Individual interview with participant 17).

Except from that, P8 stated that social media tools are difficult to use at school, home or in the classroom for teaching and learning activities. The reasons are e-safety issues and inappropriate language. It is difficult to control it by the teachers. P8 also believes that image editing and creating tools are not effective for language teaching. P12 discussed that there are no good tools for speaking activities and you do not need Web 2.0 tools all the time. She put forward that it is better to use them for vocabulary, reading and listening activities but not necessarily for speaking activities. On the other hand, P13 asserted that there are not very good tools for reading activities. For instance, it was possible for her to find something for listening, writing, and a feedback tool for speaking but not something good for reading. P18 claimed that each tool has a flaw even if they are very good. For instance, even if he can use *Actionbound* for recording etc., he cannot use it for giving feedback to the students. P16 asserted that *mind mapping* tools did not work with her students. Also, they did not want to use *Flipgrid* because they did not want to be on the screen. P19 told that even though she had had a prejudice against animation tools, after learning about them in a teamwork of the MoNE, she liked them. She summarized the balance between choosing the right tool and the purpose of a teacher in her case as following,

> As long as a web tool serves its purpose for you, it is not a waste of time. Your purpose is very important at that point. I give my students a meaningful context to use that web tool and it works. But you know, preparation takes time. And it also takes time to explain the tool to the students, how they should use it and what they should do with it. These things take time. We do not have the luxury to waste time. So, we should think very carefully if the web tool and our purpose match. Most of the time I do not use the tools that I am not comfortable myself and my students. So, I do not have any names for the tools that are not useful. (Individual interview with participant 19).

The usage of social media tools and popular tools such as Facebook, Instagram, Twitter and YouTube, and blogs are explained in a specific section below.

Social Media and Popular Tools

Social media tools and some popular tools such as *Facebook*, *Instagram* and *Twitter* which are used very often in public as it was mentioned in literature review of the study were not mentioned a lot by the experienced teachers while they were talking about their experiences. Because of this, whether they use these tools for teaching purposes was also examined.

It turned out that most of the teachers do not use social media and popular tools for teaching purposes. Sometimes they are used for dissemination activities of the partnership projects such as eTwinning, Erasmus etc. Regarding the reasons, it can be stated that sometimes private permissions by the administrations are needed to use them. Also, sometimes these websites cannot be accessed over schools' internet connection because they could be blocked in the schools by filters of the MoNE. As it was mentioned before, there are also privacy concerns and e-safety issues. Teachers also think that their social media accounts are related to their private life, and they do not want to include or share that with their students.

Regarding the video usage, a few stated that they use the videos in a different way. For example, they embed the video to another tool, for example to tools like *Kahoot* or *Quizlet*, some mind mapping tools etc. They sometimes edit the video, add questions etc. Some of

them also use YouTube for dissemination of the activities, and as proof of what they did for partnership projects.

Upon a question regarding the usage of blogs, a few of the teachers responded that they use tools like *Google Jamboard, Padlet* or *Miro* like blogs to comment etc. rather than using other specific blog websites.

P6 stated that Twitter is used more by administrative institutions. It could be more appropriate for high school students rather than middle school students. Before, sometimes they used to use Facebook to share their homework or their products and he used to write comments in English on what students had shared etc., but after he learnt about Web 2.0 tools in a course of the MoNE, he started to use Web 2.0 tools and does not need to use Facebook often now. He realized at that time that Web 2.0 is "a vast world". P18 told that he loves using videos for teaching and he uses *Adpuzzle* as an interactive video tool to create some tasks, but he cannot find authentic tools on social media. He uses sources such as National Geographic. P13 was among the majority who do not use social media platforms as she explained below,

> I do not use social media platforms, *Facebook, Instagram* etc. for teaching but I use some other tools like British Council's Kids such as story etc. As I said the aim of using them is important. If you do not organize these tools as blocks such as Facebook or Instagram, I do not think that it will be very good. In YouTube there are some channels like story etc. I tell them that you can follow these channels. I want them to create a google account with their families at the very beginning of the year. They learn how to send email and they also have YouTube account. I have my own channel. I demonstrate them by means of these channels what we did before in previous years for the projects. I also see what we did before. As I said before, not as a type of social media tool like Facebook or Instagram but for example as blocks or as pages like in Pinterest about the subject. If the teacher uses it this way, it could be beneficial. But I use YouTube as I said. . . . I do not think that they could be very beneficial to teach English by means of social interaction. Probably it will distract their attention. (Individual interview with participant 13).

P19 also used YouTube for teaching. She stated that she and her colleague prepare interactive videos and upload it to YouTube. They do not use *Facebook, Instagram,* or *Twitter* for education. A few of the participants stated that the students use Instagram more when compared to Facebook. P16 said that she uses Instagram and gave an example about how they used it.

> I gave homework for projects. They prepared paragraphs by using some specific grammatical structures. They shared the products they prepared. Also, in another classroom. . . . they prepared experiments at home. They prepared videos about that and shared those videos. But later I wanted them to delete these videos. . . . Especially after some parents' complaints. We also have a *Padlet*. The videos are still there on *Padlet*. (Individual interview with participant 16).

What is Positive and Helpful?

A few teachers stated that Web 2.0 tools help the students to create something. Normally the teachers are limited with the coursebooks and the curriculum. By means of the tools, they can diversify, do some interactive activities, and adapt them to the coursebook. As it was stated before, they can use the same materials again once they prepare them. It makes their job easier and saves time. They can also use the tools to hear the pronunciation of some vocabulary. Mind mapping tools help visualize the thoughts. In addition to images, it is possible to add video or sound. They are also user friendly. In that sense, teachers think that they are helpful. They like the things that they can create for their students like video-based lessons, questions, worksheets. They like using them for pronunciation. The tools are playful, interactive, innovative, and good for collaboration and engagement of the students to the lesson. They can be used for communication and collaboration. The teaches also like using the technology, digital tools, and computer. They feel more innovative. They can adapt different materials prepared by other teachers to their lesson. They find them useful. They find the tools enjoyable, imaginative, and helpful. They like the gamification feature of the tools. Students think they play while they are learning at the same time. The tools are easy to learn and easy to carry. You can take them wherever you go and reach from different places. Teachers also like learning new things. For instance, one of the teachers stated that she had not known web feature of *Canva* before. After an hour of video, she learnt to design a web

page and it made her excited. A teacher put forward that she likes their visuality and speed and that they make the lesson faster. The teachers feel happier when students like using them. Some teachers claimed that the tools increase their motivation.

P17 told that "sometimes students prepare the game. This also develops teacher and student relationship. So, their ideas also develop me, and my ideas develop them." P18 numbered some of the advantages regarding why he is happy with using the tools such as they are practical and collaborative etc. but he also emphasized the importance of project-based tasks to use Web 2.0 tools more effectively. He put forward that "if I do not use any Web 2.0 tools in a project-based task, they are just colours. They are just an addition. But if I use Web tools in a project-based task, they work very well. To sum up, I can state that I love Web 2.0 tools when I use them in the projects." (Individual interview with participant 18). P19 stated that she likes the admiration of her students when she comes up with something new. She referred to the difference of generations between the students and teachers, and the importance of adapting to technology because of this. In this sense she mentioned that she liked the feeling of being at the same level with her students.

What Teachers do not Like

Among the participants of the interviews, the most striking and repeated issue about the dislikes is financial hindrance. The teachers do not like that the tools are not free or at least cheaper for the teachers and students in education. They do not like to pay and do not think that many of their students can afford them. Sometimes they start to use the tools free in the beginning, but later they are asked for a fee to go on or there is a limit. Sometimes they encounter such a problem in the middle of an activity. Secondly, there are technical problems. As it was mentioned in the challenges of using the tools, the teachers do not like technical difficulties such as internet connection problems, lack of devices etc. Some tools do not work very well on different types of devices such as PCs or mobile phones. Some of the Web 2.0 tools' manuals are not clear or they are complicated to figure out. Sometimes the tools are updated from time to time, but the updates may change some of the main features or they may make them trickier to use. Teaching about alternative tools to students take time. Another issue is subscription and spam messages. P13 stated that she uses google classroom as a solution to the subscription problem for the tools when they need to record each student.

> Sometimes before you use a tool, you have to record each student one by one. You will have to give passwords, but students forget the password. There could be more than 10 tools. So, creating accounts for each student one by one in each case is a kind of torture to me. Sometimes I use the same password for each student. Because of this, I use the tools if they draw this information from google classroom. By means of this, I will not have to create an account for each student for the new tool again. (Individual interview with participant 13).

P11 stated that she is confused about which tool to use, for instance which one goes best in a situation. P6 also mentioned the importance of updating oneself, choosing the appropriate tool, and the difficulty of following the new technology. P10 mentioned that she finds Web 2.0 tools boring. She gives the example of how the older technology such as PowerPoint slides etc. is not interesting anymore. She thinks that they will not be enough to attract the attention of the students in a few years either. Additionally, P6 stated he does not like the hindrance by school administration and negative feedback from them. He also gave an example about classroom noise and the perception of it.

> Before, the administration used to warn the teachers by knocking on the school classroom door. But now I think there should be noise in the classroom. If there is no noise in the classroom, this means that students do not speak English in the classroom. The same thing is true for the FATİH project. The government invested in it a lot. There is technology and we need to use it. But some teachers or administrations criticize or become a hindrance as we use technology. This is what I do not like. (Individual interview with participant 6).

Future of Web 2.0 Tools

Participants were asked about the potential of Web 2.0 tools and whether they have any guesses about their use in the future. A few teachers guessed that the future would bring more flipped learning and blended learning of which the tools could be a part. A few of the participants said that Web 2.0 tools would be more important and even the main tools of education. The participants reminded how Covid conditions force them to use these kinds of

learning contexts. Some of them discussed that more and more teachers would use Web 2.0 tools and/or technological tools. P2 stated that she cannot even guess as she sees very different things every day and "there is no limit in internet". P15 guessed that very good things could happen, but it is also a bit frightening to think about. P10 said that in a few years there will be very different tools. "Maybe we even will not be around, and robots may do it." (Individual interview with participant 10). As it was stated before, she also reminded how the previous technology such as PowerPoint was interesting before and is not anymore. She thinks that Web 2.0 tools will not be enough to attract the attention of the students in a few years either and new things will be needed for the next generation.

P11 emphasized the increasing importance of technology in our daily lives that day, by giving the example of our online interview and said that "We will not be able to give up them in the near future. They will be a part of our lives. In fact, we will be part of them, not they will be part of us. I have some sci-fi thoughts about that." (Individual interview with participant 11). P16 gave the example of how the school administration approached it negatively before and she informed that they "ask for the use of it and support the use of it now". She said that "Maybe all of our materials will be digital. It also helps the environment and economy. Maybe some lessons will be distance." (Individual interview with participant 16). P13 put forward the potential of artificial reality as follows.

> I think they [the tools] will be used more. We have just started. We say blended learning, but I think that it will go towards artificial reality. Maybe EBA platform will be a kind of place as a *second life* platform. Maybe the students will go to the classroom in this platform and do their learning in this platform. Maybe they will have their avatars there. Maybe they will choose their teachers on this platform. (Individual interview with participant 13).

Reasons for not Using Web 2.0 Tools

Participants of the interviews were inquired about what could be the reasons if Web 2.0 tools are not used for FLT in other schools and/or by other teachers. In their responses, most of them also stated what they think about why teachers do not use technology too. One of the most emphasized answer was that they find it time-consuming, and/or do not want to

spend their time on it. Secondly, they do not know, are not aware of the tools and technology, do not have the experience and/or do not have the culture. If somebody demonstrates them or even trains them, it could be possible. On the other hand, a few added that training etc. is not necessary in fact, and they can do it by their own. Lack of devices or other technological necessities such as internet connection was another reason put forward by the participants. Some teachers also mentioned attitudes or even phobia against it, and that they are afraid of using computers, and the fear of making mistakes especially in front of students as some of the reasons. Not being open to innovations and applications, and not finding Web 2.0 tools effective and useful for their students are among other stated reasons. A few of them put forward that they are "traditional teachers". P12 mentioned that "blackboard and books/notebooks" are enough for them. P18 also touched on the traditional resistance to the technology. He reminded the quote without remembering the owner of it, "the technology will not replace the teachers but the teachers who do not use the technology will be replaced." (Individual interview with participant 18).

P8 summarized the reasons for these teachers according to him in three items as follows.

> First the teacher's attitude towards using PC at home at school etc. Some teachers even they are young or old, it does not matter. They say, "writing by my hands is very easy for me". As a second reason, some technical issues they encounter at school. Some of the schools do not have good connection or enough bandwidth. So, some of the teachers cannot use tools effectively because of this. Economic situation is the third one. Some of the teachers think that using a computer is expensive. They do not want to waste their money by buying a computer. (Individual interview with participant 8).

P6 also stated three reasons as follows: "First, they do not care. Second, there are some lazy ones. As the third one, they do not have the ability. I cannot say something for the ones who do not have the ability. In fact, they can ask for help and try to do it. But some others only find excuses. Some cannot even use Zoom, or even printer as a device." (Individual interview with participant 6).

P2 emphasized the lack of pre-service training as the reason why some teachers do not know about Web 2.0 tools as follows, "Because at universities, the teachers, especially foreign language teachers are not taught about web tools. They learn to teach English in old fashion, not with using new technologies." (Individual interview with participant 2). Upon a question regarding the difference between the young and old ones, she stated that even though the young ones are active on social media and use the internet actively, they are not aware of the technologies for teaching and do not use them. P7 also mentioned ability and age in his response as follows, “They think that they will not be able to do it. They think that it is very complicated but actually it is not. I do not think that it is related to age. Because there were also some very old teachers who had the same training with us. There were also young ones.” (Individual interview with participant 7).

P16 approached the age difference between the users of the tools regarding their ages differently. She also gave details about the pandemic process and the importance of adapting to changes.

> Laziness. Especially the teachers who are over a certain age still continue to use the same techniques. We started online lessons in April. Until the end of June, there were still some teachers who have not been able to adapt the online lessons. And they never used the Web 2.0 tools. I think they will continue like that. When you are not open to change, you cannot do it. A teacher should never be closed to change. As Chomsky said, “If you're teaching today what you were teaching five years ago, either the field is dead, or you are.” He was very right. We teach with dead teachers. (Individual interview with participant 16).

Similar to the P16’s answer, P13 claimed the age as a factor as follows.

> The ones who do not use may be because of their age. They do not want to spend time on learning the tools rather than spending this time on their family. They think we already have our course books and some think that their salary is not very high. On the other hand, the ones who use are open-minded, they aim student progress. (Individual interview with participant 13).

P17 was also interrogated about the age difference between the teachers. She responded as follows.

> Some of the teachers above a certain age think that it is not very necessary to learn them at that age. I also worked as a teacher for in-service training of teachers. Some of the teachers did not even open a word page before. But there are also some teachers as minority who can use and are eager to use technology and these tools after a certain age. I wanted them to apply or practice and when they used it, they found it useful. For example, they might not know how to send it to their students, and I explained. But there are also some teachers who think that it is not necessary to use these tools. (Individual interview with participant 17).

P19 mentioned gender roles in the society briefly and teachers' motivation from a more general perspective by referring to female teachers and the lack of interest.

> Because unfortunately in our country being a teacher is the most appropriate job for a woman. So that you can take care of your house, your kids, and your husband. I do not like sitting in teachers' room, because women always talk about kids and cooking. It is like their main job is not being a teacher. Their main job is being a housewife. And they are part time teachers. Because most of the teachers do not love their job, they just try to finish the school day and go home. But I believe being a teacher is a 24/7 job. Your job is not being a teacher. You are a teacher as a person. I do not know maybe I am strange, but I always think about my students, my projects, what can I do better. I ask my colleagues to give me feedback about my teaching. I try to improve myself. Because I love my job. But most of the teachers do not love their job. They finish the school day, and they get their salary. They do not try to improve themselves. They do not try to follow the innovations in education or technology. I think that is why. But the teacher who still wants to do better, who wants to be a teacher that he/she would like to have for their own kids, they try to improve. (Individual interview with participant 19).

Why?

The participants were asked *whether they think the teachers who do not use Web 2.0 tools should use them, and if so, why these teachers should use them*. All the responses were positive and very strong, but only a few were conditional. Reasons changed a bit. Of course, the answers were in line with the answers regarding the advantages of the tools again.

Catching up with the new technology, attracting attention of the students were among the reasons. Some put forward students' generational differences in this regard and the importance of attracting their interest by using technology. As a response to this question and to some other questions, the difference of this generation was put forwarded by the participants as a "technology generation". "Web 2.0 tools are enjoyable, useful, effective, and collaborative forms of teaching a FL" were among other answers.

P1 stated that "because students can communicate with each other. They are more curious and more motivated. They have great environment for peer-learning." (Individual interview with participant 1). P2 said, "of course, it would be perfect. Not should but must." And she laughed. She went on, "They must use because we must catch up with the new technology, otherwise we cannot direct the students." She told that otherwise it is difficult to get their interest and only reading, writing, and repeating the teacher etc. would be boring for them. P3's example as a response was also noteworthy. She told that "I really agree this. When I left one of my schools, my students told me that 'why do you leave? We would make more activities with you'. Now they do not have a chance to do this. There is no opportunity for this. I think for the 21st century students, it is necessary." (Individual interview with participant 3).

After stating that "it would be very good", P7 added that "I think that if they had a training, they would use it. Because teachers in general use it when they learn something." (Individual interview with participant 7). P13 attracted attention to the necessity of integrating the tools to the program as a condition to use them.

> If other teachers use these by knowing how to meaningfully use them it would be good. But not just for the sake of using them. I think it is very important to know how

> to integrate them to learner achievement needs and especially to the program. Otherwise, lessons could be enjoyable but waste. (Individual interview with participant 13).

P14 pointed out the necessity of coordination and regulation. He said that "now some teachers use, and some others do not. If all the teachers use, I think that it would be more effective. Then the students would be more ready." (Individual interview with participant 14). P16 mentioned the change of point of view, interest and abilities initiated by using the tools in her and her students.

> …They also changed my point of view. Now I can understand the children better. I realized that it is something quite good dealing with the PC and Internet. I realize that they have some abilities to develop. Do you need to have these abilities? We do not know what kind of professions there will be 10 years later. For example, they direct the students to coding and software. They are more interested in technology, and they may ask whether they should learn coding or software. It also changed a lot in their world, in students' world too. So, change is compulsory. So, I say that other teachers have to use these tools too. (Individual interview with participant 16).

Like P16, P17 also mentioned the changes in her and how she developed herself in the process, after using the tools and especially after she started to work in BİLSEM. She felt the necessity to make her lessons more diverse in this special type of school, and to do what the students cannot do in their schools. She told that "a teacher always needs to develop himself/herself. Otherwise, he/she would not enjoy what he/she would do either." (Individual interview with participant 17).

P18 put forward "to keep up with the learners' styles" and "21st century learners' interests" as some of the reasons. P6 said that "It will be more practical and easier if they use." He also added to "make their life easier" and "time saving". Upon a question whether it will be better for the students to use Web 2.0 tools to learn English, P6 commented as follows.

> Of course. When I used to give homework as term project work, I tell them to use Web 2.0 tools. I give them tools for speaking, vocabulary study, reading, listening,

> software programmes. It is not possible to expose the students to the language in a limited time as two hours in the classroom. Some of the tools in mobile phones are Web 2.0 supported too. They have collaborative features. Even though they are not the best for developing a foreign language, in our country I can say that they work. (Individual interview with participant 6).

New Generation

In addition to the interest of the students in technology and in the specific tools, and enjoyment they feel to use them, it seemed that there was a common similarity among the participant teachers' ideas about the ability of the new generation to grasp the technological tools in a fast and effective way. However, as it was mentioned before, a few of the teachers also stated that there may be some students who are not very interested in the tools, familiar with the tools like some of their friends, or who do not feel that they are as competent as their peers because of their backgrounds etc.

As some examples, P18 defined the students as "digital natives". P19 mentioned the differences between the generations of teachers and students. She put forward the importance of catching up with the developments as follows,

> I already said that the new generation is already familiar with the technology. And as teachers we should be familiar with the technology too. The more familiar we become with the technology and Web 2.0 tools, the gap between the generations will close. We will have a better bond and stronger bonds with our students. If we are not interested in technology, students will think us as "dinosaurs that do not understand from technology". (Individual interview with participant 19).

In addition to stating that the tools are useful, P11 emphasized students' generation and differences between the teachers and them in this regard as a response to why other teachers should use Web 2.0 tools if they should use them.

> Our students' lives are on a different level now. They live digital lives. They live with their computers and telephones. They know what internet is capable of. So, we should

adjust to their lives. If you want to teach something to them, first of all they should be interested in us. So, if they are interested in computers, I should have the computer power in me and get the attention of my students. That is the main reason. (Individual interview with participant 11).

Generations of Teachers

As it was put forwarded many times regarding the generation of students, the ages of teachers also mentioned sometimes as a reason to use and not to use the tools. As some of the examples are stated above, it can be said that while some of the participants believed that older teachers are inclined to not to use the tools, some of the participants claimed that the age does not matter a lot as a factor which affect the use of tools and how they approach the technology. It should be noted that many of the participants were also teacher trainers in different courses, and some of these courses are also about technology or Web 2.0 tools use.

As a response to the question on *whether she thinks the teachers who do not use Web 2.0 tools should use them, and if so, why these teachers should use them*, P15 told the following,

Because the generation is technology generation. We are not the most knowledgeable people as teachers. The education is not writing something to the blackboard and the students write them to their notebook anymore. They need to adapt to the new era. Otherwise, they will get lost. My school is very big, and most of the teachers are very old. They all want to retire because of the technology and think that they cannot do anymore. They do not feel compulsory. Maybe it is because it is a VET school. Students are not very motivated. So, they do not feel compulsory. (Individual interview with participant 15).

In relation also to the generations of the students and the teachers, P19 commented on the challenges of instruction as the following,

I give education also to adults too. Sometimes most of our colleagues even do not know how to close a tab. And I am trying to tell them about a web tool. This new

> generation [students] is better but as I said before, I explain them. Sometimes I write messages or prepare a tutorial. I give them the confidence that I will always help if there would be a problem. They know that they can text me 24/7. It demands a lot from the teacher. (Individual interview with participant 19).

Regarding the age difference between the teachers, P17 commented as follows.

> When you compare a teacher with 10 years teaching experience and another one who worked for 30 years, the more experienced one is so accustomed to doing things in her/his own way. The younger one is at the beginning of her/his career. So, she/he has to develop herself/himself. (Individual interview with participant 17).

Regarding the generations difference between the students and the teachers, P6 discussed the lack of digital literacy of some teachers and the gap between the students and teachers. He also argued some other differences among the teachers.

> Both as a teacher and a teacher trainer I can say that teachers do not have digital literacy. They do not have technology information. First of all, the administrators need to master it. They cannot even search on Google or print something by using the printer. These are changing but the teachers need to develop themselves. After starting as a teacher, by means of in-service training, workshops, or seminars, somehow, we need to adapt the era. We call them Generation Z. During the pandemic, the children had an update as they stayed at home and use technology more. The gap between is becoming wider. Teachers need to update themselves by means of technology. If we cannot do that, we cannot succeed the equality. A huge difference between the teachers come out. The ones who use the technology become more advantageous against the ones who do not use it. I can say that the current situation demonstrates this. Also, the teacher who run projects is in front of the teachers who do not run projects. Or the teachers would develop themselves are in front of who do not. The parents and the students see this unfortunately. So, the teachers need to develop themselves. This is the point that upsets me the most for my colleagues. (Individual interview with participant 6).

How did Teachers Start to Use Them?

Even though it was not directly asked to all the participants, results demonstrated how some participant teachers started to use Web 2.0 tools for teaching. It was found that many participants of the interviews started to use Web 2.0 tools or used them somehow in relation to eTwinning. P1, P2, P3, P4, P5, P6, P8, P9, P13, P15, P17, P18, and P19 are among these teachers. A few participants started to learn about Web 2.0 tools on Facebook eTwinning groups. Some of them started to use these tools more often or have the chance to practice them after they started partnerships in eTwinning projects. Also, a few participants mentioned that they learnt about the tools or learnt more about them during in-service trainings of the MoNE. Having a smartboard in the classroom has also been effective to start to use the tools for some teachers.

For instance, P16 started to use them during an in-service training of the Ministry. Before the pandemic, she was looking for a platform to meet the parents and started to use *Edmodo*. After the pandemic started, she started to use Web 2.0 tools while she was preparing content for EBA, even though the respective training was not about how to use the tools, the participants learnt about them by cooperation etc. at that time.

Regarding eTwinning projects, according to P2, in order to do projects you have to use these tools. P13 mentioned that in addition to the influence of eTwinning projects for her, she met Web 2.0 tools by means of iTEC (Innovative Technologies for Engaging Classrooms). She put forward that "There are some teachers who learnt about Web 2.0 tools by means of projects such as iTEC, eTwinning or EBA. They used them in this way and realized that they are good. In general eTwinning is important in this sense." (Individual interview with participant 13). P3, P17 and P19 explained how they started to use the tools as follows.

> We started in 2017 in order to use smart boards more efficiently. Then we became a partner in an eTwinning project. These tools helped us to make our lessons more interactive. For example, rather than introducing themselves in a written form, they can introduce themselves by using avatars or by using *Voki* as an audio form. It has been very helpful in this regard. (Individual interview with participant 3).

> I was on Facebook searching for what I can do. I saw teachers are talking very eagerly about eTwinning. Then I started to use it. But in my first year I was not familiar with web tools still. On Facebook I saw what other teachers do. Then I started to dig in to web tools. I took some online trainings and face to face trainings. Now I give them myself. I am very lucky to meet eTwinning. (Individual interview with participant 19).

> Actually, we started to use these tools by means of eTwinning platform. It is an online platform, and you have to upload everything you do to the platform. We saw that it is always advantageous to use Web 2.0 tools. eTwinning is also a curriculum integrated programme. I am also an eTwinning ambassador. During the pandemic, eTwinning teachers have been able to adapt the process much easier. For example, we already used *Zoom* before the pandemic. So, we realized the advantage of eTwinning. For example, if we started with 5 tools, then it became 50 tools. And in the process, tools also developed themselves. We also discovered new features and new tools, and this pushes you to develop yourself. (Individual interview with participant 17).

Results indicated that some participants used to do other additional activities or used some different types of tools for teaching purposes before they started to use Web 2.0 tools. For instance, P5 used to use computer games for teaching or P15 was active in theatre and arts in this regard. Some stated that they were looking for something new to integrate into their lessons before they started to use Web 2.0 tools.

Suggestions by the Participants

As an answer to an additional comments question and in elsewhere, some of the teachers put forward some suggestions. Two of the teachers especially emphasized the necessity of pre-service training for technology and Web 2.0 tools. P1 told that "I do not know whether these tools are taught in universities now for teacher training, but I think they should be taught to the students there together with eTwinning." P2 also emphasized the same as follows.

> If the students in the foreign language departments want to teach English in the future via this kind of new technology, and also web tools, at universities there must be these kinds of lectures. I see many university students with files. They use pen like old fashion. They do their presentation by hand. So, they can be asked to create them by these tools. They only know power point presentation. Their teachers should guide them and there must be a special lesson for it. (Individual interview with participant 2).

P2 additionally suggested that a list of Web 2.0 tools can be given to teachers which they can use. Upon a question whether she has searched for such a list on the internet, she told that "I tried but they were not very useful, so I made my own list, but I have to update them very often". She said that the reason of the update was changes of some features of the tools for instance.

Similarly, P14 touched on a list which can be prepared by the MoNE and he also claimed that some other projects did not work but this can be easier.

> I wish a campaign can be done for a unity of practice by the Ministry. For example, the Ministry can prepare a booklet which gives information about the useful Web 2.0 tools. There was a DynEd campaign which did not work. Adobe CDs were delivered free which were not used at all. People were not trained for that at that time. This is easier. They will just give information with a list and short videos on YouTube, maybe. Prezi was free for K-12 email addresses. Applications like *Canva* can be free too. (Individual interview with participant 14).

Similarly, P15 suggested a role for the MoNE as follows.

> All the teachers need to be trained by the Ministry about it. There are optional courses, but it should be compulsory for each teacher. And they should be motivated and encouraged to use them. And the ones who do should be encouraged too because we are a minority. There should be a difference between the ones who try and not.

> Other teachers tell me '*Do not muddy the water.*'[1] (Individual interview with participant 15).

Some teachers especially emphasised the importance of choosing the "right tools". Also, some of them especially emphasised the importance of using the tools in the "right way" rather than knowing a lot of tools. P4, P6, P7, P13, P15, P18 and P19 emphasized one or both these issues. For instance, P4 said that "tools are not our aim, tools are just activities. You cannot use tools for all your aims. So, you should choose the right tools for the right activities for the right skills." (Individual interview with participant 4). P13 stated that "if you use these tools appropriately, they could be beneficial, but if you do not use these tools appropriately, they will not be beneficial." (Individual interview with participant 13). In addition to these, P15 and P19 touched on "knowing a lot of tools", and P7, P18 and P19 suggested not to change the tools very often for the sake of learners. P19 touched on these issues as below.

> I observe my colleagues and I sometimes see that sometimes web tools are just tools and not our purpose. But some teachers make it the purpose. I think they think that "if the more web tools I use, the better a teacher I will become". But that is not correct. I think if we change the web tools we use very frequently, the good thing in our lesson will lessen. It will not be very efficient. It will not work. And maybe our students will feel confused because of changing so many web tools. I think we cannot know all the web tools. We should not change the web tools we use frequently. We should use a few which works best for us. Of course, sometimes we should try new things. I want to say if we use some tools regularly, our students will be accustomed to that tool. They will feel comfortable. They will create better outputs or content maybe. We should not switch from web tool to web tool. (Individual interview with participant 19).

P7 also discussed it similarly as below.

> There are many Web 2.0 tools which are sometimes used for the same aim. I think Web 2.0 tools should be used according to the needs, interests, and abilities of our

[1] An idiom in Turkish.

> students, and also the ability and knowledge of the teacher. For example, if I know *Zoom*, it is better to use it rather than using something new just for the sake of using something different. It is better to use something which is more familiar to the students. Also, more interactive and social tools are better. (Individual interview with participant 7).

P3 suggested that "as a teacher we do not have to use them every lesson. But we must have some knowledge about this. The century changes, the students' necessities change. We need to follow educational trends." (Individual interview with participant 3).

Additional Comments by the Participants

Some of the additional comments stated by the participants have been noted in the suggestions section above. Some of the other additional comments are given in this section. P4 mentioned the interests of students regarding the importance of the tools in her case as below.

> For me using Web 2.0 tools serves the need to transform the students' potential from games to learning environment, in terms of creating their own content just like *minecraft* designing. They design cities. They design their own houses. You can use them for ELT purposes. So, Web 2.0 tools are the ways to direct students' interest from games to educational field. (Individual interview with participant 4).

P5 discussed the effectiveness of the tools in teaching by mentioning her case and some research results she read before. She also touched on the details of the effectiveness issue upon following questions.

> Actually, I have been investigating about the use of technology for about the last two months. I was reading articles. And I found out that the technology is helpful for speaking and listening, but for grammar, reading and writing, its effect has not been proved yet. I cannot see the effect in my classroom situation either. But it may be different in other high schools like Anatolian High Schools, or Science High Schools. I have not been teaching in those schools for a long time. For most of my teaching

> career I was in VET schools. As I said before my students are not very successful. That is why I cannot understand it really works or not. . . . Out of 42 students of mine in a classroom, only ten of them learn by means of Web 2.0 tools. So, this data is not enough for me to say that it is really effective. . . . I am the only one who uses technology in my school. There is no difference in exams between the general success of the students when compared to other classrooms taught by other teachers. This may be a problem about our assessment techniques. I am pretty sure about that. But as I said before I do not have any data about it. My class is not the best class in the school. (Individual interview with participant 5).

P8 put forward that "using Web 2.0 tools is an inseparable part of our teaching." Upon a question relating to whether the school type they work in could have affected this, he told that "yes, our students are different in BİLSEM. We do not teach basic things. We use project-based learning. Because of that we use the tools a lot as long as the technical infrastructure lets us. Sometimes it does not." (Individual interview with participant 8).

P9 made an overview about using of Web 2.0 tools mentioning the pandemic period as an additional comment.

> I think that they are very useful. They are also good for introducing the technology use to the students. Especially in the pandemic period, it changed a lot, and a technology-based education is adopted. I think Web 2.0 tools have been very beneficial for this process too for the children. They are able to learn without being bored. It is also the same in the classroom. Before it was about teaching 'subject+verb+object' structures or formulations by old teachers. But now I observe that with the help of technology, students are able to express themselves more easily. It increases their participation to the lessons. Moreover, even the students who had been not very eager to participate to the lessons before started to do so. But in our classes, in our town there are smart boards in every classroom, maybe this is not possible in every school. So, I started to use when FATİH project started. It is also very good to make the students like learning English because sometimes it is a challenge and they have prejudice against learning English, you know. They say 'why do not they learn Turkish? What will we do when we learn English?' etc. Maybe

partly because of parents' attitudes. I saw that there have been big differences in students' prejudices and attitudes. Even though it is not right to depend solely on Web 2.0 tools, they are important for progress. (Individual interview with participant 9).

P17, P18 and P19 presented their concluding remarks as follows.

Foreign language is an area where you need to follow the innovations. Technology use is very up to date nowadays, that is why teachers give importance to that. There are Web 2.0 tools to use for all four skills. For example, for speaking you can make it enjoyable which may be challenging to do normally, without fearing to do a mistake. He/she can use his/her voice on an avatar. Or they can record their voice on it. It also saves time. We can do things without spending or wasting too much time. That is why I like integrating technology to foreign language teaching a lot. (Individual interview with participant 17).

All of them are just tools, means, vehicles. They do not teach as well as a teacher teaches. I think they never teach anything. They are just tools, means, transporters, carriers, however you call them. They should work as an assistant to the teacher. Digital tools should not shape the teaching styes of teachers, but teacher should shape the function of digital tools in terms of his/her teaching style, needs. As teachers we cannot regulate students' use of technology, technological tools, Web 2.0 tools, internet usage. Students' learning styles will regulate us as teachers. If we as teachers ignore students' digital needs, interests etc., in the future students' digital needs will ignore teachers. (Individual interview with participant 18).

I do not know whether online education is time saving and Web 2.0 tools serve for this matter. But nothing can take place of a teacher, a human being. As I am an eTwinner and all eTwinning teachers are very good at using web tools. But I know there are many, many more teachers who are not so familiar with web tools. They do not like using technology or they do not want to. But because of Covid, teachers who do not know how to press the stop button of a computer had to learn how to use *Zoom*. The conditions pushed them to use web tools. Some teachers complain and say that the Ministry of Education should give us training how to use web tools.

> Actually, they already give. They only have to go, find and take that education. I do not know if this online or hybrid education continues, and the use of web tools will increase. There are some artificial intelligence, there are some glasses. I think, if they become cheaper or 3D writers, if they become more reachable, it will be good. But as I said the problem with us, with teachers, we should not take web tools as our purpose, they are just tools. We should understand that. That is the problem, I think. I like using web tools. I like creating content. But it would be better if I had much time for creating my own content. At the moment, I do not have such a problem because I only teach 9th grade. But in the past when I taught 6th, 7th and 8th, all grades, how could I create for each grade using the web tool. It is very time consuming. Web tools save your time and energy at the time of using it, but at the time of preparation it takes a lot of time. So, maybe specializing for one grade or teaching at the same level would make my job easier. Other than that, I love web tools, but I criticize my colleagues because they do not use them according to purpose. They forget that they are just tools, and they make them the purpose. (Individual interview with participant 19).

Upon a question whether Web 2.0 tools are used in online education during pandemic process, P17 told that "of course we can do but not every tool in the same way of course. For example, you can send links to students. Student thinks that he is just playing but at the same time they learn by means of these games." (Individual interview with participant 17).

Some part of P6's answer to additional comments question was presented above in "generations of teachers" section discussing the difference of generations between the teachers and students which also includes an argument about the lack of digital literacy of the teachers. In addition to "choosing the right tools for the right learning achievements and subject" suggestion, finally, he referred to the current study and said that "it also made me happy that there is such a research study (Individual interview with participant 6).

4.4. Chapter Summary

In conclusion, results from the research questionnaire gleaned from 269 participant teachers' responses, and semi-structured interviews conducted by 19 teachers who were

experienced in using Web 2.0 tools, and demographic data of all participants of the research were presented in this chapter.

Findings from the questionnaire demonstrated the thoughts and experiences of the participant teachers. Also, associations between teachers' demographic differences and their experiences were analyzed by using The Pearson Chi-square tests. For instance, the findings from the questionnaire indicated which tools are used by more participants. They showed that video tools (65.4%), file sharing tools (53.9%), content and material tools (42.4%), and assessment tools (38.3%) are among the tools which are used by more participants for teaching purposes when compared to other tool categories as presented in the questionnaire. Thus, video tools, file sharing tools, social networks, content and material tools, assessment tools, photo and image tools, and text-based tools as some of the most used tools were also the tool categories used to analyze the associations between the use of the tools and participants' demographic information in this study. Demographic features such as educational status, teaching grade level, age, years of teaching experience, and whether the teachers had been a partner in an eTwinning project before were taken into consideration to analyze the associations between them and the responses by using Chi-square tests.

Furthermore, the results from interviews turned out to be as a rich source of data. Findings highlighted many important themes and patterns most of which directly related to the research questions which were coded, categorized, and presented in detail in this fourth chapter. In the following chapter, results will be discussed in detail, and implications and conclusion of the study will be presented.

CHAPTER FIVE
DISCUSSION AND CONCLUSION

Findings from the data collection phase are summarized, compared, and discussed in this final chapter of the thesis. The revision and presentation will be conducted in sections related to research questions as the main framework of the thesis. In this chapter, where relevant, findings from literature review are mentioned, discussed, or compared with the findings of this research study. Also, implications of the study and suggestions for further research for educators, researchers, and policymakers are presented in this conclusion chapter. As the focus will be on an overall summary, discussion, and conclusion in addition to implications in this chapter, some of the details such as numerical data and tables may not be repeated. These details regarding the findings can be found in the previous chapter.

5.1. Associations between the Use of Web 2.0 Tools by the Teachers and Teachers' Demographic Characteristics

One of the research questions of this study was related to whether there are any associations between the use of Web 2.0 tools by the teachers and teachers' demographic characteristics. Answers for this question were received and evaluated from the data of the questionnaire results. Among 35 statistical tests run to examine the relation between teachers' use of different tools and teachers' demographic characteristics, using the Chi-square test of independence results, 28 tests did not violate the assumptions and among these tests, 6 of the test results were found as significant and demonstrated some association between teachers' use of different tools and teachers' demographic characteristics (see Table 24 above). All the Web 2.0 tool clusters used in these tests were *video tools, file sharing tools, social networks, content and material tools, assessment tools, photo and image tools,* and *text-based tools.* Demographic characteristics of the teachers used for the tests to examine the relation between these 7 tool cohorts were *education, teaching grade level, experience, age,* and *eTwinning project participation.*

There was a significant association only between the use of *social networks* and *teaching grade level* of teachers according to the results which tested whether there are associations between *7 tool cohorts* mentioned above and *teaching grade level* of teachers. When this result is examined, it can be suggested that the teachers who work in high schools use social networks more personally rather than professionally when compared to other two groups of teachers who work in middle schools and primary schools. Rather, other two groups of FLT teachers who work in middle schools and primary schools use social network tools more for teaching when compared to high school FLT teachers. Social network tools given as examples in the questionnaire were *facebook.com*, *plus.google.com*, and *researchgate.com*.

It can be added to this finding that questionnaire results also showed that a bit less than half of the participant teachers (43.5%) in total use social networks for teaching. Indeed, it was the third most used type of tool for teaching purposes according to these answers. However, according to face-to-face interview findings which was conducted with the teachers who were experienced in using Web 2.0 tools for teaching, *the social media tools*, which is a similar categorization as SNSs including *Facebook*, *Instagram*, and *Twitter*, as it was mentioned in some questions of the interviews, are not used very often for teaching purposes by these experienced teachers. Sometimes they are used for dissemination activities of their partnership projects. Some of the reasons for not using them numbered by the participant teachers of the interviews were mainly *privacy concerns* and *e-safety* issues, *internet accession difficulty* to these websites because of blockings in the schools by filters, the necessity of *private permissions* to use such tools by the administration and teachers' rejection to share their *private life* with their students. When two different results from interview and questionnaire findings are considered, how and how often majority of the participant teachers of the survey used social networks for teaching attracts attention as an open question for further research.

In addition to this, as it was addressed in a more detailed way in the related sections above about the uses of Web 2.0 tools in FLT, the tools which are used very often in our daily lives according to the literature are also mostly the same tools which are used more often when compared to other tools for teaching purposes as reported by the teachers according to the findings of the survey of the present study. One of these tool cohorts are also SNSs. However, as it was mentioned before, there was a discrepancy between this finding and the fact that

interview participants who were experienced in using Web 2.0 tools do not use SNSs very often for teaching purposes. Even though the effectiveness of how the tools were used were not investigated experimentally in this study, considering the inconsistency between how the experienced teachers of the interviews perceived the use of SNSs mentioning their challenges and difficulties to use in teaching according to interview results, it could be argued that using the tools such as SNSs very effectively for language teaching purposes may not be at the expected level in the field currently. Regarding the reasons of this non-use of SNSs in teaching a FL, some of the concerns mentioned by teachers during interviews such as *loss of privacy* and *accession issues* are mentioned as legitimate concerns in the literature regarding the SNSs in general and as challenges which must be addressed beforehand (Lomicka and Lord, 2016), in addition to some of the other challenges uttered by the interview participants such as *harmful contacts* and *e-safety* issues which are also important challenges also seen in the literature especially when the use of SNSs by children and young people are considered (Livingstone and Brake, 2010).

Authenticity of the language, meaningful real-world usage of the target language, exposure to target language and different cultures including the culture of native speakers and the development of intercultural competence are among some of the significant possible benefits and advantages as specific to SNSs if these tools are used properly for language teaching according to some studies in the literature (Solmaz, 2018). However, despite their possible benefits, it seems that more empirical data is needed to discover whether these potential benefits are actually utilized especially by means of formal education. It seems that personal life usage does not always correspond to using the tools in education as it was the case for using social media by faculty members in their private life but not in their professional life according to results of a large-scale study (Lepi, 2013, as cited in Lomicka and Lord, 2016). In order to test and utilize these benefits of SNSs, some proper means and methods to integrate these tools to EFL teaching and use them more and effectively in a controlled way can be considered, investigated, and experimented. On the other hand, the lack of integration of SNSs to formal education does not mean they are not used at all by the students (Bax, 2011). The opportunities to learn the target language outside the class can be and most probably are already used by many learners and what is needed could be to develop their autonomous learning skills more rather than focusing on the formal language teaching and training aspects (Reinhardt, 2020).

In addition to a significant result between the use of SNSs and teaching grade level of teachers as stated above, among the total 28 statistical tests run to examine whether there are any associations between teachers' use of different tools and teachers' demographic characteristics, significant associations were also found between *eTwinning project participation* as one of the demographic characteristics of teachers and the use of the tools such as *video tools*, *content and material tools*, *assessment tools*, *photo and image tools* and *text-based tools* in this study. These results meant that significant associations were found between *eTwinning project participation* and 5 of the 7 tool cohorts in general. The two tool cohorts which did not demonstrate significant associations with *eTwinning project participation* were *file sharing tools* and *social networks*. Even though the data analysis procedure and data collection method as snowball sampling which were different from survey might have affected the results in addition to other possible biases in the research, it can be deduced also from interview findings that there is some association between *the use of Web 2.0 tools by foreign language teachers* and *eTwinning project participation*.

Certainly, the association does not mean causality. However, being a partner in an eTwinning project, attending one of the conferences or even subscribing to the portal, which consists of information such as registered user teachers' activities and projects may introduce teachers to some of the Web 2.0 tools and their use in education. This may lead the teachers to use Web 2.0 tools more in their practices. Moreover, participating in one of the eTwinning projects most probably also foster the use of the tools. Uses of such tools while running the projects are also encouraged by the programme. For instance, as announced in 2021, *the use of ICT* and *pedagogical innovation* are two of the five criteria which are used to evaluate the quality of eTwinning projects conducted by the teachers and award a quality label to justify the quality of the work done by a teacher and his/her students by the programme authorities (eTwinning, 2021b).

eTwinning's role which evolved from a partner finding platform to a community of teachers to share information and innovative practices might have also been effective in this positive association between the use of Web 2.0 tools and eTwinning project participation (Papadakis, 2016). In addition to the participation in the projects, the platform could also be effective in the professional development of the teachers by means of exchange of learning

materials in the community registered to the website, participating in online discussions, and sharing of information and good practices by means of other related ways through this network of teachers (Redecker, 2010).

On the other hand, there could also be other reasons. For instance, there is certainly also the possibility that the teachers who were more inclined and ready to use Web 2.0 tools in the first place might also be using eTwinning platform and doing related projects more when compared to other teachers. However, this does not render the strength of the association meaningless and still doing such projects may result in more or different types of usages of Web 2.0 tools in teachers' practices. It might be the effectiveness, impact and value of this usage what could be questioned, evaluated, and discussed for further research.

In addition to this survey result, nonetheless, there were some teachers, especially a few of the teachers we met during the semi-structured interviews who were competent and active users of Web 2.0 tools but were not participants of eTwinning projects or even members of the portal. It should be noted that, as I hypothesized and assumed some association with this factor at the beginning of the study, and because of the popularity of these teachers and strength of the network, the first teacher I asked to participate to the first interview was very active in eTwinning. Because of this, it may not be meaningful to compare the proportion of the teachers in this small interview group with the non-users of eTwinning. However, it can be commented that some association could also be seen in the interview group in general too, even though the association does not mean causality again. Another point which was mentioned and implied by a few of the teachers during interviews was the notion that Web 2.0 tools are used more, and work very well in project-based tasks, and not that particularly or in an extra ordinary way efficient in regular foreign language teaching tasks which do not contain project-based activities. This relation could also be a part of the strength of this association result between *the use of Web 2.0 tools* and *eTwinning project participation*.

Especially considering the contexts it provides which may include authenticity and meaningful language learning opportunities, a project-based approach involving the use of Web 2.0 tools for effective foreign language learning seems to be promising according to several experimental research results too (Bataineh et al., 2020; Elam & Nesbit, 2012). The effectiveness of a project-based approach is not without discussions, though. However, a

meta-synthesis of existing meta-analyses in different subject fields demonstrated that a project-based learning approach could be more effective over traditional teaching methods regarding "long-term retention of knowledge and skills" (p. 55) rather than short term retention and for "satisfaction of students and teachers" (Strobel, J. & van Barneveld, 2009, p. 44).

Survey results of the current study also indicated that there were no significant associations in any of other statistical tests including the tests between *the use of Web 2.0 tool cohorts* and *experience,* and between *the use of Web 2.0 tool cohorts* and *age groups* (see table 24 above). These results, within the limits of this study and in general terms, can imply that *experience* and *age groups* are not particularly effective factors which determine whether a teacher uses Web 2.0 tools professionally, personally or does not use them at all.

It should be noted that in the statistical analyses, *age groups* were two teacher groups in general. The first group consisted of the teachers who were older than 40, and the other group included the ones who were younger than 40 years old. Four age categories were defined in the demographic information section of the questionnaire were "20-29", "30-39", "40-49" and "50 and more". As it was defined in research population and sample section, according to four different definitions of generations, the participants who were in two younger categories of the given choices, namely the ones who were younger than 40 years, were the members of Generation Y and Gen Z. The members of Generation Y were born "in 1980s and 1990s, comprising primarily the children of the baby boomers and typically perceived as increasingly familiar with digital and electronic technology" (Generation Y, 2020). Also the members of the younger generation "Gen Z", the so called "digital natives", who will be among the teachers with increasing numbers soon, are accepted as a kind of technology generation who had never experienced life before the advent of the internet (Szymkowiak et al., 2021). So, it could have been expected that members of both these younger cohorts who were younger than 40 years old would be more familiar with technological tools in general and specifically Web 2.0 tools and might have a stronger association with using them when compared to older teachers. When the data was gathered for this study in 2019-2020 academic year, the youngest participant teachers could be Generation Z members who were born around between 1996 and 2012 (Dimock, 2019). There were 20 (7.4%) participants between the ages of 20-29 and 164 (61.0%) of them were between

30-39. Consequently, the results cannot reflect the situation relating to younger generations, for instance the ones who were born after 2012. However, as it was mentioned above there was no significant association between these age groups and use of tools according to the test results. The beliefs and thoughts on how the younger generations are adapted to technology, comfortable with it and able to do more things by using it when compared to older ones could not be reflected at least in these results regarding the age groups of teachers and use or non-use of Web 2.0 tools in this survey context. Of course, many factors may change in different testing conditions such as the definition of experience, teacher demographics such as age groups, and how the tools are used. For instance, taking another number as the cut-off point such as 50 might have yielded different results. Different types of statistical tests can be run by using teachers' exact ages rather than age groups to test the relationship between the age and the use of the tools which may end up as different results too. Scatter plot, cumulative frequency curve or other types of graphical representations or charts or more detailed results on the exact ages can also be used to investigate differences between teachers.

Even though teachers' age as a demographic term is slightly different from generations and age groups, research from the literature regarding the effect of teachers' age do not suggest a strong one-way effect of it in the integration of technology and different types of tools in EFL lessons. Moreover, there are some contradicting results. For instance, Alhassan (2017) found "a statistically significant negative relationship between teachers' ages and their use of Web 2.0 tools" and put forward that "the older the teacher is, the less use of Web 2.0 tools in classrooms" (p. 224) accepting age as a factor to predict the use of Web 2.0 tools in the classroom in his study by using the data he gathered from 628 teachers who work in primary, middle and secondary schools in the city of Riyadh. On the other hand, in another research study in Saudi classrooms, no significant relationship between technology integration and EFL teachers' age were found, whereas "level of proficiency in technology and teacher's perception of technology" (p. 160) were indicated as significant in this respect emphasizing the necessity and importance of professional development and support to them (Almalki, 2020). As a different result again, Tweed's (2013) study with 124 teachers in K-5 indicated no significant relationship between technology integration and four demographic features of teachers' age, experience, gender, and hours of professional development which found self-efficacy of teachers as an important factor rather than these demographics yet finding the same demographic features as having no effect on self-efficacy of teachers either.

A few of interview participants of the current study also mentioned age as one of the factors as a barrier for some of the teachers to use Web 2.0 tools in their teaching. On the other hand, a few of others did not agree with it and stated that the age does not matter a lot as a factor which affect the use of tools and how they approach the technology. They gave examples from the courses they attended and their experiences with other teachers. It seems that using the tools also have a positive effect on teachers, especially the experienced ones, by making them more self-confident.

In the survey study, there was no significant associations between the use of Web 2.0 tools and experience of the teachers as years, as it was the case for age groupings. Even though the teachers who have more experience are mostly the ones who are older, there could also be differences between the teachers in the two groupings regarding age and experience. The cut-off point for experienced and inexperienced teachers which was defined as 5 years of teaching in the statistical analysis was 40 years as an age limit to group the generations regarding age factor.

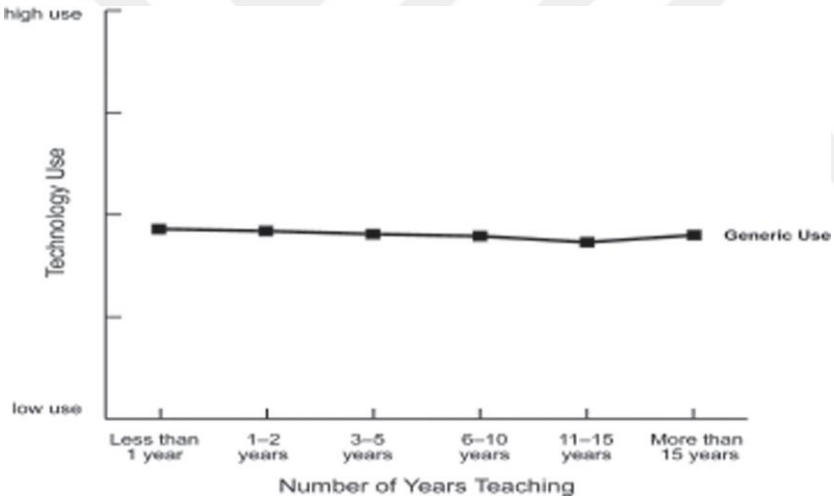
Regarding the experience factor, in a report by The National Center for Education Statistics (NCES) (2000) in the U.S. as a result of a survey conducted in public elementary and secondary schools in 1999, it was found that among three groups of teachers who have less than 9 years, 10-19 years and more than 10 years teaching experience, groups of teachers who had less experience were more likely to use computers to create instructional materials, gather information for planning lessons, and access research and best practices. This difference also may be related to age of the teachers and younger teachers may use the internet and computer more. However, a statistical comparison or controlling some of the factors such as age were not conducted in this initial report document regarding these differences, so it is difficult to discuss the underlying reason or reasons in that case.

In general, it is expected that younger teachers and the ones who have less years of teaching experience, as they are more comfortable with technology use, use more technology for teaching when compared to older teachers and teachers with more years of teaching. However, in another report of a survey result involving 2.894 K-12 teachers including English teachers by Bebell, Russell and O'Dwyer (2004), in which the report by NCES (2000) is also

mentioned, it is demonstrated that the amount of general technology use by the teachers do not differ significantly regarding their teaching years in the profession (See Figure 5 below). However, there were noticeable differences among these groups regarding *how* they used the technology when *delivering instruction, student use, use of email, grading* and *teaching preparation* were examined as some of different types of measures of technology use. Nevertheless, the same group was not dominant over the other for each of these types of measures. For instance, whereas newer teachers used technology more for preparation, experienced ones used it more for delivery (Bebell et al., 2004).

Figure 5

Technology Use of Teachers Who Have Different Years of Teaching Experience



Note. Reprinted from "*Measuring Teachers' Technology Uses: Why Multiple-Measures Are More Revealing"*, by Bebell et al., 2004, p. 56.

Technological innovativeness and gender were put forward as important factors to predict computer use of primary school teachers by van Braak, Tondeur, and Valcke (2004). However, they also mentioned the difficulty of explaining classroom computer use by means of individual factors as a result of their statistical analysis which took into account of complex relationship between demographic factors and other factors such as computer experience and computer training, even though they were able to explain more than half of the variance in

supportive computer use by the teachers in their analyses. Another interesting finding regarding this comparison was reported by Mathews and Guarino (2000). They put forward that the teachers who had more years of experience used computer more, however they had less computer literacy and ability.

Regarding all these related but contradicting results on age and teaching experience of teachers, it could be summarized that even though they could be important endogenous factors at times, the use or non-use of Web 2.0 tools or any other technology in the classroom by a teacher do not always depend on teachers' age or their years of teaching experience. Other factors such as self-efficacy, related training, thoughts, beliefs and attitudes about technology use, interest of teachers in relation to other factors, and even their beliefs about teaching, learning and language could be effective in determining how they approach technology use for teaching. More research which specifically focus on the complex details of these relationships could be conducted. Also, meta-analyses of the existing studies may shed more light to find out a general view of the situation and common points.

5.2. The Examples of Best Practice and the Most Effective Ways to Use Web 2.0 Technologies in FLT Context

5.2.1. Best Practice Examples

With the title of this thesis, "Pedagogical uses of Web 2.0 tools in FLT: A study to define best practices", it was aimed to cover both how Web 2.0 tools are used by teachers in general and how they are used by some specific group of teachers who are very experienced and accomplished in using them. The aim was to discover their good examples and make them known to others such as teachers, educators, researchers, policymakers and so on. Most of these experiences were reported in results chapter of the thesis, and then summarised and discussed mostly in the section of "The Pedagogical Uses of Web 2.0 Tools in FLT". These best practices meant how these teachers use the tools in general and their experiences in addition to their thoughts. However, in one of the research questions, it was also specifically interrogated whether there are some applications, some Web 2.0 tools and related good practices which stand out among others. How these teachers use them and what makes them better than others and whether they discovered such a specific practice were also focused on.

In general, interviewees named different tools and types of tools for the best practice examples and the most effective ways to teach a FL by using Web 2.0 tools. However, there were also some common points among them. Also, there were similarities with these good practices and about how they use Web 2.0 tools in general in their classes. Nevertheless, there were a few specific tools which had not been emphasized and even mentioned in other answers of the participants about their experiences for earlier questions in the interviews.

Evaluation and quiz tools were also mentioned for best practice examples by almost half of the 19 interviewees as it was a type of tool which is used often. According to a few of them, it seems, not particularly for the teachers but especially for the students, *Kahoot* is among the best tools. Some also mentioned that teachers also like it. *Quizlet* and *Quizizz* were also among the tools which were mentioned for the best practice examples as evaluation tools by a few teachers in addition to *Kahoot*.

Even though video tools were mentioned often among the tools used often and regarding how the teachers used Web 2.0 tools, they were not mentioned among the best practice examples very often. Still a few examples were given by means of video usage or recording, but they were more related to the usage of videos in gamification tools. A few of the participants mentioned presentation tools too.

Although only a few of the participants mentioned it in this category, probably the most emphasized tool for best practice examples and most effective tools was *Actionbound*. They especially named it as their favourite tool and put forward that it is not like any other. Among 19 participants, 4 of them indicated it as the most effective tool and their favourite one, and one another teacher mentioned it among some other tools. Especially *involvement of four basic skills and activities, and enabling learners to record their voice, video themselves, write, send, and produce textual material* were among its most important strengths. The chance to *evaluate learners' grammar and comprehension with a collaborative and interactive digital tool* made it extensive. The handicap, as stated by them, is the necessity of mobile devices by each student. However, as it was also mentioned in survey results from a bigger participant group, this was not possible for every student yet.

A few other tools mentioned by the participants in this category were *Flipgrid, Autorap, Padlet, Canva, Voki, Learningapps, Mentimeter, Cram, Wordwall, Postermywall*. Cloud technology (*Google docs* etc.), *Powtoon*, and *Emaze* were also named by two different teachers. A few teachers stated that speaking is the most challenging skill to develop. Because of this they named a few tools which can be used to foster speaking ability such as *ChatterPix*, *Vocaroo, Autorap*, and *Flipgrid*. However finally it should be noted as a few of the participants added that the most effective tool or best practices may change according to the teacher, classroom, or other related conditions or cases.

According to a research project result by Kurt et al. (2019), *Quizizz*, an evaluation and testing tool, as the first one, and *metaverse*, a virtual and augmented reality tool, as the second one, were the most liked tools by participant K-12 teachers from different grade levels and subjects such as FLT, science, and computer in Turkey. However, this result should have been due to their research and sampling process. In which, first the participant teachers received some training about some specific tools. And then they chose what they liked. According to current results, some FLT teachers mentioned *Quizizz* among the most used tools and like it a lot, too. However, it was not particularly the favourite one. Even though, in general as an application, interviewees mentioned quiz and evaluation tools more than others including *Quizizz* among other tools. Virtual reality tools were not among the mostly mentioned, best liked and best practice examples yet either. However, this could have been due to the availability and conducted training in the mentioned research project.

5.2.2. Four Best Practice Aspects

Whether these best practice tools and some other Web 2.0 tools can be used to provide *comprehensible input*, *social collaboration*, *real world relation* and a *positive learning environment* effectively, as four chosen important aspects to learn a foreign language (Li, 2013) as stated before, were also investigated, and reported in the results chapter of the thesis in detail.

In general, it could be said that even though there was not a consensus among the interviewees regarding whether and which Web 2.0 tools can be used to increase or provide *comprehensible input* for the learners effectively, according to teacher views, how a teacher

uses the tools is important in this respect. It also depends on the activity and the content. If one organizes the tool in a way to provide comprehensible input, it could be possible by means of different specific tools. This view was similar for the teachers for encouraging *social collaboration* in the classroom, even though there were less opposition regarding whether it could be possible for encouraging social collaboration when compared to providing *comprehensible input*. A few teachers gave examples such as how evaluation and quiz tools which normally involves a relatively individual activity as testing can even be used to achieve *social collaboration* by using specific features of some of these tools. Previous research has also established that it is possible to encourage social collaboration and interaction between learners by using Web 2.0 tools appropriately, which is an important aspect of social constructivist approach (Wang, 2014).

Relating students' learning to the *real-world* issues could also be another important aspect of language learning process which can render students' learning more meaningful by connecting the skills they need to master with factual knowledge (Donovan, Bransford, & Pellegrino, 1999). Despite a few contradictory views by the teachers stating that it would not be possible to do it, it seems that implementation by the teachers regarding how to use the tools is the essential factor to decide the effectiveness of Web 2.0 tools for this aim. Video recording by the students using *Actionbound* by giving questions to the students concerned with up-to-date world issues was among the given examples by the participants.

As to the third aspect of a *positive learning environment*, according to teacher views the students find using Web 2.0 tools very enjoyable and see it as a fun way of learning. All the interviewees agreed with it. However, a few of them suggested some requirements to attain a *positive learning environment* by using Web 2.0 tools. Firs of all, the teacher should choose the right tool and give the instructions well. Some of the tools work better with different types of devices such as PC or mobile phones. The tool should be appropriate to the level of the students. If the tool is too difficult for them to use, it may have a negative effect and may hinder it. Also, the teachers need experience and knowledge in this regard.

Overall, the students like creating, preparing, and presenting something, and being recognized. When the students are interactive by using Web 2.0 tools, a more relaxed

atmosphere is created in the classroom. Sometimes this could also become a challenge. For instance, because of time limit, each student cannot present what they had prepared.

Another issue uttered by the participants is the generation of students. “Because of this”, one of the teachers stated, “it is difficult to attract their attention by means of traditional methods”. Sometimes students feel more comfortable thanks to the confidentiality features of some of the evaluation tools, as others do not know who answered what. Another example was the effect of ice-breaking activities for creating a positive atmosphere in the classroom. Additionally, positive effect of playing, not limiting learning to class time, and increasing learners’ self-confidence are among other suggested reasons for a positive learning environment.

Open-ended questionnaire results from survey also supported this result. Following “communication, interaction, participation, active involvement and collaboration opportunities” as the most important advantage, “language learning can be more fun and enjoyable thanks to these tools” was the second most important advantage stated by the participants.

There is some previous research which confirmed the views of the participants in the current study that EFL learners had fun while they were using Web 2.0 tools (Girgin & Cabaroğlu, 2021), and had positive perceptions with tools such as blogs in EFL (Wu & Wu, 2011). There are also research results which indicated teachers’ similar views about creating a more interesting learning environment by using Web 2.0 tools in EFL (Karkoulia, 2016). In line with these results, Aydin’s (2014) review study also confirmed the benefits of blogs as a Web 2.0 tool to develop communication and interaction and use some skills for language learning.

5.3. The Advantages and Challenges of Using Web 2.0 Tools in FLT

To find the relevant answers for the research question "What are the advantages and challenges of using web 2.0 tools in FLT according to teachers who use them?", both interviews and questionnaire were used to gather and report the findings. Most of the findings will be summarized and discussed below. During the interviews, in addition to the answers about the question for advantages and challenges, in a more in-depth inquiry what teachers like or do not like about web 2.0 tools, what is positive and helpful about them, tools that do not work well and their ideas such as why some other teachers may not be using them were also investigated and reported in findings section above. Also, some common themes and patterns about the advantages and challenges were also reported. These results will also be summarized and discussed shortly in this section too.

5.3.1. The Advantages and Challenges

As for the interview results, regarding the advantages, many interviewees think that the tools are interesting for the students, and they are good at motivating the learners. They can use their creativity and they like creating something such as posters and videos. According to them, students find them enjoyable and fun to use. The students could be "more enthusiastic, more eager, and more curious to learn". For many of the participants, the tools are engaging, and the teachers can attract the attention of the students easily. Some of the teachers also like using the tools and technology and find them interesting and fun. By using the additional advantages of technology, some of the tools could give detailed reports about students' productions or achievements. Another common opinion stated by many of the interviewees was that the tools make teachers job easier. Even though it takes time to prepare them, once the materials are ready, teachers can use them again and again for a long time.

A few of them stated that the tools are helpful in terms of developing learner autonomy and help the students to learn how to learn. Another stated advantage was that they make language learning more effective and reinforce learning and increase students' success and rise their achievement levels. The students could be exposed to language more by means of the tools. They mentioned that it provides learning beyond classroom walls and reaching to

different types of intelligences. Authentic visual, audio, and textual materials can be provided to the students by means of web 2.0 tools.

In addition to the common themes and patterns, some of the interviewees touched on different advantages of the tools. Efficiency for group work, appropriateness for differences of students, creating a positive image of a teacher in students' point of view, using the time efficiently in a lesson, providing various and diverse range of materials to the students are among the stated advantages. If all the students have internet connection and devices, each one may have equal chances and a teachers can get more feedback from students and learn each ones' opinions.

In the survey results there were 10 most important items stated as advantages by the participants (See Table 27). Findings from interviews also confirmed almost all these results. However, there were some differences between the two data regarding the most repeated or emphasized items. It can be said that the most repeated idea from the survey regarding the advantages which was "the students can communicate, interact, participate, and collaborate so that they can use the foreign language more actively" was not main idea uttered by the interviewees. The second most repeated answer from survey results which was "language learning can be more fun and enjoyable thanks to these tools" were emphasized more by the interviewees. Survey data also confirmed the advantages such as reaching audio and textual materials, being creative, motivating students, increasing their attention and practicality issues of using web 2.0 tools as some of their advantages.

Regarding the *challenges* and *disadvantages* of using Web 2.0 tools for teaching, it should be noted that at least some of the interviewees stated that advantages outweigh the disadvantages in general. Only one of them remarked that advantages and disadvantages are equal. Among the most common themes about challenges in the interviews, *e-safety issues, technical difficulties,* and *financial constraints* were most remarkable and commonly repeated.

Without an order of importance according to interview results, firstly, one of the challenges is that some of the students may not know how to be secure online regarding *e-safety* issues. Secondly, it could be a challenge *to explain how to use the tools* to the students sometimes if they do not know it or experienced it before. It takes some time to teach them. In relation to this, thirdly, *time* could be a challenge for preparation by the teachers,

implementation in the classroom or even using at home by the students. But it is sometimes also practical to use the same products by the teachers again, once the materials are ready. Fourthly, *costs* of the tools could be a challenge for the teachers as some of the tools are not free. As the fifth challenge, *lack of devices* could be a problem such as interactive boards, tablets, PCs etc. As for the sixth one, *internet connection* is another challenge. Sometimes bandwidth or even any internet connection availabilities for some of the students, or classrooms etc. It can also be added that, as a seventh challenge, because of their socio-economic problems, *digital literacy* of some of the students may suffer. While using the tools during the classes, teachers may also encounter *technical problems* or other errors etc.

In addition to the more common ideas suggested by more than one participant, *the difficulty of assessments* during some of the processes while using the tools, *students who are not eager* to use them, *overusing the tools*, *changing the used tools very often by the teachers* as a challenge for the students, and *prejudice* of some parents, or school administration and even other teachers could be among other challenges and disadvantages.

Many of these advantages, as they were also reviewed in the literature section, were found out and mentioned before. Some of these advantages are easier access to information and opportunities for collaboration (Grosseck, 2009), promoting learner autonomy (Alm, 2009; Kontogeorgi, 2014), enhancing students' motivation, developing communications and interactions between learners, developing speaking, reading, and writing skills (Aydin, 2014), fostering creativity, flexibility, and variety in learning activities (Tzotzou, 2018).

The striking thing is the similarity rather than differences between interview and survey findings regarding these advantages and disadvantages. Even though the two participant groups were completely different both by means of their general experience in Web 2.0 and other demographic features such as their location, education and training, the results between the two groups were almost the same. Especially when it is considered that all the participants of the survey filled in the questionnaire by using an online form, so it was not possible to affect each other's answers. On the other hand, as a possible reason for this similarity between interviews and survey results especially regarding the advantages, as the numbers of repetitions for the summarized items do not cover all the participants, participants who have experience in using Web 2.0 might have uttered these themes or items. In any case,

it could be said that generalizability, reliability, and triangulation of the data were ensured by means of the mixed methods research method.

5.3.2. Other Related Themes and Patterns

From interview data, in addition to some common themes and patterns about the advantages and challenges of using Web 2.0 tools, findings about what teachers like or do not like about Web 2.0 tools, what is positive and helpful about them, tools that do not work well and their ideas such as why some other teachers may not be using these tools were also investigated and reported before.

Some of the reasons why they like these tools are as follows. They like them because they find them easy and fun. Students are more involved while doing assignments and they can use their creativity by using the tools. Teachers like that they are practical. They do not waste time. They help the students to practice English. Students like the technology and they are active while using the tools. A positive learning atmosphere is created. As they are into technology, the students are not bored. Students also discover new features of the tools.

A few teachers stated that Web 2.0 tools help the students to create something. Normally the teachers are limited with the coursebooks and the curriculum. By means of the tools, they can diversify, do some interactive activities, and adapt them to the coursebook. As it was stated before, they can use the same materials again once they prepare them. It makes their job easier and saves time. They can also use the tools to hear the pronunciation of some vocabulary. Diverse range of materials such as visual, audial, and textual can be created. The tools are also user friendly, easy to learn and easy to carry.

In that sense, teachers think that they are helpful. They like the things that they can create for their students like video-based lessons, questions, worksheets. They can adapt different materials prepared by other teachers to their lesson. They like using them for pronunciation. The tools are playful, interactive, innovative, useful, and good for collaboration and engagement of the students to the lesson. They can be used for communication and collaboration. The teaches also like using the technology, digital tools, and computer. They feel more innovative. They find the tools enjoyable, imaginative, and helpful. They like the

gamification feature of the tools. Students think they play while they are learning at the same time. Teachers also like learning new things. The teachers feel happier when students like using them. Some teachers claimed that the tools increase their motivation.

Among the participants of the interviews, the most striking and repeated issue about the dislikes is financial hindrance. The teachers do not like that the tools are not free or at least cheaper for the teachers and students in education. They do not like to pay and do not think that many of their students can afford them. Secondly, there are technical problems. As it was mentioned in the challenges of using the tools, the teachers do not like technical difficulties such as internet connection problems, lack of devices etc. Some tools do not work very well on different types of devices such as PCs or mobile phones. Some of the Web 2.0 tools' manuals are not clear or they are complicated to figure out. Sometimes the tools are updated from time to time, but the updates may change some of the main features or they may make them trickier to use. Teaching about alternative tools to students take time. Another issue is subscription and spam messages.

In addition to the most effective applications and best practices, *the tools or applications which did not work well* also were questioned. Common opinion among the participant experienced teachers was that there were no such tools in general. They pointed out that some tools are more appropriate depending on the circumstances such as subject, age of the students or different features of the tools. For instance, social media tools are difficult to use at school, home or in the classroom for teaching and learning activities because of e-safety issues and inappropriate language. It is difficult to control them by the teachers. But in general, as preparation and explaining the tools to the students take time, it is important to match the purpose and the right tools in order not loose time according to them.

Participants of the interviews were inquired about what could be the reasons if Web 2.0 tools are not used for FLT in other schools and/or by other teachers. In their responses, most of them also mentioned what they think about why those teachers do not use technology too. One of the most emphasized answers was that they find it time-consuming, and/or do not want to spend their time on it. One interviewee defined it as "laziness" and another as choosing to spend time on their private life rather than on learning the tools. Secondly, they do not know, are not aware of the tools and technology, do not have the experience and/or do not

have the culture. If somebody demonstrates them or even trains them, it could be possible. On the other hand, a few added that training etc. is not necessary in fact, and they can do it by their own. Lack of devices or other technological necessities such as internet connection was another reason put forward by the participants. Some teachers also mentioned attitudes or even phobia against it, and that they are afraid of using computers, and the fear of making mistakes especially in front of students as some of the reasons. Not being open to innovations and applications, and not finding Web 2.0 tools effective and useful for their students are among other stated reasons. Resistance to the technology and lack of pre-service training were among other reasons stated reasons by the interviewees regarding the lack of usage by other teachers.

The participants were asked *whether they think the teachers who do not use Web 2.0 tools should use them, and if so, why these teachers should use them*. All the responses were positive and very strong, but only a few were conditional. Reasons changed a bit. The answers were in line with the answers regarding the advantages of the tools. Catching up with the new technology and attracting attention of the students were among the reasons. Some put forward students' generational differences and the importance of attracting their interest by using technology. Web 2.0 tools are enjoyable, useful, effective, and collaborative forms of teaching a FL were among other answers. One teacher also mentioned the necessity and importance of integrating them to the program. One another stated that if other use the tools, it could be more effective for everyone. They also mentioned how learning about the tools helped their professional development.

In addition to the interest of the students in technology and in the specific tools, and enjoyment they feel to use them, it seemed that there was a common similarity among the participant teachers' ideas about the ability of the new generation to grasp the technological tools in a fast and effective way. Some called it a "technology generation". However, as it was mentioned in other sections, a few of the teachers also stated that there may be some students who are not very interested in the tools, familiar with the tools like some of their friends, or who do not feel that they are as competent as their peers because of their backgrounds etc.

As a conclusion, probably unsurprisingly, it can be discussed that most of the issues on why teachers like the tools, and what they think are advantages of the tools are coherent.

There is also coherence between what they do not like and find challenging about them. Some implications on these findings will be discussed in the implications section below.

In a study in higher education Turkish context, some of the issues regarding Web 2.0 technologies found as important were facilitating collaboration, providing learning opportunities outside the class, and enhancing motivation. The lack of technological devices in their future working places were reported as the most possible hindrance according to participant ELT student teachers from a university (Cephe & Balçıkanlı, 2012).

In terms of e-safety issues such as negative information, content or contacts and other risks or threats that the students may encounter while using the internet are already well known and well established in the literature (Becta, 2006; Cranmer, Selwyn, & Potter, 2009). In the current study, interviewees as experienced users of Web 2.0 realized and emphasized this risk and challenge more than survey participants.

5.4. The Pedagogical Uses of Web 2.0 Tools in FLT

In this section, firstly, the general findings which sheds light on the use or non-use of Web 2.0 tools by the teachers, and then how and which types of tools are used by the teachers will be summarized and discussed.

Findings drawn from the survey data demonstrated that overall, 224 (83.27%) of 269 participant teachers of this research put forward that they used at least one of the Web 2.0 tools for teaching purposes, however 45 (16.73%) of them stated that they did not use any of the given Web 2.0 tools for teaching purposes. On the other hand, it can be added that according to results only 5 (1.85%) of the participants claimed that they did not use any of the tools for any reasons according to their responses to the questionnaire.

According to a similar research result by Faizi (2017), survey findings indicated that among the faculty members only 2.3% of the participants never use these technologies. Most of the participants of the survey stated that they often (64.4%) or rarely (33.3%) use Web 2.0 tools. His study also did not show any differences between the male and female teachers even

though the younger and less experienced ones used them less than the older and more experienced teachers.

With respect to the specific question in the questionnaire (Part B) inquiring the tools used by the teachers, 15 categories of tools were given as options such as bookmarking, mind mapping, text based, file sharing and video tools (See Table 8 and Figure 3 for results). Each tool group was chosen by considering three options as whether they were used for teaching (with or without personal use), only personally and not used at all by the participants. In addition to the group titles which gave a general idea about the features of these categories, names of a few of the specific tools were given as examples in parenthesis. It should be noted that these tools as samples must have affected the perception of the participants and their answers. Most probably they chose their answers by keeping in mind these tools given as examples mostly. For instance, when the participants read text-based tools and saw "twitter.com" and "forums" as examples in parenthesis, they might have answered mostly by thinking about these specific tools. Indeed, this was not necessarily a challenge. Moreover, it was useful to create a conception or an image by means of what was meant by "text-based tools". However, this fact can be kept in mind when evaluating, discussing, and understanding the results.

The results of this study demonstrated that the most used Web 2.0 tool for **teaching purposes** was **video tools** (youtube.com, kizoa.com etc.). The second one was **file sharing tools** (dropbox.com, google.com/drive etc.), and the third one was **social networks** (facebook.com, plus.google.com etc.). However, it should be noted that this result does not provide any information on how the teachers used these tools even though it was additionally interrogated in the following sections and questions in the questionnaire and interviews.

Especially with respect to the use of video tools, they might have been used only for watching videos and by means of one-way consumption. However, it could be argued that this way of using the tools could not provide some of the distinctive features and benefits of Web 2.0 tools for language learning when production is not involved by the students. For instance, when Bloom's digital taxonomy which consists of categories as a continuum from lower order to higher order thinking skills is considered, such simple usage of the tools would only cover lower order thinking skills such as "social networking" in "remembering" category of the

taxonomy. However, more elaborate use of the digital tools would require higher order thinking skills such as "animating" or "publishing" actions in "creating" category of the digital taxonomy (Churches, 2008). On the other hand, only this way of usage of the tools may also provide language input, some essential material, and subjects such as food for thought to discuss or use to foster language usage and learning in the classroom by means of additional language learning activities. This underlines the fact that the main aim of using Web 2.0 tools may not always be using the language online. However, the online usage of the target language by the learners could provide some additional benefits such as having feedback, fostering more language use or some other additional benefits which could finally help or ensure language acquisition and learning. This may render how the learners use the tools and target language as important and draws some distinction between the usages of the tools. However, in general it was not possible to unearth each detail regarding the usage of the tools by considering their abundance and limitations of the time and frame of the study. Even though many issues were referred to in the interviews data collection phase in addition to how the learners were involved in the process and how they used to the tools, the level of production by the learners and learners' involvement were not the main research aim of this study and may be investigated in more detail in another study as it was an important issue regarding how the tools are used in FLT.

According to the results, when **teaching purposes** and **only personal usage** are added up, we see that the most used tool was **social network tools** (facebook.com, plus.google.com, researchgate.com etc.) by the teachers in general. The following most used ones in this category after SNSs **were video tools** (youtube.com, kizoa.com etc.), **photo and image tools** (instagram.com, flickr.com etc.), **files sharing tools** (dropbox.com, google.com/drive etc.) and **text-based tools** (twitter.com, forums etc.).

It can be discussed that SNSs are not mainly educational oriented like some other tools in the list, for example assessment tools or teaching platforms. However, when social network tools and their features are compared to other tools in the list, it can be put forward that they completely carry the main features of a "Web 2.0 tool" and define what is meant by such technology. Namely users can create their own content for instance by means of sharing their thoughts or life with other people online.

In the first two rankings we discussed the most used tools for teaching. The answers did not differ whether the teachers used them also for personal reasons or not, but they used them for teaching in any case. When this ranking is compared to a third ranking, most used tools for "**only personally"** usage, in fact we come across similar tools. Starting from the most used one, the list goes as **photo and image tools** (instagram.com, flickr.com etc.), **text-based tools** (twitter.com, forums etc.), **social networks** (facebook.com, plus.google.com etc.), **republishing tools** (pinterest.com, scoop.it etc.) and **file sharing** (dropbox.com, google.com/drive etc.) tools.

In fact, even though their ranks are different in two lists, 5 of the 7 most used tools for only personal reasons are the same tools as 5 of the 7 most used tools for teaching and personal reasons. Not in ranking order, they are photos and image tools, social networks, file sharing tools, content and materials, and video tools. Only text-based tools and republishing tools (for personal reasons only) and assessment tools and teaching platforms (for teaching and personal reasons) are not common in the lists for 7 of the most used tools.

For **teaching purposes**, bookmarking tools (delicious.com, diigo.com etc.), virtual reality tools, data analysis tools (surveymonkey.com etc.), audio tools (soundcloud.com, podcast etc.), mind mapping tools (bubble.us etc.), digital storytelling tools (storyjumper.com etc.) and republishing tools (pinterest.com, scoop.it etc.) are the least used tools.

When **only personal usage** is considered, mind mapping tools (bubble.us etc.) are **the least used** ones. Assessment tools (quizlet.com, easytestmaker.com etc.), digital storytelling tools (storyjumper.com etc.), and teaching platforms (Blackboard, webCT etc.) follow them. Certainly, these tools are more teaching and professional oriented, so it is not surprising that they are not used very often personally as they are not particularly useful for personal use normally if the participants do not have related interests for these applications. On the other hand, the lack of text-based tools (twitter.com, forums etc.) and republishing tools (pinterest.com, scoop.it etc.) in the top 7 list for teaching purposes may attract attention. Nevertheless, they are the 8th and 9th ones in this list.

In general, what can be deduced from these results regarding the ranking of the tools according to their usage by the teachers could be that the tools which are used more only

personally by some of the teachers are also mostly the ones which are used for teaching purposes by some of the other teachers. Even though it does not prove that the users of the tools for their daily life also use them for teaching, it can mean that most popular tools which are used only personally are also the popular tools used for teaching. The reasons of this can also be a subject for discussion. This deduction might be a bit stronger when the options provided to the participants as the answers are taken into consideration. The respondents who stated that they used the tools "*only personally",* and the ones who used them for *"(also) teaching purposes"* were two completely different groups.

The research results shared by Yuen, Yaoyuneyong and Yuen (2011) matches up with the current study results regarding the two of the most commonly used Web 2.0 tools by the teachers. Their study also demonstrated that social networking sites (66%) was the most used or mostly contributed tool by the teachers on a daily and/or weekly basis. The second Web 2.0 tool was social video tools (52%) as reported by them. The first two ranking was the same with the results of the present study when general usage is considered including the personal and teaching purposes. However, they did not separate the usage between personal usage and teaching purposes. They also reported that the teachers do not use other types of Web 2.0 tools very often such as blogs, social photo tools, or podcasts etc. It can be discussed that photo and image tools which was given as an option in the current study included "instagram.com" and it was the third mostly used tool type overall by the teachers in the present study. As a tool which is growing more popular, it has just been reported that instagram.com has just surpassed 2 billion monthly users (Rodriguez, 2021). However, it had only 1 million registered users at the end of 2010 (Protalinski, 2012). This could be the reason of the difference between Yuen et al.'s (2011) results and the current results and why the gap between the number of users among teachers for photo and image tools and SNSs grew smaller.

Interview findings provided a rich source of data on how 19 participant teachers who are experienced in using Web 2.0 tools use them in their practices and what they think about them. These results highlighted many important themes and patterns, some of which are summarized and finally discussed below.

Interview findings indicated that there are some common purposes to use Web 2.0 tools for the teachers in line with the mostly mentioned and most used tools by the

interviewees. Firstly, ***evaluation*** was one of the common aims to use Web 2.0 tools during the classes according to the answers of participants of the interviews. They can use them at the beginning, during or at the end of the classes. *Kahoot* was one of the most popular tools in this respect. Teachers also like using *Quizlet*, and *Quizizz*. Secondly, ***video*** recording and editing are also used very often by the teachers. Fostering ***speaking***, ***vocabulary teaching***, and ***gamification*** are some of the common purposes too. In addition to ***preparing presentation*** and ***poster preparation,*** some skills usages such as integrating ***writing***, ***listening***, and ***reading*** are among other common purposes to use Web 2.0 tools.

"*Kahoot*", "*Canva*", "*Padlet*", "*Quizlet*", "*Quizizz*", "*Learning Apps*", "*Powtoon*", "*Actionbound*" and "*Flipgrid*" were mentioned more often by the teachers who participated in the interviews when compared to other tools. "*Mind mapping tools*", "*Voki*", "*Cram*", and "*Mentimeter*" followed these tools by means of the number of times the participants mentioned them. However, it should be mentioned that the aim was not to determine which tool was used more often by the participants and it was not directly asked with this aim in mind.

Findings demonstrated that sometimes **introduction** of the tool is an important part of how the teachers use Web 2.0 tools. Many of the interviewees mentioned that first they give an example by using the tool to the students to demonstrate what they can do. It can also be necessary to introduce the tool if the students have not used it before.

Regarding the **frequency** of use of Web 2.0 tools in their teaching practices, most of the interviewees stated that how often they use them depends on the tool, the students, and the subject of the lesson. Some of the participants pointed out that there are some or a few tools they use regularly but it depends on the topic, too. Only one of them uses each tool only once or twice. If he uses them more than once or twice, his students are bored, think that the same things will happen, or the same lesson will be repeated and be not very eager to follow the class. It should be noted that this teacher works in a Science and Art Center (BİLSEM) which is an exceptional type of school for children with special talents or highly gifted ones. He used the tools only as part of a temporary exercise or activity rather than as part of a longitudinal method. The reason of this could be the differences of the students in this school type, their different curriculum, and maybe the type of the activities in relation to these factors.

It was not directly asked but some participants mentioned and talked about the **number** of the tools they know and use in their practices. A few interviewees can count 60-70 tools and even more. A few of them mentioned that they use 7 or 8 web tools. Regarding these numbers of tools known and used by the teachers, some of the teachers especially emphasized that the aim should not be knowing a lot of tools, rather than that it is more important to use the known tools efficiently and appropriately.

These experienced teachers in Web 2.0 give **homework** or **assignments** to the students which can be done by using Web 2.0 tools. In general, almost all the interviewees and their students use Web 2.0 tools both at home as a homework or assignment and during class time or at school. A few participants use the tools more during class time. For home, some teachers assign the students such usage for **project** work. Some of the tools are used for project activities such as eTwinning or Erasmus projects. As one of the participants emphasized and a few others implied it, sometimes project-based tasks are important to use Web 2.0 tools efficiently. Because of technical shortcomings in their schools, especially the lack of smart boards in their schools, two participant teachers mentioned that their students usually use Web 2.0 tools only at home. Especially **evaluation** or **quiz** tools, tools for **vocabulary, gaming, presentation, brainstorming,** and **voting** are among the tools which are used more often during class time or at school when compared to others. Some of the tools and activities are conducted as **group work** in the classroom. Some teachers use group work as a solution for the challenges like lack of devices or other technical difficulties.

When these experienced teachers' experiences and how they use the tools are considered, it is seen that evaluation is one of the important reasons why they use the tools. They can use it for measuring performance and learning outcomes. Evaluation is an important part of leaning and teaching process. Also, most probably they choose the tools according to their efficiency and practicality. Students' expectations also play a role in their choices and practices. For instance, one of the most used tools is *Kahoot* and one teacher who works in a middle school stated that the students like it a lot. When he uses it, the students think it as a kind of game rather than a formal class time even though it is a kind of formative evaluation.

A recent research study by Özcan and Kırkgöz, (2021) had a similar result regarding the most used tools by a group of EFL teachers in Turkey. They found that *Kahoot* and *YouTube* are the most used Web 2.0 tools.

When the results from survey and interview compared, it is seen that the most used tools for teaching for survey group such as video tools (youtube.com, kizoa.com etc.) and file sharing tools (dropbox.com, google.com/drive etc.) are not the most popular ones among the interviewees. Even though they could be using them for teaching purposes, they are not the main tools or main type of tools when they think about and give examples about Web 2.0 usage. Also, there are some complexities as mentioned before to use social video tools in classes according to interviewees. However, video recording and editing are among one of the common purposes to use Web 2.0 tools for the interviewees, too.

Certainly, there were some differences between the two groups of data collection phases. For instance, 4 of the 19 interviewees work in BİLSEMs, 5 of them work in middle schools and 10 teachers work in high schools. On the other hand, most of the participants of the survey work in middle schools (*N:*121, 45%) or primary schools (*N:*53, 97%). Any type of difference in the results from these two groups may stem from this in addition to other factors. For instance, the technological infrastructure in these school types could be different when compared to the schools of the interviewees as most of them work more in high schools and BİLSEMs, when the development of FATİH Project in different school types is considered (Öz, 2015), in addition to the differences in their curriculum and learner features. Likewise, the most important disadvantage about Web 2.0 tool usage stated by survey group participants was lack of technological devices, internet, and other technical shortcomings. Actually, a few of the interviewees also remarked such difficulties in their school. When the teachers wanted to use technology, as one of the interviewees indicated, despite they had enough devices and internet connection, sometimes the bandwith could even be a problem when many devices are used in a classroom.

Some interviewees also commented on the generation of their students, as Gen Z, and mostly on how competent and quick they are at grasping the instructions or at least familiar with the technology somehow. The teachers may just give examples how to use a new tool or may need to introduce it sometimes. The students also get experienced with the teacher in the

process in Web 2.0 usage and it becomes easier. Nevertheless, this could be a challenge for some of the students, as one of the participants mentioned, if they had a disadvantaged background or not familiar with digital tools yet as their classmates. Teacher's role to guide and inform them appropriately and accurately in the classroom, in addition to beforehand preparation, stands out as a crucial aspect in due course.

5.5. The Potential of Web 2.0 Tools According to Teachers

Teachers' thoughts on the potential of Web 2.0 tools, and the possible usages of them in the future were interrogated during the interviews with the experienced Web 2.0 user teachers. Findings demonstrated that teachers mostly think that these tools are a part of teaching and learning now, and even after the pandemic period there is no turning back to the old days when there was no technology involved in teaching or in the classroom. Moreover, the teachers think that these tools could be more important in the future and be used by other teachers more often, and of course new tools will be added to the lists.

On the other hand, one of the teachers told that even though such tools are attractive and interesting nowadays for the students, in the future they may be more mundane for us as it was the case for some older technologies. In any case, teaching and learning community could be in the search for and find newer and more interesting digital technologies then. As another one guessed it, more than an involvement of flipped learning or blended learning, it may turn into a kind of artificial reality usage involving the avatars used by the students. Certainly, if we go or think further enough about the future, when the growing rate of the technology is considered, as two or three of the participants mentioned, there could even be a further phase of technology in which case teachers may even be replaced by it.

5.6. Implications

The findings of this study highlighted many important insights on how FLT teachers in Turkish context use Web 2.0 tools in general, associations between some demographic features and their experiences, how the teachers who are experienced in using Web 2.0 use them, and what they think about them. Implications, suggestions, and recommendations on

how to use these insights for future research and future pedagogical practice for teachers, administrators, and policy makers for K-12 and higher education is discussed below.

5.6.1. Implications for Further Research

Most of the preparation of this study took place in the pre-pandemic era. In the post-pandemic period, since the importance and necessity of internet has increased in our daily lives as well as in education, there will be a growing body of research not only on the use of technology in education but also specifically on Web 2.0 tools, even in conjunction with different subject fields (Zhang et al., 2021). Certainly, further research needs will change in direction more rapidly according to the results of these new studies too. However, in the light of the context of this study, some implications for further research will be discussed.

First, survey participants of this study were from a province in the northwest part of Turkey and data was gathered during pandemic period. In such a dynamic and changeable period and field when the momentum of technology is considered, results from even the same group when applied in another time may change. Moreover, conducting similar research in different geographical locations and contexts may contribute to the validation and reliability of these findings, and/or head towards a broader perspective. In addition, target group of the research may change. For instance, students' perceptions which were already investigated for a variety of tools and in different contexts (Girgin & Cabaroğlu, N., 2021; Hurt et al., 2012; Wu & Wu, 2011) can be used for a comparison with their teachers' views. Also, what the administrators think about applications such as project-based activities might reflect their point of view. The study results indicated some significant associations between the use and non-use of Web 2.0 tools and eTwinning project participation of teachers. The effectiveness, impact, and value of this participation to projects in FLT context could be questioned, evaluated, and discussed further by using different types of research designs. Certainly, different kinds of data collection instruments and phases such as different statistical analysis may also contribute to the field for the accumulation of knowledge and experience regarding teachers' experiences and thoughts. Furthermore, some empirical research to investigate the real outcomes and the degree of achievement and success of using the tools in term of language learning is another area which could be a subject for further research. Students' learning and

use of the tools might also be evaluated by using a reference instrument such as Bloom's digital taxonomy (Anderson & Krathwohl, 2001; Churches, 2008; Meyer, 2010).

More specifically, regarding the age factor of the participants, data was gathered by using four age categories defined in the demographic information section of the questionnaire as "20-29", "30-39", "40-49" and "50 and more". Exact ages of the participants may be used to run different types of statistical analysis for comparisons. Graphical representations or charts such as scatter plot or cumulative frequency curve etc. could be used to demonstrate the differences between the participants in this regard.

The type or category of tools which were used for general aims such as teaching and private life were investigated in the present study. Also, the details regarding how they are used by the teachers who are experienced in using Web 2.0 tools were a subject for investigation during face-to-face interviews. However, because of the limitations such as time and the abundance of the number of specific tools, how each tool is used by survey participants and how often were not focused on in general. There may also be differences between grade levels. More specific research might be conducted on such issues as well. As an instance, regarding SNSs and their features which could be efficient particularly in FLT field, some proper methods to integrate these tools to FLT in a controlled way, such as involving a project-based approach or other means can be considered and investigated. In general, it could be discussed that more research should focus on how to use the tools or other emerging technologies more effectively in line with the aims of education rather than why they should be used in the field.

Finally, the best practice examples and the most effective ways to use Web 2.0 technologies in FLT context may also be another interesting focus for further research to shed more light on this subject. Even though it was suggested by some of the participants that they change according to context considering the teacher, classroom, or other related conditions or cases, some specific findings were discovered in this thesis. At least there may be definitions in broader terms for each different context for specific tools, applications, techniques, and methods in this regard. This could be under scrutiny by using an empirical methodology too.

5.6.2. Implications for Future Practice

In this study, statistical analyses indicated that associations between use or non-use of Web 2.0 tools and demographic features of FLT teachers such as teaching experience as years and age groups are not statistically significant and meaningful. However, it can be noted that by using different types of data, analyses and in different contexts, these results may change. In the same vein, associations between use or non-use of Web 2.0 tools and FLT teachers' demographic features such as teaching grade level and even education levels or degrees do not seem to be significant in most of the cases either. However, there were significant associations between whether FLT teachers participate in eTwinning projects or not and their use of most of the Web 2.0 tools. As it was mentioned above, causality, effectiveness, impact and value of this participation and relationship might be further investigated and discussed. Nonetheless, this association might have some positive impact on teaching and learning activities. In this respect, endeavours as such as participation to projects by the teachers which mostly require extracurricular time and effort might be encouraged and supported by the administrators and policy makers.

Survey results of this study indicated that video tools (65.4%), file sharing tools (53.9%), social networks (43.5%), content and material tools (42.4), and assessment tools (38.3%) are among the most used tools for teaching. Findings from interviews conducted with 19 teachers from different regions of Turkey who were experienced in using Web 2.0 tools indicated that some of these tools such as social networks do not work very efficiently in classroom context because of challenges such as e-safety. Even though the details on the usage of tools such as video tools and social networks on a daily basis by majority of the teachers for teaching requires further research, it can be suggested that to ensure more efficient use of Web 2.0 tools and increase the usage of Web 2.0 tools such as text-based tools and audio tools, also even assessment tools which could be effective for attracting attention of the students and formative assessment, as one of the tools suggested among best practice examples and used highly by the experienced interviewees, related support and encouragement to the teachers can be provided more by the authorities and school administrations. Besides, as suggested by one of the participants, maybe some practical applications such as financial support for licences of some of the related Web 2.0 tools, or some materials, documents, booklets, or guides can be considered to provide for the use of teachers by the Ministry. Program and

curriculum should also be revised in line with the advancements and available information and research results, and necessary adjustments should be applied to address the needs of learners in the new era to improve pedagogical practices.

The findings indicated many important advantages of using Web 2.0 tools according to teacher perceptions. The teachers who do not use digital tools efficiently could be informed about the changes and new ideas and motivated to follow technological developments by means of professional progress. Teachers' concerns on technical shortcomings related to internet issues such as connections and bandwith, and lack of devices such as PCs, tablets etc. seem to prevail among the major challenges by the survey participants in general. Even though it might not be possible to eliminate all the challenges in this regard at least in the short term, developments conducted in these fields by the authorities should consistently continue to integrate up-to-date technological means and facilities into the education.

As stated by some of the participants, the tools are not the aim and just the means, and the most effective tool or best practices may change according to the teacher, classroom, time or other related conditions or cases. However good practices which works well in related cases can be disseminated among the teachers by means of education communities and teacher networks. Membership to teacher networks such as eTwinning platform or others could be important in this sense too. As two of the important challenges regarding Web 2.0 tool usage according to interviewees, e-safety issues and digital literacy of the students might be improved by means of attendance of teachers and their students to this initiative, since the programme also support the use of "e-safety practices" in addition to "Promoting continuous professional development of staff" and "Innovative and creative approaches to pedagogy" (eTwinning, 2021a, paras. 6–7). Absolutely, if there are some challenges, and even flaws or deficiencies in this system or programme, they can also be improved by considering their evaluation results. More research on the effectiveness of this initiative regarding e-safety issues and development of digital literacy of the students can also be conducted.

Finally, certainly, both pre-service and in-service education and trainings of the teachers is another important theme. Both these spheres should be adapted to current trends in the technology in accordance with contemporary conditions. More training and experience with technology are normally expected to bring more favourable results (van Braak et al.,

2004). And it takes time to gain experience in such circumstances for the teachers. However, a collective movement also helps get better outcomes and improved results in education.

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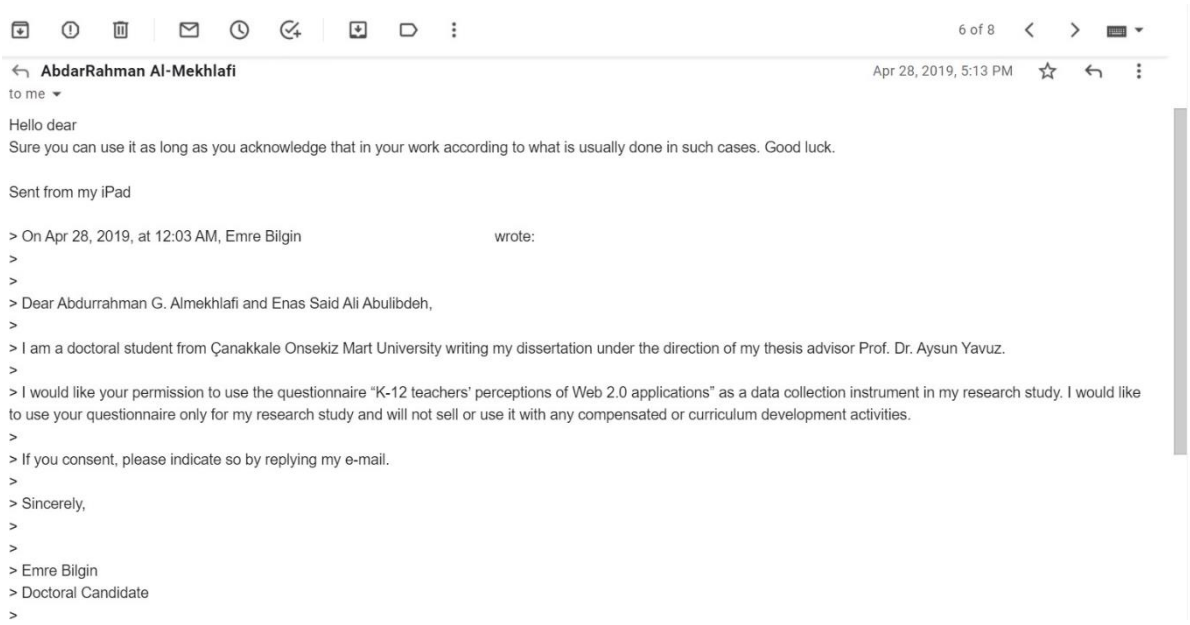
APPENDICES

APPENDIX 1

LETTER OF PERMISSION FOR THE PART D OF THE QUESTIONNAIRE



6 of 8

AbdarRahman Al-Mekhlafi Apr 28, 2019, 5:13 PM

to me

Hello dear
Sure you can use it as long as you acknowledge that in your work according to what is usually done in such cases. Good luck.

Sent from my iPad

> On Apr 28, 2019, at 12:03 AM, Emre Bilgin wrote:
>
>
> Dear Abdurrahman G. Almekhlafi and Enas Said Ali Abulibdeh,
>
> I am a doctoral student from Çanakkale Onsekiz Mart University writing my dissertation under the direction of my thesis advisor Prof. Dr. Aysun Yavuz.
>
> I would like your permission to use the questionnaire "K-12 teachers' perceptions of Web 2.0 applications" as a data collection instrument in my research study. I would like to use your questionnaire only for my research study and will not sell or use it with any compensated or curriculum development activities.
>
> If you consent, please indicate so by replying my e-mail.
>
> Sincerely,
>
>
> Emre Bilgin
> Doctoral Candidate
>

APPENDIX 2

PERMISSION APPROVAL BY MINISTRY OF NATIONAL EDUCATION

T.C.
MİLLÎ EĞİTİM BAKANLIĞI
Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü

Sayı : 81576613/605.01/2002108 28.01.2020
Konu: Araştırma Uygulama İzin Talebi

ÇANAKKALE ONSEKİZ MART ÜNİVERSİTESİ REKTÖRLÜĞÜNE
(Öğrenci İşleri Daire Başkanlığı)

İlgi: a) Çanakkale 18 Mart Üniversitesi Rektörlüğü Öğrenci İşleri Daire Başkanlığının 13/01/2020 tarihli ve 93130991-044-E.2000007851 sayılı yazısı
b) Temel Eğitim Genel Müdürlüğünün 27/01/2020 tarihli ve 70297673-605.01-E.1898775 sayılı yazısı
c) Özel Öğretim Kurumları Genel Müdürlüğünün 20/01/2020tarihli ve 36077160-405.01-E-1439264 sayılı yazısı
ç) Din Öğretimi Genel Müdürlüğünün 20/01/2020 tarihli ve 98029973-605.01-E-1457566 sayılı yazısı
d) Ortaöğretim Genel Müdürlüğünün 17/01/2020 tarihli ve 84037561-605.01-E-1275625 sayılı yazısı
e)Millî Eğitim Bakanlığının 22/08/2017 tarihli ve 35558626-10.06.01-E.12607291 (2017/25) sayılı genelgesi

İlgi (a) yazı ile Çanakkale 18 Mart Üniversitesi Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı Doktora Programı öğrencisi Emre BİLGİN'in "Pedagogical Uses of Web 2.0 Tools In Foreign Language Teaching: A Study to Define Best Practices" konulu doktora tezi kapsamında hazırladığı veri toplama araçlarının Türkiye genelinde devlet ve özel ilkokul, her tür ve derecedeki ortaokul ve liselerde görev yapan yabancı dil öğretmenlerine uygulanmasına yönelik izin talebi Genel Müdürlüğümüzce incelenmiştir.Genel Müdürlüğümüz ve alakalı Genel Müdürlüklerin ilgi (b,c,ç,d) yazılarıyla incelenmiştir.

Denetimi okul/kurum idaresinde olmak üzere, kurum faaliyetlerini aksatmadan, gönüllülük esasına göre; onaylı bir örneği Bakanlığımızda muhafaza edilen ve uygulama sırasında da mühürlü ve imzalı örnekten çoğaltılan veri toplama araçlarının uygulanmasına ilgi (e) Genelge doğrultusunda izin verilmiştir.

Gereğini bilgilerinize rica ederim.

Asaf Murat KARAPINAR
Bakan a.
Genel Müdür V.

Ek: Veri Toplama Araçları (7 Sayfa)

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APPENDIX 3

OTHER TABLES

Table 30

Tools for Publishing Content and Materials and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Tools for publishing content and materials (wikis, blogs etc.)	I have never used/ I do not use	Count	15	43	29	87
		Expected Count	17.1	39.1	30.7	87.0
		% within Tools	17.2%	49.4%	33.3%	100.0%
		% within Grade Level	28.3%	35.5%	30.5%	32.3%
		Residual	-2.1	3.9	-1.7	
	I only use/have only used personally	Count	12	31	25	68
		Expected Count	13.4	30.6	24.0	68.0
		% within Tools	17.6%	45.6%	36.8%	100.0%
		% within Grade Level	22.6%	25.6%	26.3%	25.3%
		Residual	-1.4	.4	1.0	
	I (also) use/have (also) used for teaching	Count	26	47	41	114
		Expected Count	22.5	51.3	40.3	114.0
		% within Tools	22.8%	41.2%	36.0%	100.0%
		% within Grade Level	49.1%	38.8%	43.2%	42.4%
		Residual	3.5	-4.3	.7	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0
		% within Tools	19.7%	45.0%	35.3%	100.0%
		% within Grade Level	100.0%	100.0%	100.0%	100.0%

Table 31

Assessment Tools and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Assessment tools (quizlet.com, easytestmaker.com etc.)	I have never used/ I do not use	Count	29	67	52	148
		Expected Count	29.2	66.6	52.3	148.0
		% within Assessment tools	19.6%	45.3%	35.1%	100.0%
		% within Teaching Grade Level	54.7%	55.4%	54.7%	55.0%
		Residual	-.2	.4	-.3	
	I only use/have only used personally	Count	4	9	5	18
		Expected Count	3.5	8.1	6.4	18.0
		% within Assessment tools	22.2%	50.0%	27.8%	100.0%
		% within Teaching Grade Level	7.5%	7.4%	5.3%	6.7%
		Residual	.5	.9	-1.4	
	I (also) use/have (also) used for teaching	Count	20	45	38	103
		Expected Count	20.3	46.3	36.4	103.0
		% within Assessment tools	19.4%	43.7%	36.9%	100.0%
		% within Teaching Grade Level	37.7%	37.2%	40.0%	38.3%
		Residual	-.3	-1.3	1.6	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0
		% within Assessment tools	19.7%	45.0%	35.3%	100.0%
		% within Teaching Grade Level	100.0%	100.0%	100.0%	100.0%

Table 32

Assessment Tools and Experience Crosstabulation

			Experience		Total
			Inexperienced	Experienced	
Assessment tools (quizlet.com, easytestmaker.com etc.)	I have never used/ I do not use	Count	11	137	148
		Expected Count	12.1	135.9	148.0
		% within Assessment tools	7.4%	92.6%	100.0%
		% within	50.0%	55.5%	55.0%
		Residual	-1.1	1.1	
	I only use/have only used personally	Count	2	16	18
		Expected Count	1.5	16.5	18.0
		% within Assessment tools	11.1%	88.9%	100.0%
		% within Experience	9.1%	6.5%	6.7%
		Residual	.5	-.5	
	I (also) use/have (also) used for teaching	Count	9	94	103
		Expected Count	8.4	94.6	103.0
		% within Assessment tools	8.7%	91.3%	100.0%
		% within Experience	40.9%	38.1%	38.3%
		Residual	.6	-.6	
Total		Count	22	247	269
		Expected Count	22.0	247.0	269.0
		% within Assessment tools	8.2%	91.8%	100.0%
		% within Experience	100.0%	100.0%	100.0%

Table 33

Assessment Tools and Generations Crosstabulation

			Generations		Total
			Generation Y and Z	Generation X and Boomers	
Assessment tools (quizlet.com, easytestmaker.com etc.)	I have never used/ I do not use	Count	96	52	148
		Expected Count	101.2	46.8	148.0
		% within Assessment tools	64.9%	35.1%	100.0%
		% within Generations	52.2%	61.2%	55.0%
		Residual	-5.2	5.2	
	I only use/have only used personally	Count	12	6	18
		Expected Count	12.3	5.7	18.0
		% within Assessment tools	66.7%	33.3%	100.0%
		% within Generations	6.5%	7.1%	6.7%
		Residual	-.3	.3	
	I (also) use/have (also) used for teaching	Count	76	27	103
		Expected Count	70.5	32.5	103.0
		% within Assessment tools	73.8%	26.2%	100.0%
		% within Generations	41.3%	31.8%	38.3%
		Residual	5.5	-5.5	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within Assessment tools	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%

Table 34

Photo and Image Tools and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Photo and image tools (instagram.com, flickr.com etc.)	I have never used/ I do not use	Count	8	16	18	42
		Expected Count	8.3	18.9	14.8	42.0
		% within Photo and image tools	19.0%	38.1%	42.9%	100.0%
		% within Grade Level	15.1%	13.2%	18.9%	15.6%
		Residual	-.3	-2.9	3.2	
	I only use/have only used personally	Count	21	64	51	136
		Expected Count	26.8	61.2	48.0	136.0
		% within Photo and image tools	15.4%	47.1%	37.5%	100.0%
		% within Grade Level	39.6%	52.9%	53.7%	50.6%
		Residual	-5.8	2.8	3.0	
	I (also) use/have (also) used for teaching	Count	24	41	26	91
		Expected Count	17.9	40.9	32.1	91.0
		% within Photo and image tools	26.4%	45.1%	28.6%	100.0%
		% within Grade Level	45.3%	33.9%	27.4%	33.8%
		Residual	6.1	.1	-6.1	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0
		% within Photo and image tools	19.7%	45.0%	35.3%	100.0%
		% within Grade Level	100.0%	100.0%	100.0%	100.0%

Table 35

Photo and Image Tools and Experience Crosstabulation

			Experience		Total
			Inexperienced	Experienced	
Photo and image tools (instagram.com, flickr.com etc.)	I have never used/ I do not use	Count	1	41	42
		Expected Count	3.4	38.6	42.0
		% within Photo and Image Tools	2.4%	97.6%	100.0%
		% within Experience	4.5%	16.6%	15.6%
		Residual	-2.4	2.4	
	I only use/have only used personally	Count	12	124	136
		Expected Count	11.1	124.9	136.0
		% within Photo and Image Tools	8.8%	91.2%	100.0%
		% within Experience	54.5%	50.2%	50.6%
		Residual	.9	-.9	
	I (also) use/have (also) used for teaching	Count	9	82	91
		Expected Count	7.4	83.6	91.0
		% within Photo and Image Tools	9.9%	90.1%	100.0%
		% within Experience	40.9%	33.2%	33.8%
		Residual	1.6	-1.6	
Total		Count	22	247	269
		Expected Count	22.0	247.0	269.0
		% within Photo and Image Tools	8.2%	91.8%	100.0%
		% within Experience	100.0%	100.0%	100.0%

Table 36

Photo and Image Tools and Generations Crosstabulation

			Generations		Total
			Generation Y and Z	Generation X and Boomers	
Photo and image tools (instagram.com, flickr.com etc.)	I have never used/ I do not use	Count	26	16	42
		Expected Count	28.7	13.3	42.0
		% within Photo and image tools	61.9%	38.1%	100.0%
		% within Generations	14.1%	18.8%	15.6%
		Residual	-2.7	2.7	
	I only use/have only used personally	Count	93	43	136
		Expected Count	93.0	43.0	136.0
		% within Photo and image tools	68.4%	31.6%	100.0%
		% within Generations	50.5%	50.6%	50.6%
		Residual	.0	.0	
	I (also) use/have (also) used for teaching	Count	65	26	91
		Expected Count	62.2	28.8	91.0
		% within Photo and image tools	71.4%	28.6%	100.0%
		% within Generations	35.3%	30.6%	33.8%
		Residual	2.8	-2.8	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within Photo and image tools	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%

Table 37

Text-based Tools and Teaching Grade Level Crosstabulation

			Teaching Grade Level			Total
			Primary school	Middle school	High school	
Text-based tools (twitter.com, forums etc.)	I have never used/ I do not use	Count	18	36	26	80
		Expected Count	15.8	36.0	28.3	80.0
		% within Text-based tools	22.5%	45.0%	32.5%	100.0%
		% within Teaching Grade Level	34.0%	29.8%	27.4%	29.7%
		Residual	2.2	.0	-2.3	
	I only use/have only used personally	Count	24	55	50	129
		Expected Count	25.4	58.0	45.6	129.0
		% within Text-based tools	18.6%	42.6%	38.8%	100.0%
		% within Teaching Grade Level	45.3%	45.5%	52.6%	48.0%
		Residual	-1.4	-3.0	4.4	
	I (also) use/have (also) used for teaching	Count	11	30	19	60
		Expected Count	11.8	27.0	21.2	60.0
		% within Text-based tools	18.3%	50.0%	31.7%	100.0%
		% within Teaching Grade Level	20.8%	24.8%	20.0%	22.3%
		Residual	-.8	3.0	-2.2	
Total		Count	53	121	95	269
		Expected Count	53.0	121.0	95.0	269.0
		% within Text-based tools	19.7%	45.0%	35.3%	100.0%
		% within Teaching Grade Level	100.0%	100.0%	100.0%	100.0%

Table 38

Text-based Tools and Experience Crosstabulation

			Experience		Total
			Inexperienced	Experienced	
Text-based tools (twitter.com, forums etc.)	I have never used/ I do not use	Count	5	75	80
		Expected Count	6.5	73.5	80.0
		% within Text-based tools	6.3%	93.8%	100.0%
		% within Experience	22.7%	30.4%	29.7%
		% of Total	1.9%	27.9%	29.7%
		Residual	-1.5	1.5	
	I only use/have only used personally	Count	11	118	129
		Expected Count	10.6	118.4	129.0
		% within Text-based tools	8.5%	91.5%	100.0%
		% within Experience	50.0%	47.8%	48.0%
		% of Total	4.1%	43.9%	48.0%
		Residual	.4	-.4	
	I (also) use/have (also) used for teaching	Count	6	54	60
		Expected Count	4.9	55.1	60.0
		% within Text-based tools	10.0%	90.0%	100.0%
		% within Experience	27.3%	21.9%	22.3%
		% of Total	2.2%	20.1%	22.3%
		Residual	1.1	-1.1	
Total		Count	22	247	269
		Expected Count	22.0	247.0	269.0
		% within Text-based tools	8.2%	91.8%	100.0%
		% within Experience	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Table 39

Text-based Tools and Generations Crosstabulation

			Generation Y and Z	Generation X and Boomers	Total
Text-based tools (twitter.com, forums etc.)	I have never used/ I do not use	Count	55	25	80
		Expected Count	54.7	25.3	80.0
		% within Text-based tools	68.8%	31.3%	100.0%
		% within Generations	29.9%	29.4%	29.7%
		Residual	.3	-.3	
	I only use/have only used personally	Count	89	40	129
		Expected Count	88.2	40.8	129.0
		% within Text-based tools	69.0%	31.0%	100.0%
		% within Generations	48.4%	47.1%	48.0%
		Residual	.8	-.8	
	I (also) use/have (also) used for teaching	Count	40	20	60
		Expected Count	41.0	19.0	60.0
		% within Text-based tools	66.7%	33.3%	100.0%
		% within Generations	21.7%	23.5%	22.3%
		Residual	-1.0	1.0	
Total		Count	184	85	269
		Expected Count	184.0	85.0	269.0
		% within Text-based tools	68.4%	31.6%	100.0%
		% within Generations	100.0%	100.0%	100.0%

APPENDIX 4

PART B AND PART D OF THE THESIS (ONLINE VERSION)

* 12. Lütfen aşağıda verilen araçlarla ilgili kullanım durumunuzu verilen üç seçenekten birini seçerek belirtiniz.

	Hiç kullanmadım / kullanmıyorum	Sadece kişisel olarak kullandım / kullanıyorum	Öğretim amaçlı (da) kullandım / kullanıyorum
İçerik ve materyal yayımı için araçlar (wikiler, bloglar vb.)	○	○	○
Video araçları (youtube.com, kizoa.com vb.)	○	○	○
Öğretme platformları (Blackboard, webCT vb.)	○	○	○
Sosyal ağlar (facebook.com, plus.google.com, researchgate.com vb.)	○	○	○
Fotoğraf, imge araçları (instagram.com, flickr.com vb.)	○	○	○
Metin temelli araçlar (twitter.com, forumlar vb.)	○	○	○
Sanal gerçeklik ortamı	○	○	○
Dosya paylaşımı araçları (dropbox.com, google.com/drive vb.)	○	○	○
Değerlendirme araçları (quizlet.com, easytestmaker.com)	○	○	○
Veri analiz araçları (surveymonkey.com vb.)	○	○	○
Dijital hikaye anlatımı araçları (storyjumper.com vb.)	○	○	○
Ses araçları (soundcloud.com, podcast vb.)	○	○	○
Zihin haritalama (mindmapping) araçları (bubble.us vb.)	○	○	○
Sosyal yer imi (bookmarking) araçları (delicious.com, diigo.com vb.)	○	○	○
Yeniden yayımlama araçları (pinterest.com, scoop.it vb.)	○	○	○

* 13. Web 2.0 uygulamaları/araçlarına yönelik düşüncelerinizle ile ilgili olarak lütfen aşağıdaki her bir ifade için verilen 5 seçenekten birini seçiniz.

Web 2.0 uygulamaları/araçları…

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	Kesinlikle katılmıyorum - -	Biraz katılmıyorum -	Ne katılıyorum ne katılmıyorum	Biraz katılıyorum +	Kesinlikle katılıyorum + +
Öğrenci-öğretmen iletişim becerilerini geliştirirler.	◯	◯	◯	◯	◯
Öğrencilerin yenilikçi düşünmelerini sağlar.	◯	◯	◯	◯	◯
Öğrencilerin büyük bir sınıfa sunum becerilerini geliştirir.	◯	◯	◯	◯	◯
Öğretmen ve öğrenci arasında anında dönüt sağlar.	◯	◯	◯	◯	◯
Günümüz dünyasında gerekli olan teknolojik becerileri geliştirir.	◯	◯	◯	◯	◯
Öğrenen toplumların bütünleşmesine ve gelişmesine yardımcı olur.	◯	◯	◯	◯	◯
Öğrencinin benzersizliğini ve yaratıcılığını ifade etmesine olanak verir.	◯	◯	◯	◯	◯
Öğrencinin soru sorma yeteneğini geliştirir.	◯	◯	◯	◯	◯
Çoklu ortam unsurları ve dosyaları ile öğrenmeye katılımı kolaylaştırır.	◯	◯	◯	◯	◯
Öğretmen ve öğrencilerin çeşitli konulardaki tartışmalarını arttırır.	◯	◯	◯	◯	◯
Öğretmenlerin ve öğrencilerin eğitim kaynaklarını aramalarına ve paylaşmalarına olanak sağlar.	◯	◯	◯	◯	◯
Bilgi alışverişinde bulunma fırsatı sağlarlar.	◯	◯	◯	◯	◯
Öğrencileri kullandıkları uygulamalara değer katmaları konusunda teşvik eder.	◯	◯	◯	◯	◯
Öğrencilerin düşünce ve deneyimlerini paylaşmalarına izin verir.	◯	◯	◯	◯	◯

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	Kesinlikle katılmıyorum - -	Biraz katılmıyorum -	Ne katılıyorum ne katılmıyorum	Biraz katılıyorum +	Kesinlikle katılıyorum + +
Öğrenciler için sınırsız ufuklar açarlar.	◯	◯	◯	◯	◯
Öğrencilerin bilgileriyle üretken olmalarını sağlar.	◯	◯	◯	◯	◯
Öğrencilerin fikir kaynakları ve insanlar arasında bağlantı kurmasını sağlar.	◯	◯	◯	◯	◯
Öğretmenlerin ve öğrencilerin eğitim kaynaklarını aramasını ve paylaşmasını sağlarlar.	◯	◯	◯	◯	◯

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