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INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF ENGLISH LANGUAGE EDUCATION

21ST CENTURY LEARNING: INTEGRATION OF WEB 2. 0 TOOLS IN TURKISH ADULT LANGUAGE CLASSROOMS

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DEDICATION

To my son…Yusuf Kaan…

ETHICS DECLARATION

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I hereby declare that;

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I cited all sources to which I made reference in my thesis,
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I would like to dedicate my thesis to my son Yusuf Kaan Demir who was born during my thesis studies. You are not only my son but also my sun! Your mother loves you to the moon and back!

28/05/2018

Özge KUTLU DEMİR

ABSTRACT

21ST CENTURY LEARNING: INTEGRATION OF WEB 2. 0 TOOLS IN TURKISH ADULT LANGUAGE CLASSROOMS

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Language classes have begun to welcome technological devices with their benefits as a result of the constantly improving technologies. With those technologies, many different materials serving for language teaching have been developed in order to be used in the classrooms. To make use of these contemporary advances, new materials are being developed day by day. In such a context, language learners have also initiated to use those materials. In that sense, the present study seeks to find out the ways to foster 21st century skills with W2.0 tools. For the present study, 33 adult English language learners, who were at the preparatory class of their department, were trained for two terms in order to see the effects of W2.0 tools on 21st century skills. The training program is in line with Bruner's 5Es instructional frame which aims to incorporate Web 2.0 (W2.0) tool as a subset of formal classroom learning (Kivunja, 2015). The program also enables participants to develop and present their own projects in the class. These projects, which were the outcomes of a collaborative activity, were recorded and shared through using a website as a main platform. While the students were sharing the presentations, their classmates also contributed to the website that was designed like a blog via writing comments which made them think in a critical and creative way. As the data collection tools, peer assessment collaboration rubric (Intel Teach Program, 2010), creativity and critical thinking rubric (based on KPM, 2010, cited in Kuong et al. 2012), rubric for communication skills (Schreiber et al., 2012), attitudes towards the use of computers questionnaire (Connolly et al., 2009), Critical Thinking Questionnaire (Bedir, 2016) were used. Furthermore, the presentations that students did in the class were recorded, and they were evaluated by two other independent instructors regarding the 21st century skills development. As another data collection tool, minute papers, semi

structured interviews and in class observations were used in order to obtain qualitative data. According to the results, using W2.0 tools presents a viable option to foster 21st century skills except for critical thinking skill for the case of language learners within Bruner's 5Es framework.

Key words: 21st century skills, Turkish adult prep class students, Web 2.0

ÖZET

21. YÜZYILDA ÖĞRENME: WEB 2.0 ARAÇLARININ YETİŞKİN TÜRK DİL SINIFLARINA ENTEGRASYONU

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Son yıllarda dil sınıfları gitgide gelişen teknolojik cihazlardan faydalanmaya başlamıştır. Bu yüzden teknolojilerle birlikte kullanılabilecek pek çok farklı materyal geliştirilmiştir. Bu çağdaş gelişmelerden faydalanmak için her geçen gün yeni bir materyal geliştirilmektedir. Böyle bir bağlamda, dil öğrencileri de bu materyallerden faydalanmaya başlamıştır. Mevcut çalışmada öğrencilerin 21. Yüzyıl becerilerini Web 2.0 araçları ile geliştirmenin yolları aranmaktadır. Çalışma için hazırlık sınıfında okuyan 33 öğrenciye Web 2.0 araçları kullanarak 21. Yüzyıl becerilerini geliştirmek için iki dönem boyu eğitim verilmiştir. Bu programa göre öğrenciler kendi projelerini geliştirip sundukları Web 2.0 araçlarıyla sınıfta sunmak üzere projeler hazırlamışlardır. Program Bruner'in 5E öğretim modeline göre hazırlanmış (Kivunja, 2015) ve öğrencilerin hazırladığı projeler kayıt altına alınmıştır. Dersin web adresini bir ana platform olarak kullanan öğrenciler işbirlikçi aktivitelerinin sonucu olan projelerini burada paylaşmıştır. Onlar paylaşırken arkadaşları ise onları eleştirel ve yaratıcı düşünmeye yöneltecek yorumlarda bulunmuşlardır. Veri toplama aracı olarak yarı yapılandırılmış mülakatlar, sınıf içi gözlemler, bilgisayara karşı tutum ölçeği (Connolly ve ark., 2009) ile işbirliktelik (Intel Teach Program, 2010), eleştirel düşünme (KPM, 2010, akt. Kuong ve ark. 2012), iletişim becerileri (Schreiber ve ark., 2012), yaratıcılık ve eleştirel düşünme (Bedir, 2016) rubrikleri kullanılmıştır. Ayrıca öğrencilerin sunumları kaydedilmiş ve 2 bağımsız okutman tarafından da değerlendirilmiştir. Diğer bir veri toplama aracı ise yarı yapılandırılmış mülakatlar ve bir dakika kağıtlarıdır. Sonuçlara göre Web 2.0 araçların kullanımının, eleştirel düşünme becerisi dışındaki 21.yy becerileri gelişiminde 5E çerçevesinde kullanımının uygun olabileceği söylenebilir.

Anahtar Kelimeler: 21. yy becerileri, Yetişkin Türk hazırlık sınıfı öğrencileri, Web 2.0 araçları

FOREWORDS

Nowadays, in the 21st century, teachers encounter with the students who are digital natives. Therefore, they require technological tools to satisfy their needs and attract attention. While there are discussions on the extent to integrate technological tools into classrooms, there are also problems related to the roles of it.

The extent to integrate technology might change in line with the properties of the context. Is the use of technology panacea for every problem encountered in language classrooms?, or as Bill Gates claimed "Technology is just a tool in terms of getting the kids working together and motivating them. The teacher is the most important." Hence, another question comes up "Does the role of teacher stay alive in the 21st century classroom?"

In such a context, identifying the degree to use technology as well as the ways to integrate into classrooms are significant. While fulfiling the needs of the 21st century, the use of technology might shed light onto the new practices. On this issue, probably, John Dewey was also right while he was claiming:

> *"If we teach today's students as we taught yesterday's, we rob them of tomorrow." (John Dewey)*

In that sense, it is of high importance to teach today's students with today's opportunities in today's settings.

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Özge KUTLU DEMİR

TABLE OF CONTENTS

Page

CHAPTER III

3. METHODOLOGY

CHAPTER IV

4. FINDINGS

CHAPTER V

CHAPTER VI

ABBREVIATIONS

W2.0 : Web 2.0

C21 : 21st Century

ELT : English Language Teaching

ICT : Information and Communication Technologies

CALL : Computer Assisted Language Learning

LIST OF TABLES

Page

TABLE OF FIGURES

Page

APPENDIX

PAGE

CHAPTER I

1. INTRODUCTION

1.1. Introduction

The introduction section starts with the background of the study. It goes on with the problem statement and aim of the study. After that, research questions are presented. The section ends up with the definitions part.

1.2. Background to the Study

"Technology, designed by creative educational designers, online moderators, or students, has proved to develop the learning experience more than even the best classroom environment." (Felix, 2002)

Taking the words of Felix (2002) into consideration and considering the atmosphere of the 21st century classroom settings, it can be claimed that technology has become a fundamental part of the many classrooms around the world. Language classes have also been affected from this shift. In such a context, technology is used as a panacea for many problems in the language classrooms of the 21st century.

Initial studies that dealt with the use of technology in language classrooms began in the 1980s. Geddes and Sturtridge (1982) tried to implement videos for teaching languages. In 1989, Richardson and Scinicariello conducted a study to see the effects of technology in the foreign language classroom settings. Between the 1990s and the 2000s, studies related to virtual classrooms (Lamy and Goodfellow, 1999), the use of internet (Singhal, 1997), Computer Assisted Language Learning (CALL) (Pennington, 1996) and the use of World Wide Web (Kost, 1999) took place among other developments.

After the 2000s, studies related to Web 2.0 (Alm, 2006; Lomicka & Lord, 2009 among others), the use of blogs (Pinkman, 2005) and the use of podcast (Abdous et al., 2009) have gained a momentum among other research issues. Furthermore, the studies on Web 2.0 have also been affected from the shifts in educational theories. The shift from behaviorist ideas can clearly be observed from the shifts in Web 2.0 materials (Jones & Brader-Araje, 2002). After behaviorism, cognitivist and constructivist ideas inspired the material developers mostly. As it is claimed by Moylan (2008, as cited in

Kale & Goh, 2012), integrating constructivist approaches and technological applications raise the chance to develop 21st century skills. Golonka et al. (2014) also put forward the idea that technological tools are fruitful in that they make students access to target language more, and they have a lot of interaction opportunities.

However, as a teacher teaching in today's classes, I have observed that the students do not have much opportunity to interact not only with teacher but also with other students to improve their 21st century skills. In such a context, thanks to the rapid developments in technology, the students could get more chance for improving 21st century skills if they use Web 2.0 (W2.0) tools since the tools offer students opportunities to use the language outside the classroom settings.

Web technologies have changed tremendously throughout the last decades. Throughout the heyday of Web 1.0, people used to read and obtain information from this source. They did not have the chance to change, add or adapt information. Via the advancement of web technologies, W2.0 appeared on stage. Thanks to W2.0, people can create, socialize and share information. The advantage of them is that they do not require extra training related to how to use the tools. As mentioned by Knobel and Wilber (2009), W2.0 provides participation, collaboration and distribution chances thanks to its ethos and values.

On the other hand, Web 3.0 has brought another dimension to web technologies. Via it, machines present and manage information just like people. Therefore, it may also be called as artificial intelligence or semantic web. As the last version of web technologies, Web 4.0 is totally based on artificial networks, and it is known as symbiotic web. With Web 4.0, the things we can do with a computer might be done with web tools easily. However, these technologies need further training. The reason for choosing W2.0 technologies for this study is that they do not require too much training when compared with Web 3.0 and Web 4.0. Thanks to W2.0, people can share, comment, communicate, publish and change the knowledge (Kale and Goh, 2012).

Nowadays, the borders of the classes are not restricted to walls. Students can study, collaborate and share via the advantages of W2.0 (Parker and Chao, 2007; Solomon and Schrum, 2007; Wang and Vasquez, 2012 among others). In that sense, several attempts have been done so as to make students use the advantages of the W2.0 tools to foster 21st century skills.

Most of the attempts in the studies related to technology integration in the literature focused on socio constructivism. It is an approach based on three basic ideas

related to reality, knowledge and learning. According to social constructivism, reality and knowledge are socially developed via human activities, and learning takes place in a social environment (Kim, 2001). Since many technological tools provide a virtual social environment, it is possible to claim that students would construct knowledge in such a setting. The tools make them have tailor size learning experiences in which students direct their own learning processes (Jensen, 1998). In this respect, Humes and Raisner (2010) put forward that a technology assisted constructivist environment might increase the chance for collaboration. Cox and Cox (2009) also mention one of the ingredients of a socio constructivist teaching atmosphere is the use of authentic materials in the classroom setting; thus, technology becomes a necessity in such an approach. In that sense, the present study is based on the idea that W2.0 tools foster the development of C21 skills with their socio constructivist properties (Enonbun, 2010; Mcloughlin & Lee, 2007; Paily, 2013 among others).

1.3. Statement of the Problem

For the Turkish context, many studies indicate the skill development problems. British Council and The Economic Policy Research Foundation of Turkey (TEPAV) (2013) prepared a report named as “National Needs Assessment of State School English Language Teaching”. According to this report, the problems related to levels exist in language curriculum of Turkey regarding the skills development. These problems lead to unmotivated and frustrated students who constantly study grammar notes instead of developing their functional skills.

Taking the words of British Council and TEPAV into account, it can be claimed that the level problem in the curriculum hinders the process of skill development. This situation particularly leads to problems in communication skills. On account of the fact that the students do not have much training of communication skills at high schools in Turkey, the students begin to have difficulties at the preparatory classes of their university degree. British Council and TEPAV (2013) highlight this problem in their report. As stated by the report, Turkey wants to take part in the ten largest economies list by the year 2023. However, the problem is that although the students have about 1000 hours English classes, they cannot achieve basic communicative proficiency. Karahan (2007) also highlights the same problem and claim that no matter how early

Turkish students start learning English, they have problems related to comprehensive and productive skills.

As it can be understood from Karahan's words and the study of British Council and TEPAV (2013), there should be much more effort to develop skills in Turkey. Since many job vacancies (more than 30%) look for a high level of English language communication skills in Turkey, people need to improve their communication skills. Since businesses are globally connected, vacancies for highly skilled workers need high degrees at English language communication skills. Koru and Akesson (2011) state the following truth for Turkish context, by claiming that 21st century (C21) of Turkey requires citizens who have computer and English language skills. Thus, it is of high importance to know and teach English in the C21 of Turkey.

When the situation of Turkey regarding the other C21 skills is considered, it can be said that there are also problems. According to Ananiadou and Claro (2009), 4Cs (communication, collaboration, critical thinking, creativity) are mentioned as skills that are basic, but there are not numerous teacher training programs and assessment policies related to teaching of 4Cs in Turkey. The aim of Ministry of Education (as cited in Intel, 2008) is also to create a society in which C21 skills cause competition. Therefore, Intel conducted a case study which is named as "Transforming Education with 1:1 eLearning in Turkey". As a result of the study, it can be said that 90% of the parents pointed out the positive influences of using computers on developing C21 skills. It is a significant result in that Stanley (2013) points out that parents and professionals in Turkey consider critical, creative thinking and communication skills as intellectual skills. In addition, Ministry of National Education prepared a profile of 21st century student in 2011 (Açıkgenç et al., 2011). 4Cs are included in this profile along with 38 other properties. Among these properties, Ministry of Education particularly emphasizes that a student in 21st century must be capable of using technology.

For that purpose, it is possible to claim that technology could be a tool to teach English as well as C21 skills (Black, 2009; Dede, 2010 among others). While there are so many problems in terms of integrating technology, Gilakjani et al. (2013) claim that combining constructivist learning theory and the use of technology might be the solution, and they might create the best applications for course design. Constructivism dates back to ideas of Dewey during the 1900s (Dewey, 1902), Vygotsky during the 1930s (Vygotsky, 1986), and Piaget during the 1940s (Piaget, 1976), as the best-known

proponents of the theory. In that sense, Gilakjani et al. (2013) put forward an idea of combining this theory and the use of technology.

Moreover, to be able to create lessons that suit well with the C21 principles is of high importance. On this issue, Black (2009) highlights that lessons need to take its roots from popular culture or technology. In a similar vein, Dog (2015) offers the way to create such lessons in language classrooms by calling for "realizing the importance of professional development, joining online communities, participating in webinars or podcasts, or engaging in collaborative research by distance is, perhaps, the most important C21 Skill in E.L.T" (p. 4). In the light of these studies, it is possible to claim that C21 skill development requires the use of technology in a socio constructivist setting.

1.4. Aim of the Study

The aim of the present study is to find out the effects of Web 2.0 tool integrated syllabi, which have been prepared in line with Bruner's 5Es Instructional Model, on improving the 4Cs of English Language Teaching (ELT) preparatory class students. The syllabi used in this study was grounded on the adaptation of Bruner's Instructional Model of 5Es (engagement, elaboration, explanation, evaluation, exploration) for the integration of 4Cs into content area teaching by Kivunja (2015). Through the application of Bruner's five lenses into the syllabi, the students are expected to foster their 4Cs thanks to using W2.0 tools. Once the students have experienced the procedure of the model for the development of 4Cs at the end of the first term, they are expected to apply it as procedural knowledge in their projects in the second term. In that sense, the present study aimed to investigate the effects of the W2.0 tools on improving 4Cs within the framework of Bruner's 5E Instructional Model.

1.5. Research Questions

1. How does the use of Web 2.0 tools affect the development of 4Cs within the Bruner's 5Es model?

a) How does it affect the development of critical thinking skill?
b) How does it affect the development of collaboration skill?
c) How does it affect the development of creativity skill?
d) How does it affect the development of communication skill?

1.6. Definitions

C21 skills: The term C21 skills refers to a broad set of knowledge, skills, work habits, and character traits that are believed—by educators, school reformers, college professors, employers, and others—to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces. (The Glossary of Educational Reform Website)

Communication: An act or instance of transmitting (Merriem Webster Online Dictionary)

Critical thinking: Critical thinking is a term used by educators to describe forms of learning, thought, and analysis that go beyond the memorization and recall of information and facts. (The Glossary of Educational Reform Website)

Collaboration: To work jointly with others or together especially in an intellectual endeavor (Merriem Webster Online Dictionary)

Creativity: The ability to create (Merriem Webster Online Dictionary)

CHAPTER II

2. LITERATURE REVIEW

In this chapter, the field of ELT, in terms of its history and current situation, is mentioned. In addition, C21 skills and trends and the philosophy of C21 education are mentioned with their effects on curriculum as well as their matches with CALL and W2.0 tools. In the last section, the use of W2.0 technology in language teaching is studied.

2.1. The Field of English Language Teaching

2.1.1. The Studies in English Language Teaching

At the end of the 20th century, English became one of the mostly needed global languages in the world (Ciprianova & Vanco, 2010). If the first professional studies on language teaching are investigated, it can be said that professional language teaching experiences date back to the twentieth century (Richards & Rodgers, 2001). From those days on, several techniques, models and approaches have been used in order to teach it effectively. Over several preceding decades, ELT has welcomed tremendous changes. These changes affected classroom settings all around the world.

At the beginning of the C21, with the studies on psychology, the effects of behaviorist ideas on language teaching were on stage. From this perspective, Skinner (1957) claimed that language learning resembles a habit formation process. According to Richards and Rodgers (2001), Audiolingualism, Situational Language Teaching, Total Physical Response and Silent Way are based on those behaviorist ideas. In addition, Demirezen (1988) highlights that the logic of many exercises in language teaching stems from the basic tenet of behaviorism: stimulus and response.

The field of ELT was mainly based on structures and Grammar Translation Method till the Reform Movement. Prior to the Reform Movement, the structural linguists claimed that language is based on structures. However, Vietör, Sweet and other reformers claimed that spoken language is more important; therefore, oral based methods need to be applied (Richards & Rodgers, 2001). The proponents of the Reform Movement claimed that curricula of language teaching classrooms should be based on

speech. After those days, changes and criticisms in linguistics have also affected language teaching settings.

At the end of 1950s, Chomsky rejected the ideas of behaviorists and structural linguists. In 1959, Chomsky published a review book named “A review of BF Skinner's Verbal Behavior” In his review, Skinner was criticized by Chomsky in that stimulus response relationship that he discovered in animals cannot explain language learning. Chomsky (1959) claimed that languages originate from the students underlying knowledge of abstract rules. Chomsky was successful to explain the language acquisition process; however, he did not clearly point out methodological tips to apply for language teaching classrooms. Therefore, alternative methods were offered.

Alternative methods were implemented in language classrooms between the years 1970s and 1980s. According to Richards and Rodgers (2001), these alternative methods are Total Physical Response, the Silent Way and Counseling-Learning. Furthermore, studies from other fields shed light onto language classrooms with Multiple Intelligences, Competency-Based Language Teaching and Cooperative Language Learning, Neurolinguistic Programming, Whole Language.

After that period, the birth of Communicative Approach changed the language classrooms significantly in that most of the previous approaches and methods were based on grammar based activities. Canale and Swain (1980) defined communicative competence, and they claimed that it consists of grammatical, sociolinguistic and strategic competence. The heyday of Communicative Language Teaching (CLT) was during the 1980s. Curricula of the classrooms were also affected by this change. Most of the syllabi in language classrooms were all based on structures. With CLT, notional-functional syllabus became popular. Another mainstream idea in psychology, cognitivism, has also affected language teaching methods. Cognitive Approach in Language Teaching is influenced by ideas in cognitivism and Chomskyan linguistics (Celce-Murcia, 1991). Chomskyan linguistics and cognitivist psychology fit well in that they both question the idea that language centered instruction and the use of behaviorist ideas are useful to teach a language (Kumaravadivelu, 2006).

On the other hand, in line with the abovementioned efforts, with the effects of globalization, ELT has also become a major industry in this century (Pennington and Hoekje, 2014). When the role of English is considered today, Ciprianova and Vanco (2010) state that its role is to foster communication outside not only intranational but also international borders. Furthermore, Pennington and Hoekje (2014) highlight that

the nature of today's ELT classroom is shaped with the ways ELT has been built up like instruction, disciplinary field, business, profession and sociocultural characteristics. Valdes et al. (2014) also point out that sociocultural approaches date back to more than 80 years ago. The ideas behind this approach were put forward in those years. According to Valdes et al. (2014), L2 learning is not only an active process but also a carefully built activity. In such a situation, the author offers that developing the expertise of ESL professionals is significant.

Not only those shaping factors but also technology have a huge effect on classroom contexts. On this aspect, Shyamlee & Phil (2012) point out that openness and accessibility of the teaching materials and information are the main factors on which context creation needs to be based. In that sense, Canagarajah (2014) puts forward an idea related to what to focus on today's classroom setting and states that instead of teaching propositional knowledge, teachers need to pay attention to teach procedural knowledge.

When ELT studies are investigated in Turkey, it can be said that ELT studies in Turkey have also been affected by the major trends around the world. İnal et al. (2016) point out that English has been the dominant language since the establishment of the Turkish Republic in 1923, and it symbolizes modern and Western things in the developing new state. According to Özdemir (2012), in Turkey, the first English teachers, who had methodology knowledge, graduated from Gazi Education Institute in 1945. Since 1982, teachers are trained at education faculties, and since 1997, English is the compulsory foreign language.

Furthermore, as the years passed by, the desire to attend European Union and the desire to follow changes in the West made English more important in Turkey. Thus, according to İnal et al. (2016), English has a significant part in formal education system designed by the Ministry of National Education. At that point, Çelik and Kasapoğlu (2014) conducted a study to search for the importance of English in education system. According to their results, most of the participants, who were elementary school administrators, reported that English is a global language which makes it significant to be learnt from the early days of schooling. By the same token, Kırkgöz (2007) points out that English is a key element in order to catch the needs of European system of language education. According to Kırkgöz (2007), Turkey is aware of its importance, therefore, the changes are done in ELT curriculum, systems and assessment tools. In line with Kırkgöz's statements and abovementioned literature, it can be claimed that the

field of ELT is constantly changing, and the classroom settings in Turkish context need to follow the changes around the world. The following section discusses the current situation in this field.

2.1.2. Current Situation in English Language Teaching

ELT has welcomed numerous changes and paradigm shifts with the contribution of approaches and methods so far. However, problems still exist in the classroom settings. Abilasha and Ilankuruman (2014) point out for the current situation of English language classrooms by stating that methods are not 'panacea' in order to solve problems in ELT. As stated by the authors, the results of the researchers paved the way for post method thinking. The problems also exist in Turkey. Solak and Bayar (2015) state that most of the foreign language learners in Turkey have problems while expressing their opinions although they had many English courses throughout their academic background. As a solution, they offer that English courses need to be practice-based courses which take place in learner centered settings.

In addition to the studies in the post method era, technological developments have also started to affect classroom settings. Among the studies in Turkey, Kasapoğlu-Akyol (2010) stated that using educational technology contributed to improve not only communication but also language skills of ESL students. Koç (2005) highlights another aspect of educational technology use and state that if you create a technological environment which is based on constructivist principles, this environment make learners actively process information via internal cognitive connections. In such an environment, the learner is responsible of his/her own learning process. Kahraman (2015) also emphasizes that student teachers in their study learnt about the culture of the target language while they were trying to use information and communication technologies for pedagogical purposes.

In that sense, Chun et al. (2016) emphasize that using technology should not be a panacea or an aim, instead it is a way to back up particular learning goals. Furthermore, due to the fact that the student profiles of the C21 classrooms have changed significantly, combining technology into classroom settings might be fruitful with the right approach. Similarly, for Carter (2004), practitioners need to combine technology, affect and metacognition in order to create a coherent approach which can develop learner autonomy.

2.2. The Philosophy of C21 Education

C21 has welcomed numerous changes in education field as well as the other areas. With the advancement of technology, schools have started to use its tools. Meanwhile, the expectations of learners from education have shifted. From now on, they do not want to use old traditional tools for their education. Thus, it is high time to use technological tools if you are a teacher in the C21. Scott (2015a) emphasizes this point by claiming that current thoughts related to C21 learning require the radical transformation of schools as well as the expectations related to what students need to learn in the classroom settings.

On the other hand, Hoffman (2013) highlights the importance of the classroom facilitators and the technology leaders in schools. If they do not attach importance to their roles, they will probably risk students' learning in that they may get a 20th century education in a C21 world. In a similar vein, Sarıca and Çavuş (2009) illustrate the importance of web based activities as a trend in C21 English learning, and teachers should be supported to create their own activities. Also, Csepes et al. (2015) assert the idea that if teachers do not prefer to use Web 2. 0 applications, it means that they ignore the needs of the C21.

Scott (2015b) mentions another important sign of C21 and states that life and work conditions of C21 need more than content knowledge and thinking skills; thus, young people need to realize the importance of lifelong learning. In that sense, McLoughlin and Lee (2008) and Redecker and Punie (2013) as cited in Scott (2015b) highlight that the key themes of C21 learning are informal learning, content creation, productivity, communication, collaboration and personalization. Also, Gretter and Gondra (2016) claim that student independent learning is the duty of C21 language teachers like student learning, and they require preparation to facilitate it.

In the context of language teaching, according to the report prepared by BECTA (2010), technology is used by teachers of modern languages in order to increase learning and teaching experiences (via utilizing different tools to satisfy the needs of different learning styles and making the students collaborate). Another reason to use technology is that it is fruitful for administration and planning. Teachers may reuse and adapt documents as well as accessing information. Furthermore, it develops assessment and reporting. On the one hand, it provides a fruitful atmosphere. On the other hand, most of the students think that technology means games. On this issue, Yalçın

Tılfarlıoğlu (2011) emphasizes that students might only consider W2.0 tools as beyond game and free time activity tools by the time not only teachers but also students attach importance to W2.0 tools in foreign language education.

Gretter and Gondra (2016) state that language instructors are of high importance for making the students understand the missions of C21 in that they help them comprehend the underpinnings of online messages which will develop cultural understanding and dialogue. In a similar vein, Ananiadou and Claro (2009) highlight that C21 skills consist of the necessary skills in the knowledge society. As a different point of view, Kereluik et al. (2013) argue that C21 skills are not new by stating that our basic roles like knowing, acting and value have not altered. In that sense, by following the ideas of Kereluik et al. (2013), Andrade (2016) also claims that if people want to obtain C21 skills, they should have an experience, which may help them to prepare for innovation, creation and knowledge contribution, in education. Binkley et al. (2012) offer ten skills embedded in four categories in order to create an analysis of C21 skills frameworks.

Ways of Thinking

1. Creativity and innovation
2. Critical thinking, problem solving, decision making
3. Learning to learn, metacognition

Ways of Working

4. Communication
5. Collaboration (teamwork)

Tools for Working

6. Information literacy (includes research on sources, evidence, biases, etc.)
7. 7. ICT (Information and Communication Technologies) literacy

Living in the World

8. Citizenship – local and global
9. Life and career
10. Personal and social responsibility – including cultural awareness and competence (p. 36)

Considering the abovementioned requirements in C21 frameworks, it can be said that obtaining C21 skills is a long process. According to Binkley et al. (2012), ways of working and thinking, living in the world and tools for working are the domains in order to examine the relationships of skills in C21 frameworks. The skills and the trends of C21 are discussed below.

2.3. Skills and Trends of C21

C21 has witnessed changes in learning trends. As one of them, activity theory defines ICT users as active entities in their authentic life settings. According to this theory, the behavior of ICT users is shaped by their needs and motivation. Verenikina (2010) highlights that as an activity develops, many parts interact with each other in a dynamic unity. For instance, teacher or learner, as the subject of activity, may use technology as a tool to reach the object of the activity which is to enable effective learning. Such a teacher or learner acts within a community of students, other teachers, administration staff and school leaders.

Another theory, Social- and cognitive-connectedness schemata (SCCS) theory, as it is described by Sontag (2009), emphasizes the formation of social-connectedness and cognitive-connectedness schemata. As Sontag (2009) highlights, the social-connectedness schema makes students ‘link, lurk,lunge’. They link by using the knowledge they require; they lurk by observing people who have the knowledge they require, and they lunge by attempting to do new things without searching guidance.

Furthermore, Sontag (2009) claims that such a social-connected and cognitive-connected atmosphere develops the learning transfer experiences in that it decreases the gap between lower and higher performing students. Another trend to learn is “I-LEARN Model—Identify, Locate, Evaluate, Apply, Reflect, Know” offered by Neuman (2011). According to Neuman, the model is constructed on the idea that access, evaluation and the usage of information lead to an inquiry approach. Furthermore, the model supports the use of a teaching tool designed particularly for information age learning. As it is highlighted by the model, the reflections of the information are the backbones for lifelong learning in the current century.

On the other hand, C21 skills are the skills that include necessary skills of the knowledge society today (Ananiadou & Claro, 2009). Silva (2009, as cited in Suto, 2013) highlights that C21 skills is not a new term, and its philosophical roots date back

to Socrates 2400 years ago and to John Dewey in the 20th century. McKeeman and Oviedo (2013) highlights that the four C's of C21 skills is connected with the 5Cs of foreign language instruction which are communication, connections, communities, culture and comparisons. Due to this reason, C21 skills present a strong framework to integrate W2.0 technologies.

As pointed out by McKeeman and Oviedo above, C21 skills welcome the use of W2.0 tools, and they have the link to five C's of foreign language instruction. In that sense, it is of high importance to teach in order to improve C21 skills of the students. Among the C21 skills, McKeeman and Oviedo (2013) state that communication constitutes a basic foreground for human relationships in that it makes people learn about the world. McKeeman and Oviedo (2013) also state that standard based instructional designs might be nourished with technological tools. Therefore, it can be said that technology may serve as a supporter of a standards based instructional design. Voogt et al. (2011) put forward the idea that C21 skills can be acquired in formal and informal settings. The key role is in teachers, policy makers and school administers in order to apply it inside and outside classroom settings. On this issue, Kay and Greenhill (2011) point out that one size fits all approach is out of date in this century, and schools need to find out which approach fits well to their own contexts. In this respect, the authors put forward the idea that curriculum needs to offer something more than pure content knowledge. Therefore, C21 skills and content knowledge need to be balanced in the curriculum.

On the other hand, according to the information in The Partnership for C21 Learning website (2007), there are outcomes which students need to have to be successful not only at work but also in life in this century. These outcomes are learning and innovation skills (four Cs), media and technology skills, content knowledge, C21 themes, information along with life and career skills. Nowadays, ten states in the USA use this framework to make students acquire C21 skills. In the sections below, four Cs of C21 are explained briefly.

2.3.1. Communication

Communication is a part of four skills in ELT, and also it is one of the four Cs of C21 skills. O'Heir and Eadie (2009) claim that communication is both an 'ordinary' and an 'extraordinary' action. It is ordinary in that we take part in communication activities

every day, it is extraordinary in that communication enables support and comfort in social contexts. For communication as a C21 skill, American National Educational Association (2012) states that communication has always been a significant property not only in workplace but also in public life; however, after the C21, they have become more significant.

In line with American National Educational Association's words mentioned above, it can be understood that communication is a demanding skill in many contexts. For the development of basic communication skills, Kaufman (2013) claims that students need to conduct research on previously selected content topics. Moreover, they need to have discussions related to topics. On this aspect, Dede (2010) points out that implementing simple presentations is not fruitful. Therefore, Dede (2010) states that meaning needs to be negotiated and co built by groups of students in order to make students engage in real communication activities. On this issue, Bahadorfar and Omidvar (2014) point out that English language teachers need support in order to apply speaking skill in their own contexts.

To make students engage in real communication activities, technology has also been used. According to Partnership for C21 Skills 4Cs research series prepared by Diley et al. (2018), communication needs to be studied in environments out of school in which one can appreciate the value of skill. Trilling and Fadel (2009) assert that not only the digital tools but also the conditions of C21 require a big combination of communication and collaboration skills. Furthermore, they claim that the best ways to foster communication skill are direct communication and collaboration that take place physically, in person or in virtual environments. In such a study, Baniaabdelrahman (2013) highlights that internet is fruitful for increasing participation and motivation degrees of language students in speaking classes. In another study, Shih (2010) points out that blended learning facilitate an improvement in public speaking classes. Moreover, the students in their study learnt the techniques to utilize multimedia software and blogging applications since blended learning also facilitates cooperative learning.

On the other hand, Lee (2014) claims that simply using technology tools does not mean that there will be success ultimately. Therefore, the author offers to combine digital news stories and content based learning in order to make students communicate more in their own communities. By the same token, Dupagne et al. (2007) assert that

video streaming technology does not decrease communication apprehension levels of the students although it offered asynchronous advantages.

2.3.2. Creativity

Creativity constitutes a significant part of C21 skills. Piirto (2011) mentions that creativity, as a part of C21 skills, means students who think and work creatively and who make innovations ultimately. It is an infinite skill, and the products of creativity might be assessed (Suto, 2013). Greenhill (2010) highlights that critical thinking, creativity and innovation are not brand new skills; instead, they always existed. However, in the C21, they are the main needs. According to Loveless et al. (2006), creativity is a way to foster skills related to problem solving in the current economic and cultural contexts of the century. Moreover, in line with the findings of the survey conducted by IBM (2010), fifteen thousand CEOs from sixty countries and thirty three industries claim that creativity is the most significant leadership quality in order to fulfill the needs of the century. In this respect, in addition to communication skills, teaching to be creative is also significant in this century.

Richards (2013) emphasizes that learners need to develop original ideas, and they need to have an experience that is qualified if they are a part of creative teaching experience. For teachers, Richards adds that it makes teachers satisfied and motivated since creativity makes the students engaged. Creativity is also important for institutions in that satisfied students and teachers may make the schools' quality, effectiveness and reputation increase according to that study. In addition, Bialik and Fadel (2015) point out that while memorizing a piece of work is at the imitation level of creativity, writing a short story might be called as original creation.

Although there are discussions related to nature-nurture points of creativity, it is possible to say that creativity levels can be increased in contexts with particular instructional strategies (Plucker et al., 2018). On the other hand, since creativity is a higher order thinking skill, it may be difficult to teach for many practitioners. For that issue, Mishra et al. (2010) claim that "higher order thinking skills such as creativity cannot be taught in a vacuum" (p. 7). Kaufman (2013) offers some activities to develop C21 skills. For creativity, Kaufman (2013) claims that students need to produce something that belongs to themselves. Furthermore, they need to engage in social activities in order to express their ideas and concepts. Kaufman also adds that they need

to have some hands-on experiences. When the studies related to the integration of technological tools in creative settings are taken into consideration, it can be said that digital tools help to foster creativity skill (Loveless, 2002).

2.3.3. Critical Thinking

Critical thinking, as another higher order thinking skill, includes five sub skills which are understanding, applying, analyzing, evaluating and creating (Hughes, 2014). This stairway of critical thinking skill might not happen in a linear order for language students. For instance, a student might think he/she understood a text, but at the application level, he/she may realize that he/she misunderstood and go back to the first step. On this issue, Zivkovic (2016) states that critical thinking allows the chance to integrate previous knowledge of the world into new contexts. Therefore, Hughes (2014) highlights that developing critical thinking skills is not a smooth process, and effective critical thinking is a part of effective communication (Cyphert, 2009).

As a way to foster critical thinking, Kaufman (2013) claims that students need to take part in virtual environments in which they are presented with a problem that can make them think critically. Another activity to foster critical thinking might be becoming a teacher for part of the day to show podcasting, photography etc. As stated by United States of America's previous President Barack Obama, "Don't simply measure whether students can fill in a bubble on a test, but whether they possess C21 skills like problem-solving and critical thinking." (as cited in Finkel, 2010).

Furthermore, it should be kept in mind that there are various ways to develop critical thinking skill. Using questions effectively, making students involved in discussions and obtaining different forms of reflection from the students are some ways to be used while teaching in classrooms. (Rezaei et al., 2011). On this issue, Daniel (2013) points out some pedagogical implications of critical thinking. According to Daniel (2013), by changing teacher roles, content and activities of the classroom, students would reach to linguistic content, develop opinions and apply cognitive skills.

Technology has been used to integrate this change into classroom settings. For the use of technology to foster critical thinking skills, Saavedra and Opfer (2012) point out that technology enables students' chances to connect their skills to different contexts, reflect, solve the things that they do not understand and collaborate. Moreover, Swart (2017) claims that technology might provide more chances for student

participation, and allows more chances for critical thinking opportunities. By the same token, MacKnight (2000) points out that online discussions might also offer chances for critical thinking skill development.

2.3.4. Collaboration

Collaboration, which constitutes one of the C21 skills, is not a new term in that it is an umbrella term for discussion, production and reflection of the students (Kaufman, 2013). Teacher directs collaborative learning, and interaction of peers is important in it (Brodahl et al., 2011). Kaufman (2013) states that they may make use of W2.0 tools in a collaborative projects in order to show their work, discuss and obtain feedback. Larson and Miller (2011) also put forward the idea that teachers of the C21 need to continue the ideas of early educators like Bloom (1956); however, they need to look for ways to develop students' communication and collaboration skills through the integration of technology and problem solving skills.

Furthermore, knowledge and comprehension levels in Bloom's taxonomy (such as applying, analyzing, synthesizing, and evaluating) may be combined with the use of technology which can pave the way for a collaborative practice. It is widely known that communication, collaboration and ICT literacy are the skills that are outside the Bloom's cognitive domain (Suto, 2013). In that sense, technology might build up a bridge for collaborative activities in classroom settings. In such a study, a collaborative learning atmosphere supported by Wiki was found to be effective for students (Chu et al., 2012).

As Wang and Camilla (2012) also point out, present research concern related to collaboration has become online collaboration since W2.0 technologies were on stage. W2.0 is a collaborative tool (McLoughlin and Lee, 2010). When W2.0 technologies are used, they can make students create content collaboratively during the development process of authentic learning tasks (Duffy, 2008).

On the other hand, privacy concerns and formatting/editing problems were reported by the students when they used online collaboration tools (Chu and Kennedy, 2011). For that reason, Luckin et al. (2009) put forward the idea that W2.0 technologies would be fruitful for peer review and a sense of audience. By the same token, Plucker et al. (2018b) point out that collaboration might be developed via technological tools in

that they provide more chances for communicating meaning and interacting with different people.

2.4. Curriculum Reconstructions to Integrate C21 Skills

"It's time to lose the "proxies," and go beyond "C21 skills" — and get all students in the world to the real core of education" (Marc Prensky, 2014)

During the last decades, the steps of educators have proceeded very much in the same way as what has already been indicated in Prensky's words. To Eaton (2010), from now on, collaborative models are welcome in that students are curious, and they want to be guided. Models which are authoritarian are out of date, and the students have the world at their fingertips. Eaton (2010) also described the students to whom we are designing the curriculum. Eaton (2010) describes the C21 students as 'tech-savy' and they are aware that learning a language is difficult. Therefore, to Eaton (2010), from now on, collaborative models are welcome in that students are curious, and they want to be guided. Models which are authoritarian are out of date, and the students have the world at their fingertips.

Now that the students have changed during the last decades, it is high time to start changes in curricula. Though the dilemma mentioned by Kereluik et al. (2013) is still on stage, it is high time to rethink the pedagogies. As it is put forward by Kereluik et al. (2013) the dilemma of "nothing has changed" and "everything has changed" causes us to move forward. For them, our core roles like knowing, acting and valuing have remained the same. In line with the ideas on literature, it can be claimed that what is different and what should be added in the curricula is the use of technology.

In such a study, according to Alismail and McGuire (2015), the basic part of the C21 curriculum is the integration of multimedia tools in teaching. In another study in Australia, it was emphasized that a curriculum only organized by learning fields is not enough for C21 learning in that knowledge is continuously growing and students must be lifelong learners so as to be able to catch up with the century's needs (Australian Curriculum Information Sheet, see the References).

On the other hand, deciding on the curriculum that includes everything may not be possible. Amadio et al. (2014) defend this idea and state that it is not possible to include everything in a curriculum in that the demands and expectations of young people experience a fast change in social and political domains. In line with the ideas of

Amadio et al. (2014), it can be said that fast changes in the century as well as the national education systems also affect the curriculum reconstructions in the C21. That is to say, curriculum preparation for the C21 skills includes dilemmas as well as difficulties caused by fast changes. Another problem is that few teacher training programs (initial or in service) aim to teach how to develop C21 skills (Ananiadou & Claro, 2009). According to the research conducted in OECD countries by Ananiadou and Claro (2009), this is a missing part of the puzzle that includes a picture of the C21 skills.

Under these circumstances, The Partnership for C21 Learning (p21) website (available from www.p21.org), puts forward some guiding recommendations. These recommendations are developing curricula for understanding, removing the standards to understand the fundamental concepts and skills, building widespread consensus around the big ideas and essential questions, using curriculum-embedded, performance based assessments, committing to constant improvement in C21 curriculum design processes and collaborating. In this respect, teaching C21 skills does not require using a lot of technological tools although their contributions in student projects are welcomed (Walser, 2008).

Consequently, it might be claimed that curricula around the world have witnessed a significant change with the contributions of W2.0 and C21 skills. Therefore, the teachers of the present century must be capable of satisfying the needs of their students as well as the needs of the century.

2.5. Bruner's 5E Instructional Model for Teaching 4Cs

Bruner's 5E Instructional Model is based on the attempts of the scientists Dr. Rodger W. Bybee and his colleagues in Colorado Springs Biological Science Curriculum Study (BSCS) Educational Centre. The authors created a model and claimed that if the students engage, explore, explain, elaborate and evaluate, they would be successful (Bybee et al. 2006). This model is based on the ideas of Bruner (1961) "discovery learning", Vygotsky (1929) "constructivism", Piaget (1954) "active learning" and Wood et al. (1976) "scaffolding" (as cited in Kivunja, 2015). Bybee et al. (2006) particularly point out that there are similar things between 5Es and C21 skills; to give an example, the author points out the outcomes related to problem solving, self motivation, communication, systems thinking and learning.

Bybee et al. (2006) mention that in 5E model, the students would have a chance to develop their skills while engaging, exploring, explaining, elaborating and evaluating. Thanks to being a part of such a context, the students would have a chance for discovery learning (Bruner, 1961). In such a study, Kivunja (2014) searched for Bruner's exploration and engagement lenses in Google Discussion group projects. According to the results, the comments of the students fit well with the aforementioned two lenses. A year later, Kivunja (2015) puts forward the idea that the other models could also be used to teach 4Cs; however, the author proposed that teaching 4C's within the framework of Bruner's 5Es.

In one of the previous studies, Geren and Dökme (2015) applied 5E instructional model of Bruner in science classes. According to qualitative and quantitative results, 5E instructional model was fruitful for academic success in science class when compared with the control group. In a similar vein, Açışlı et al. (2011) point out that 5E learning model would be fruitful for the students in science classes according to statistical analyses. Senan (2013) also points out that if 5E instructional model is supported by multimedia in a constructivist setting, students will have the chance to develop their C21 skills in a science class.

In addition to the abovementioned studies, Duran and Duran (2004) highlight that 5E instructional model offers a chance for constructivist and reform based lessons in science classes. Metin et al. (2011) also claim that student teachers in their study wanted to use 5E Instructional Model since it was a practical model. On the other hand, Yiğit (2011) applied 5E model in language classrooms to teach writing. According to the results, the model was fruitful for developing writing skill.

In line with the aforementioned findings, it can be concluded that the model aims to make students foster 5Es by taking part in a constructivist setting. Though the model is commonly used in many science classroom settings, the use of the model on language classroom settings is a research topic that need more investigations. Moreover, the combination of the model with C21 skills is also a promising research topic.

2.6. The Use of ICT Tools to Develop C21 Skills

Various studies in the literature put forward that the use of ICT tools might increase the development of C21 skills. With the increasing trends in technology, ICT has become a panacea for many C21 classrooms around the world. However, problems

exist related to the application of right technology with the right pedagogy in many settings. As Stockwell (2007) states, technology and pedagogy are closely related. According to Stockwell (2007), pedagogy and technology are so interrelated that it has become like “the chicken or the egg?” causality dilemma. Therefore, it can be said that there is not a clear cut direction between the growth of technological applications and their pedagogy.

According to Hazell (2005), the technology tools used at schools, the content taught and the studies to foster C21 skills are not related. In addition, problems related to access to ICT, limited time to use computer skills and inadequate training opportunities are the problems encountered in many school settings (Pearson, 2006). At that point, it is the responsibility of school leaders to apply the right tools in right settings (Sutherland, 2004). It must be kept in mind the use of ICT tools need to suit well with the pedagogies in order to change the learning atmosphere and make use students use their higher level thinking skills (Lobo & Sanchez, 2016). Furthermore, the expectations and experiences of the students need to suit well with the ICT tools in order to serve the needs of the C21 (Cowie & Jones, 2009).

On the abovementioned issue, Tezci (2009) conducted a study so as to investigate which ICT types are popular among teachers in Turkey. According to the results, the most popular ones are the internet, e-mail and word processing. Although they mostly have positive attitudes towards the integration of them, their attitudes and skills to integrate ICT tools vary in line with their year of experience. In a similar vein, Yunus et al. (2009) points out that teachers mostly have positive attitudes towards the use of ICT tools in that they believe they are fruitful for language learning. However, they also point out that they face with problems while integrating the tools.

On the other side, when the situation of the students is considered, the application of ICT tools makes them motivated or unmotivated according to their teacher’s instruction way, their expectations and parental support (Vekiri, 2010). On this issue, deKoster et al. (2015) point out that gender affects the attitudes towards ICT skills of the students. According to them, boys and girls are different in terms of using and working with ICT tools, and girls require more explanations.

For ICT use, Eurydice, which is a leading organization in Europe that is based on 53 national units, prepared a document in order to find out the reasons to integrate ICT tools. According to Eurydice (2001), there are various reasons to integrate ICT into education systems which are developing the learning-teaching processes and the quality

of education, offering access chances in line with the equal opportunities principle, continuing lifelong education and training, facilitating the development of information society, making people acquire not only critical but also creative attitudes to ICT and making them citizens of the information society. Therefore, it can be said that if students want to be a citizen of C21, various ICT tools might help them. With the integration of ICT tools into language classes, studies on Computer Assisted Language Learning (CALL) began.

2.7. C21 Skills and Computer Assisted Language Learning (CALL)

Since trends of the C21 have changed, there has also been a shift in language classrooms of the C21. Devkota et al. (2017) highlight that curricula and classrooms require this shift to be able to prepare a learning environment for the C21 learners. From now on, as it has already been pointed out by Sarıca and Çavuş (2009), language education takes place inside and outside the classroom walls thanks to the available technological tools in the C21.

National Council of Teachers of English (NCTE) (2007) emphasize that C21 skills include both core academic subjects and skills related to learning, innovation, life, career and technology. Furthermore, Beriswill et al. (2016) state that the address of C21 skills calls for innovation, creativity, problem solving, critical thinking, collaboration and communication in practices. By the same token, Pearlman (2010) points out that core content knowledge, skills related to information, communication, thinking, problem solving, information and communication technologies are significant parts of C21.

Under these circumstances, Binkley et al. (2010) state that C21 standards and assessments should be in line with the development process of C21 goals; in addition, they need to be performance based and technically sound. Pearlman (2010) also puts forward a design criterion for C21 collaborative environments. According to Pearlman, knowledge and skills needs to fit well with pedagogy and curricula, and the assessments should be done accordingly. Furthermore, technology needs to be welcomed into learning environments. Abilasha and Ilankumaran (2014) discussed the trends in language teaching in their article “Trends in English Language Teaching: A Novel Perspective”. They claim that ICT as the third part of globalization puzzle cannot

be separated from English language teaching contexts. In such a context, with the implementation of ICT tools, the heydays of "CALL" began.

Within the ELT framework, Computer Assisted Language Learning (CALL) had a great effect on the development and shape of the contexts. Warschauer (2000; based on Kern & Warschauer, 2000; Warschauer, 1996) describes the chronological stages of CALL (see Table 1).

Table 1.

Three stages of CALL (Warschauer, 2000 (p.64); based on Kern & Warschauer, 2000; Warschauer, 1996)

Stage	1970s-1980s: Structural CALL	1980s-1990s: Communicative CALL	C21: Integrative CALL
Technology	Mainframe	PCs	Multimedia and Internet
English-Teaching Paradigm	Grammar-Translation, Audio-Lingual	Communicative Language Teaching	Content-Based, ESP/EAP
View of Language	Structural (a formal structural system)	Cognitive (a mentally-constructed system)	Socio-cognitive (developed in social interaction)
Principal Use of Computers	Drill and Practice		
Principal Objective	Accuracy	Communicative Exercises And Fluency	Authentic Discourse And Agency

For Warschauer (2000), currently, integrative CALL, which uses multimedia and the internet as technological tools, is on stage (see Table 1). Integrative CALL's English language paradigm is based on Content Based Approach and English for Specific Purposes (ESP) /English for Academic Purposes (EAP), its view of language is socio-cognitive and its prior objective in the classrooms is to serve for the development of accuracy, fluency, and agency. That is the reason why integrative CALL suggests using computers as an authentic discourse. Moreover, it includes a combination of information processing, communication, information processing, use of authentic language and learner autonomy (Lee, 2000). Hence, integrative CALL can be said to benefit from all approaches and methods that the old CALL types used, clarify the deficiencies and combine them with the current approaches under the name of integrative CALL.

Particularly, integrative CALL, with its multimedia and internet technology, has introduced an incomparable momentum to the ELT world in the previous studies

(Adair-Hauck et al., 1999; Verdugo & Belmonte, 2007). In that sense, from a general perspective, it can be said that the history of CALL can be examined in three stages which are behavioristic, communicative and integrative CALL and there are three approaches to CALL which are structural, cognitive and socio-cognitive. In addition, there are three models of CALL to be applied in classroom settings which are computer assisted classroom teaching, hybrid teaching and distance-online learning (Xie, 2006). The roles of computer have also changed according to changing paradigms put forward by CALL. These roles are teacher, tester, tool, data source and communication facilitator (Padurean and Margan, 2009).

Many benefits of CALL have been observed. In the application of computer assisted learning to second language acquisition (CASLA), the corresponding concern is "How can computers best be used to promote development of communicative L2 ability?" (Chapelle, 2001, p. 41) Thus, in order to be communicative teachers, teachers can use CALL applications. Tunçok (2010) also illustrates the constructive point of CALL. The author claims that CALL is a constructive tool, and it affects vocabulary, listening and reading skills. However, the extent to which CALL will affect depends on students' perceptions related to CALL.

In such a context, CALL has become a controversial and popular research issue in many studies. Among the studies in Turkish context, Esit (2011) offers using a CALL program with morphologic analyzer for not only developing vocabulary learning but also for improving their attitudes towards CALL program. A study in a similar vein, Durdu (2003) states that the majority of the students had positive attitudes towards CALL programme in terms of vocabulary learning through the dictionary, chat and activities pages. Tunçok (2010) points out the differences of CALL exercises and states that traditional mechanical exercises are done better than traditional instruction techniques in that the students get immediate feedback with animations rather than getting feedback in front of their classmates.

Moreover, in the worldwide context, we, as language teachers, need to use technology to have new experiences in our language practices as pointed by Lee (2000). In a study of CALL, Warschauer and Healey (1998) discussed the importance of computers from the perspectives of students in language teaching. According to them, computers make students start data driven learning. In one of the recent studies of CALL, Anwaruddin (2013) conducted an action research and compared students' behaviors in CALL and non-CALL lessons. The results of the study highlight that using

CALL leads to an increase in motivation which might pave the way for target language success.

For listening and speaking skills, various studies indicated the effects of CALL. Kim (2016) conducted a study and found out that using chats contributes to the development of speaking skill. In another study, Liu (2009) claims that using an information technology tool might contribute to the development of listening and speaking skills. Furthermore, Liu and Chu (2010) used gaming through computers, and according to them, games foster the development of both skills. In a similar vein, Nachoua (2012) conducted a study and put forward a hypothesis by stating that CALL would be fruitful for the development of listening skill. For the listening skill, Barani (2011) claims that CALL affects listening skill of Iranian EFL learners significantly. Gruba (2006) also states that video mediated listening of a second language offers benefits. AbuSeileek (2007) puts forward that computer based teaching of oral skills is beneficial for weak students. Particularly, they performed well on listening tests. The author claims that this is because of the fact that listening is a receptive skill. Using authentic video (in this case a Spanish-language telenovela) also proved to be fruitful for student's listening comprehension levels (Weyers, 1999).

From another perspective, experiencing communication through a computer based tool makes people increase their language learning experience (Cobb, 2002). By the same token, AbuSeileek (2012) asserts that the students do not reveal their identities by using a computer based environment which might pave the way for a better skill development process. In that sense, using computers was found as a solution to the development of language skills along with C21 skills in numerous studies. On this issue, Hashemi and Aziznezhad (2011) warn that CALL activities need to be open ended rather than being close ended; otherwise, CALL prevents freedom of the people. Also, there might be students who do not want to use CALL tools. According to Yang and Chen (2007), some students might desire spoon-fed, traditional language learning activities. In that sense, it is the responsibility of teachers to decide on the CALL tools which suit well with the language class atmosphere.

2.8. The Use of Web 2.0 Technology in Language Teaching

Nowadays, various W2.0 tools are used in classroom settings around the world. As Harris and Rea (2009) state, W2.0 technologies widen the classrooms; and make the

world itself a classroom. Blogs are one of the most widespread W2.0 tools. Blogs are the platforms in which people can share, edit, comment and collaborate. As regards blogs, it can be claimed that they are one of the commonly used tools in language classrooms. Blogs present various advantages for the students. Blackstone et al. (2007) mention that blogs enable access out of the classroom settings. Furthermore, they foster individual motivation. As another advantage of blogs, Noel (2015) points out their constructivist property to back up cognitive development. In addition, they are student centered (Kuimova & Zvekov, 2016). According to Kuimova and Zvekov (2016), these properties may make students foster their communication skills. On the other hand, blogs provide the chances for not only interaction but also reflection (Waely and Aburezeq, 2013). A study in a similar vein, Gündüz (2016) claims that using blogs might help learners to foster their communication as well as critical thinking skills. Since blog offers numerous advantages, it has been used in the present study as a sharing platform.

Another W2.0 tool that is commonly used is podcasts. Podcasts are audio files that are about various topics. The podcasting tools offer chances to share, download or comment like various W2.0 tools. They can be downloaded to mobile phones as well as computers. Hasan and Hoon (2013) point out the types of podcasts as television, radio, classroom, individual or radio. Therefore, it can be said that students could have a chance to develop their own podcasts, or they might use the available authentic materials. Hasan and Hoon (2013) claim that what makes podcasts advantageous for the students is that they can be listened at different settings according to the paces of the students. Furthermore, McBride (2009) offers that they are fruitful for Second Language Acquisition.

Regarding language teaching, a sound “podagogy” for using podcasts effectively is needed (Rosell-Aguilar, 2007). On this issue, Rosell-Aguilar (2009) puts forward the idea that podcasts might fit in well with a constructivist classroom setting. Başaran and Cabaroğlu (2014) also state another important issue related to the use of podcasts by claiming that they should be used more frequently than grammar items. McBride (2009) also emphasizes that podcasts need to be used carefully to suit well with the pedagogical manners of language classrooms. In such a study, Hur and Suh (2012) used podcasts to teach English, and they claim that using podcasts helps the students to improve their English levels. Kavaliauskiene (2008) also points out that listening to podcasts makes students improve listening skill since they make them listen to

according to their own speed. Moreover, the author mentions that the students listen to the activities alone which makes them motivated to study more.

Using stories in the electronic environment created a new era in the classrooms with the development of electronic storybooks. Electronic storybooks provide stories in the electronic format. The benefit of the electronic storybooks is that they can provide stories the audio of which can be prepared by a native speaker. Students get the chance to listen to an audio material from a native speaker that takes place in a context. In that case; while students are enjoying themselves with the help of the story, they can also practise their language skills. However, as Verdugo and Belmonte (2007) state the pace of an electronic story may be too fast even for native speakers and adds that this situation may be a problem for non-native learners. That's why, attention should be primarily attached to the pace of the story in accordance with the level of the students. Furthermore, electronic storybooks are of great importance to combine technological media and instructional design with the used instruction type these days (Chen et al., 2003).

An electronic storybook can be used in different contexts for developing four language skills. In such a study, Tsou et al. (2006) applied a multimedia storytelling website. According to the results, applying such a website is fruitful for language learning. After using digital stories in the language classroom, Castaeda (2013) also highlighted that they make students take part in a meaningful real world task. Furthermore, Suwardy et al. (2013) point that digital stories make students use both visual and auditory senses. On this issue, Sylvester and Greenidge (2009) conducted a study to extend the potential of writers that struggle via digital storytelling. They state that writers may be motivated to write if they use technology. Even though writers struggle in traditional manners, technology might motivate them. Reyes Torres et al. (2012) concluded that digital storytelling might also trigger cooperative learning. Reinders (2011) claims that students realize what they do throughout their learning process critically with them. In that sense, Wang and Zhan (2010) state that digital storytelling requires not only creative but also technical skills. For digital storytelling activity of the present study, steps offered by Reinders (2011) used. Therefore, at the very beginning of the activity, students were prepared. After some technical preparation, the digital storytelling activity was started till it ends up with follow up meetings. According to Reinders (2011), information literacy and communicative skills might develop together. By the same token, Lee (2014) conducted a research.

According to the results, the students favored the use of digital news stories to develop speaking skill.

Another widespread tool is comics in language classrooms. Vassilikopoulous et al. (2011) found out that use of comics make students obtain linguistic skills and improve their imaginations as well as making them create texts in line with their cultural experiences. According to the results of Educomics project (2009), web comics are fruitful for education, and as a result of the project, findings were useful for many urban and rural schools around Europe. As another tool, animations are also fruitful for language teaching. On this issue, Kayaoğlu et al. (2011) did a small scale research. They used animations to teach vocabulary. Though a statistically significant difference does not exist between the experimental and control group, the students in their study claim that studying vocabulary items via animation is fruitful in that they use both aural and visual channels. Furthermore, previous studies on the literature have also used W2.0 tools, like Voicethread that have multimedia properties, to make students develop their language skills along with C21 literacies in a collaborative atmosphere (Smith & Dobson, 2011). According to the results reported by Smith and Dobson (2011), W2.0 tools pave the way for C21 skills development.

2.9. The Role of Web 2.0 Tools for Improving C21 Skills

Web technologies have changed tremendously throughout the last decades. Throughout the heyday of Web 1.0, people used to read and obtain information from this source. They did not have the chance to change, add or adapt information. With the advancement of web technologies, W2.0 was on stage. Thanks to W2.0, people can create, socialize and share information. The advantage of them is that they do not require too much extra training related to how to use the tools. Web 3.0 has brought another dimension to web technologies. Via it, machines will present and manage information just like people. Therefore, it may also be called as artificial intelligence or semantic web. As the last version of web technologies, Web 4.0 is totally based on artificial networks, and it is known as symbiotic web. Thanks to Web 4.0, the things we can do with a computer can be done with web tools easily.

On W2.0, Enonbun (2010) states that it the second version of development on Web which enables safe information sharing, collaboration and intractability. Wang and Vasquez (2012) also state that the research paradigm of SLA changed with the basic

features of W2.0 technology (namely communication, information sharing, and collaboration). From now on, communication and collaboration are also popular research topic.

On this environment, Minocha (2009) points out that two way communication opportunities of W2.0, will presumably pave the way for collaboration, communication platforms. Also, it can contribute to higher levels of communication, information sharing, plurilingual and intercultural competence, reflective, self-directed and collaborative learning. Herlina (2014) also points out that W2.0 enables collaboration and interaction, and it is not limited to one way communication like Web 1.0. With the different angles it provides, W2.0 is unique in many aspects.

According to Sturm et al. (2000), W2.0 makes us have multidimensional networks instead of the two dimensional networks that we used to have in our traditional classes. Furthermore, Conole and Alevizio (2010) offer new forms of learning with W2.0 which are learning based on inquiry and exploration, communication and collaboration thanks to its new opportunities and a rich context for learning. In that sense, it can be said that W2.0 paved the way for new learning experiences.

The trends of the classroom settings also witnessed changes when Web 2. 0 was first welcomed in classroom settings. Eaton (2010) identified those popular trends of the C21 language classrooms. According to Eaton, the promises which are not obvious, authoritative teachers, and language labs are no longer popular. Instead, usage of technological tools, combining language learning and leadership skills, learner centered approaches, benchmarks, frameworks and other approaches to assessment are popular.

Many studies on the literature have already pointed out the positive effects of W2.0 use. Witts (2008) claims that though W2.0 technologies are not entirely linked to the success in grades, they might offer the chance to reach personal aims of the students in the long term. In their study, Moya and Jose (2015) state that the use of blogs led to the creation of working atmosphere which made the students develop their oral abilities although the abilities were one of the main weaknesses of them beforehand. Coutinho (2008) also highlights that blogs increased interactivity and communication in groups. A study in a similar vein, Somdee and Suppasetseree (2013) tried to use a digital storytelling website to develop English skills for an undergraduate program. According to the results, to increase the knowledge of English and to increase the motivation of students to practice speaking skill, it is fruitful to use a digital storytelling website. For

creating such an environment, Kaufman (2013) emphasizes that the educators of the C21 classrooms must have an adjustable skill to develop the initiatives of C21. In this respect, Buckingham Shum and Crick (2016) state that curriculum in the C21 cannot be prepared beforehand under the circumstances of C21; instead, it must be decided throughout the course time, and it must be ongoing.

A great deal of studies have examined the adaptation of technological tools into ELT classrooms and curricula along with the C21 skills. With the current advances on the technology, it is able to create contexts for foreign language learners via the combination of audio, video, visuals and text. Parmaxi and Zaphiris (2016) claim that W2.0 technologies shed light onto the development of various skills such as learning collaboratively, learning autonomously and intercultural awareness. However, they also indicate the importance of using these technologies within a theoretical framework and with goals and tasks that are education oriented. Parmaxi and Zaphiris (2016) created a corpus that included 41 manuscripts related to W2.0. According to the results, learning theories that mostly shape W2.0 research are social constructivism, sociocultural theory and constructivism. Types of technologies that are commonly used are blogs, wikis, social networking sites and digital artifacts sharing platforms. In such a study, Eren (2012) points out that students liked the idea of using social networking websites for foreign language classes.

By the same token, Luo (2013) reviewed 44 studies related to CALL. The results highlight that the most common theoretical frameworks are constructivism/social constructivism, sociocultural approach and autonomy framework. Gilakjani et al. (2013) also asserts that technology goes beyond its role as a tool when it is used in a constructivist setting because it prepares the methodology of it. According to the authors, it is not a pre requirement to accept constructivism before you start to use technology; however, once you have started to use technology, you will also start to change your approach and use constructivism as your framework. On this issue, Amineh and Asl (2015) prepared a literature review related to constructivism and social constructivism. The authors concluded that both approaches are good for world knowledge of the students.

In a nutshell, it can be said that the use of W2.0 tools would offer different perspectives to the students in that they offer numerous advantages. It is known that the students of this century are digital natives, and if they used the Web 2.0 technologies beforehand, they would be motivated to use them more (Bennett et al., 2012).

Furthermore, according to Bustamente et al. (2012), students are no longer consumers; instead, they are the content creators. In that sense, it can be claimed that students become the motivated creators of their authentic products via presenting the Web 2.0 projects.

CHAPTER III

3. METHODOLOGY

3.1. Introduction

In this chapter, methodology of the study is described. Therefore, research method and participants are introduced at first. Afterwards, data collection tools, procedure and data analysis are mentioned thoroughly. The chapter ends up with the table that explains data collection and analysis procedure according to the research questions.

3.2. Research Design

The present study took place in a state university preparatory school. As research design, case study was used to examine the context in detail. The reason for conducting case study is that the present study is conducted in one adult Turkish language classroom for two terms. Fraenkel and Wallen (2004) put forward the use of case study as a comprehensive data collection process in which a single individual or as a process in which an example is examined qualitatively. Eisenhardt (1989) also points out that case study research is significant in that it has novelty, testability and empirical validity. Moreover, Einsenhardt (1989) adds that case studies are ways to combine incremental theories into normal science research. As another point of view, Dooley (2002) highlights that case study is a significant platform to improve the partnership of research-practitioner. In that sense, the study was conducted as a case study.

In the present case study, since students wanted a more entertaining and fruitful course in the questionnaire investigating the attitudes of the participants towards the use of computer (see Appendix 1) prior to the study, an action research plan was carried out. As it has already been claimed, using action research is a fruitful method in case study for the understanding of students (Nath et al., 2005). Burns and McPherson (2017) highlight that action research provide vivid pictures of classroom settings; hence, it has a big potential to understand the contexts especially on technological studies. Therefore, an action research was conducted in this case study.

3.3. Participants

Participants of the present study were 33 adult ELT students who were at the Preparatory Class of the department, and three instructors who were working at a state university. The participants were aged between 17-19 years old. The participants had chosen English Language Department at high school, and they had prepared for university exam throughout their second, third and fourth years. The instructors, who were also the participants of the study were aged between 25-38 years old, and their years of experience varied between 2-13 years.

As the sampling method for this participant profile, convenience sampling method was used in that the researcher carried out the study with adult preparatory class students at ELT Department. Robinson (2014) points out that this way of sampling is used in both qualitative and quantitative research designs. Prior to the study, participants of the study, signed consent forms (see Appendix 2), and the ethic committee report was taken (see Appendix 9). The study was initiated after taking consent forms and the report.

The common problem the participant group experienced was because of the fact that their education at high school was merely based on teaching grammar, and they did not have much chance to develop their 4Cs as well as language skills. According to Yalçın (2018), many school syllabi in Turkey do not offer much chance to develop and assess C21 skills. The rationale behind choosing this group of students was that it is of high importance to acquire these skills as being 21st century citizens. Once the above mentioned participants started university, they had 20 hours weekly courses throughout the preparatory class. There were four lessons for listening and speaking skills weekly. In these four lessons, the students tried to develop their 4Cs with the help of traditional coursebooks again which would offer less chances to develop. In that sense, it was essential in the context of these participants to improve their skills by carrying out a case study. In addition, Göksun and Kurt (2017) point out the use of action researches in order to find out the C21 skills of teacher candidates. Thus, not only action research but also case study properties were followed in this study.

3.4. Data Collection Tools

Quantitative and qualitative data were collected by using different kinds of tools.

3.4.1. Questionnaire

Two questionnaires were used to collect quantitative data. The first questionnaire called Attitudes towards Computer Questionnaire was originally prepared by Connolly et al. (2009), and it was used in the European Union Lifelong Learning project “European Resource Center for Web 2.0 Education” in 2009. The questionnaire aimed to find out the participants’ attitudes towards the use of computers. This questionnaire includes items related to participant profile, experiences in using computers and Web 2.0, reflections on Web 2.0, expectations as well as the statements related to using computers. The students were asked to fill out the questionnaire at the beginning of the study. The other questionnaire applied was creativity and critical thinking questionnaire (Bedir, 2016) that was administered at the beginning and end of the term (see Appendix 5). The Cronbach Alpha level for this questionnaire is 0.785, showing that the instrument is reliable. The instrument includes statements related to affective, cognitive strategies (micro and macro abilities) as well as comprehension questions regarding the application of critical thinking skills.

3.4.2. Minute papers

Minute papers are defined as moderate and simple papers prepared to get regular feedback (Chizmar and Ostrosky, 1998). They offer the students active learning experiences (Stead, 2005). Furthermore, Lucas (2010) mentions that responses in minute papers increase teacher student relationships in that even shy students might express their feelings. Therefore, in order to obtain regular feedback, minute papers were assigned at the end of classes, and minute papers made the participants briefly write down their answers to the questions. After each presentation, they wrote them and commented on their experiences.

3.4.3. Semi structured interviews

In semi structured interviews, the aim was to find out the ideas of the participants related to the development of 4Cs. Steps of the interview that were followed were constructing rapport as well as apprehension, exploration, participation and conclusion as it was put forward by Whiting (2018). The questions that were asked to the students were as follows.

1. How do you think your communication skill improved with the help of Web 2. 0 tools?
2. How do you think your critical thinking skill improved with the help of Web 2. 0 tools?
3. How do you think your creativity skill improved with the help of Web 2. 0 tools?
4. How do you think your colloboration skill improved with the help of Web 2. 0 tools?
5. What are the strengths and weaknesses about the use of Web 2. 0 tools for developing abovementioned skills?

The questions were asked at the end of the second term to have an understanding of how the students felt throughout the process. The responses of the students were recorded via a recorder, and they were transcribed by the researcher afterwards. In addition, general feelings and ideas of the students related to what they did throughout the second term were also asked and recorded.

3.4.4. Field notes and Video Recordings

While preparing codes and transferring them into categories, field notes were also used as put forwarded by Holton (2007). Holton (2007) claims that although some qualitative review panels and thesis committees think that field notes do not require much rigour, they offer the researchers a lot of support. Field notes were taken by the researcher after the lessons every week. Furthermore, video recordings of the student presentations were uploaded into Youtube and shared through the website of the class in order to make the other two instructors watch and evaluate the performances of the students regarding 4Cs.

3.4.5. Rubrics

Different rubrics were used to analyze the student presentations with regard to the participants' development of the 4Cs. As for collaboration skill, the presentations were evaluated according to the rubric prepared by Intel Teach Program (2010) (See Appendix 7). The rubric includes six parts which are leadership, participation, feedback, listening, cooperation and time management. The pairs assessed each other by using the

rubric. Also, the presentations were evaluated with a Creative Thinking rubric (based on (KPM, 2010), cited in Kuong et al. (2012) (see Appendix 7). The rubric includes five concepts which are sensitivity, fluency, flexibility, elaboration, and originality, and the students were evaluated out of 20 points by two other independent instructors. For another C of 4Cs, communication skill, Public Speaking Competence Rubric prepared by Schreiber et al. (2012) (see Appendix 3) was adapted by the researcher. Reliability level of the rubric was >.7. The rubric includes eleven items that try to identify the students' performance on public speaking.

3.5. Procedure

The results obtained through questionnaire "Attitudes towards Computers" (Connolly et al., 2009) administered in the initial step of the study shed lights into the attitudes of the participants towards computers (see Appendix 1). At the expectations from the course part of the questionnaire, the students were asked what they expected from a listening and speaking course that integrated the use of W2.0 tools to develop their 4Cs in syllabi. The responses revealed that the students wished to have a more entertaining and useful course including variations on the tools utilized. They reported that they needed more than traditional coursebooks to develop their listening and speaking skills along with C21 skills, and they claimed that traditional coursebooks did not provide them 21st century learning experiences. Moreover, 96% of the students reported that they needed training in not only general but also pedagogical use of W2.0 tools. They also asked for more W2.0 engagements in which they could have a chance to improve their 4CS as well as communication skills. Thus, the responses of the participants formed the basis of an action research on a training to develop of the 4Cs with W2.0 tools. In that sense, the following schedule for action research was planned for the present study.

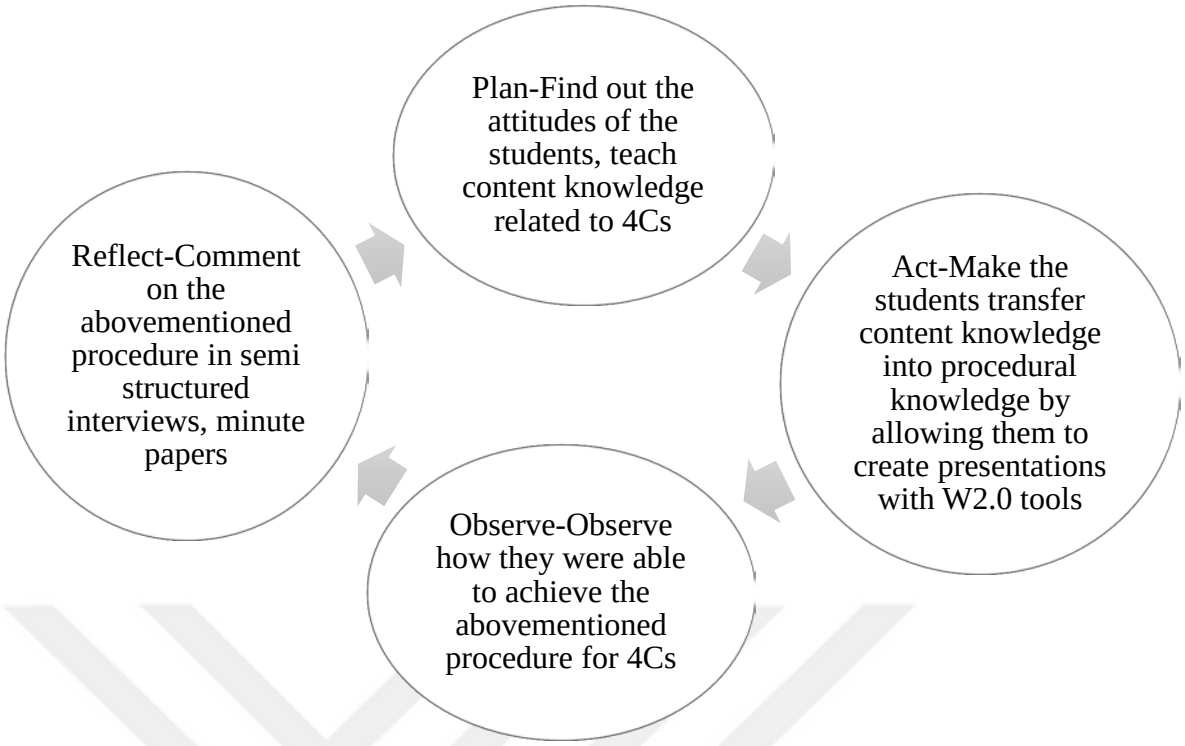

Figure 1. Action Research cycle of the present study

Action research follows the cycle of "plan, act, observe and reflect" (Fraenkel & Wallen, 2004). Administration of the questionnaire developed by (Connolly et al., 2009) formed the plan part of the action research cycle to the study. In line with the participants' responses to that questionnaire, they were taught content knowledge related to 4Cs. For the action part of the cycle, the students were expected to create presentations with W2.0 tools and transfer the content knowledge into procedural knowledge. For the observation part, not only the instructors but also the student pairs evaluated their success levels for 4Cs. Finally, for the reflection part, the students took part in semi structured interviews and wrote down their responses to the questions on minute papers.

In that sense, for the syllabus of the first term, the students used traditional coursebooks to improve their 4Cs with the help of W2.0 tools within Bruner's 5Es framework in a Listening & Speaking course (see Appendix 6). At the end of the first term, they were asked to watch some instruction videos related to Web 2. 0 tools in order to fulfill the engagement and exploration lenses of Bruner's 5Es (Kivunja, 2015). Furthermore, information related to 4Cs was mentioned in order to make them have declarative knowledge related to the skills. The abovementioned videos were watched throughout the last 4 weeks of the first term. After each video, discussions related to the

use of W2.0 tools were conducted. In addition to the content knowledge videos, instruction videos related to how to use the tools were recorded and shared by the researcher at the end of the first term.

Table 2.

5Es for making students have 4Cs (Adapted from Kivunja, 2015)

4Cs/5 Es	Critical thinking	Communication	Collaboration	Creativity
Engagement	Using internet	Communicating information to increase the effectiveness of new softwares	Forming teams and working together	Working alone or with the team and using digital tools to form digital stories
Exploration	Offering chances for metacognition during a specific time limit	Watching videos and discussing their messages	Make use of the internet to be a member of virtual learning communities	Downloading materials that are fruitful from Youtube
Explanation	Explaining how former learning contributes to new knowledge	Presenting and describing	Supporting participation by new explanations	Creating graphics or digital images in a presentation
Elaboration	Searching the internet for extra related topics	Describing and showing a process	Finding a solution by working together	Using skills in order to understand new contexts
Evaluation	Reflecting on what has been learnt	Publishing online artwork	Filling peer assessment forms (Intel, 2010)	Utilizing formative assessment to increase performance

To implement the action research cycle and to be able to teach four Cs of C21 skills in this study, 5Es of Bruner's Instructional Model was adapted and used (Kivunja, 2015). The rationale behind choosing Kivunja's model for the present study was that it would foster the development of 4Cs within the framework of 5E instructional model with the use of Web 2. 0 tools. Bruner's 5Es of instruction are "engagement, exploration, explanation, elaboration and evaluation" (Bruner, 1978: p. 19), and according to Kivunja (2015), the 5Es model can be integrated into Web 2. 0 tools. In order to integrate those 4Cs under the umbrella term 5Es, the following schedule was prepared with two other instructors for syllabi preparations of the present thesis.

By using the abovementioned five lenses, the syllabus of the second term was created (see Appendix 7 for the syllabus). The syllabus included lessons which were based on the 5Es model as an attempt to develop 4Cs.

3.5.1. The Development of Critical Thinking Skill

For critical thinking lens, the procedure proposed by Kivunja (2015) was followed. The internet was used in order to engage learners with a huge store of information and have a critical point of view. To make them explore knowledge, a specific time was arranged for the students. While doing this, it was important to obtain explanations and answer questions related to former learning of content in order to help them. While answering questions, they searched the internet for extra related topics, too. As for evaluation part of critical thinking lens, they were asked to reflect on what they felt throughout the term.

3.5.2. The Development of Communication Skill

For the second C "communication", Kivunja (2015) puts forward that information related to new W2.0 tools was shared to make the students engaged in tasks (see Table 2). To explore what was new in using these tools, instruction videos were watched and discussed. In addition, for explaining new information related to W2.0 tools, presentations were done by the students. To make them elaborate on what was going to happen throughout the second term, learners were informed beforehand. Lastly, the content they created in the presentations was published so as to evaluate not only themselves but also their pairs.

3.5.3. The Development of Collaboration Skill

For the third C “collaboration”, the students were asked to create pairs or groups to engage in the task creation process as it was put forward by Kivunja (2015) in Table 2. For exploration, they were asked to take part in the class blog as a virtual group member. Furthermore, they were explained whatever they asked about the class blog. For elaboration, the students took place in a group discussion to find a solution for the problems that they encountered. As the outcome of these activities, they evaluated each other via filling peer assessment forms (Intel, 2010, see Appendix 6).

3.5.4. The Development of Creativity Skill

As the fourth C “creativity”, the students formed groups and published digital stories by using materials from the internet or videos from Youtube, and they started to explore the tools by engaging in tasks in line with the suggestions of Kivunja (2015). By using these skills to understand a new context “story”, students created digital images and the stories. Thus, throughout the second term, the students were asked to create groups or pairs in order to use the tools to fulfill the needs of explanation and elaboration lenses. Some of the W2.0 tools, which were utilized, are as follows:

www.podbean.com
http://www.comicmaster.org.uk/
http://www.utellstory.com/
www.powtoon.com
www.pixton.com
secondlife.com

3.5.5. The Steps Followed for the Course

The steps, which were followed for the course, are significant in that they were prepared in line with Bruner’s 5Es model (Kivunja, 2015). Throughout the first term, the students used traditional coursebooks till the last four weeks of the term during which they had the chance to develop their content knowledge related to the use of W2.0 tools and 4Cs. At the end of the first term, the instructor uploaded instruction videos and video links related to the use of W2.0 tools.

For the second term, the students had presentations with the tools such as comics, podcasts, storytelling programs, animated video websites, multimedia slide shows and video authoring programs (see Appendix 6 for the syllabus). Most of the students preferred to create pairs since they reported that it would be better to study in pairs with the W2.0 tools. For fourteen weeks, they used various Web 2. 0 tools to create presentations (see Appendix 8). The students were free while choosing the topics for their presentations. Each group or pair presented twice for 20 minutes at least, and they used a different tool in each presentation. The aim was to make them transfer their declarative knowledge into procedural knowledge via using the tools.

The students had the chance to follow activities, watch instruction videos on how to use tools, share presentations and give feedback on each other's presentations. Thus, they fulfilled the needs of evaluation aspect in the 5Es model. Furthermore, while preparing the website of this W2.0 integrated course, the suggestions of Stevenson and Liu (2010) related to the qualifications of a successful learning website were followed. According to the authors, a website that is successful for language learning requires Web 1. 0 learning content, W2.0 tools for collaboration and interactivity, and a user friendly design in order to attract language learners. Therefore, these qualities were implemented while designing the website.

3.6. Data Analysis

The present study was based on mixed methods research paradigm (Fraenkel & Wallen, 2004). Quantitative data were gathered through questionnaires to determine how participants perceive 4Cs, and qualitative data were gathered through minute papers, semi structured interviews, field notes, questionnaires and rubrics to assess the thoughts and feelings of the participants. Quantitative data were statistically analyzed, and content analysis was used for qualitative data. Table 3 below displays the data collection and analysis procedure in line with the research questions.

Table 3.

Data Collection and Analysis Procedure in line with the Research Question

Research Questions	Data Collection Tools	Analysis
RQ1. How does the use of Web 2.0 tools affect the development of 4Cs within the Bruner's 5Es model?		
Prior to and after the study: To find out the attitudes	Attitudes towards the use of computers questionnaire (Prepared by Connolly et al., 2009).	SPSS Descriptive Statistics Content analysis
a. How does it affect the development of critical thinking skill?	Creativity and critical thinking questionnaire (Bedir, 2016) Semi structured interviews In class observations Field notes+ Follow up conversation Minute papers	Word clouds Descriptive statistics Content analysis SPSS-Quantitative data analysis- Paired samples t test
b. How does it affect the development of collaboration skill?	Collaboration skill rubric prepared by Intel Tech Program (2010) Video recordings of the presentations Semi structured interviews In class observations Field notes+ Follow up conversation Minute papers	Content analysis Word clouds Descriptive statistics
c. How does it affect the development of creativity skill?	Creativity and critical thinking questionnaire (Bedir, 2016) Creative Thinking rubric	Content analysis Word clouds Descriptive statistics SPSS-Quantitative data

	(based on (KPM, 2010), cited in Kuong et al. (2012) Video recordings of the presentations Semi structured interviews In class observations Field notes+ Follow up conversation Minute papers	analysis- Paired samples t test
d. How does it affect the development of communication skill?	Public Speaking Competence Rubric prepared by Schreiber et al. (2012) Video recordings of the presentations Semi structured interviews In class observations Field notes+ Follow up conversation Minute papers	Content analysis Word clouds Descriptive statistics SPSS-Quantitative data analysis- Paired samples t test

In addition, minute papers, semi structured interviews, field notes, in class observations, rubrics for communication, creativity, and critical thinking and collaboration skills were used for data collection. Content analysis was performed by the researcher with the other two independent instructors for the qualitative data. In order to have validity and reliability, the presentations, minute papers and responses of the semi structured interviews were also evaluated with another pair of instructors in addition to the researcher and the supervisor of this thesis. Among the qualitative data types, word clouds were used and created via software to analyze the frequently repeated words. In addition, by using the field notes as well as minute papers and semi structured interviews, thematic categories were created throughout content analysis process (Blair, 2015).

The reason for choosing content analysis for the study is that content analysis can be used to look at the big picture of a specific setting (Zhang & Wildemuth, 2016).

Generally, there are two approaches to content analysis which are deductive and inductive to look at that big picture. Deductive approaches start with a theory in mind, or they are done to test ideas (Elo & Kyngas, 2008). In that sense, it can be said that the present study applied a deductive content analysis approach in order to analyze qualitative data. Furthermore, as for the quantitative data paired samples t test and descriptive tests were used (SPSS 13.0). By using not only qualitative but also quantitative techniques, findings for the research questions of the study are presented in the following section.

CHAPTER IV

4. FINDINGS

4.1. Introduction

This section presents the findings obtained from the analysis of qualitative and the quantitative data. Discussion of the findings is done by taking the findings were discussed referring to previously published relevant literature. The section ends up with an overall discussion of findings under the umbrella terms which are the outcomes of the content analysis.

4.2. Findings

Findings of the study are presented under the research question and sub questions in the following sections.

4.2.1. Findings for the Research Question One

To answer the research question one “How does the use of Web 2.0 tools affect the development of 4Cs within the Bruner’s 5Es model?”, not only qualitative but also quantitative data were gathered. An attitude questionnaire was administered to find out the use of computers at the beginning of the study for the planning part of the action research cycle and for obtaining the views of the participants regarding the use of computers (see Appendix 1). The same questionnaire was also given at the end of the study to follow the changes in their attitudes. In this questionnaire, there were both questions and statements which were prepared in line with a five point Likert Scale. The results for the items were analyzed via SPSS 13. 0. Awareness and proficiency levels of the students related to W2.0 tools were found out via semi structured interviews and questionnaire developed by Connolly et al. (2009) (see Appendix 1).

By the help of the questionnaire developed by Connolly et al. (2009), the questions related to the previous and personal experiences of W2.0 tools were asked. The students pointed out that they used Facebook, Youtube and blogs. 89.1% of the students reported that they used these tools for personal purposes, and 10.1 % of them reported that they used these websites to learn English. By the time the students were asked the proficiency in using W2.0, 53.8% of them said they were very good, and

23.1% of them said they were good at using W2.0 tools (10.3% excellent, 5. 1% nonexistent, 7.7% very modest respectively). The same questionnaire developed by Connolly et al. (2009) was administered again at the end of the second term. The results indicated that W2.0 tools started to be used more for education (74.8%) rather than personal purposes (25.2%) when compared with the first term. Moreover, it was found out that the proficiency levels of the students increased to 76% very good, 25% good and 9% excellent respectively.

In the questionnaire, the frequency of using computers was also asked since determining the frequency of using computers is of vital importance in order to find out the daily usage of computers by the students before and after the study. The results are illustrated in Table 4.

Table 4.

The frequency of using computers

	less than once a week	1-2 times a week	3-4 times a week	5 or more times a week
Before	10,3%	12,7%	30%	47%
After	7,7%	7,7.%	41%	43,6%

As seen in Table 4, 47% of the students were using computers 3-4 times a week. 43.6% of them were using 5 or more times in a week. These percentages illustrated that majority of the students were frequently using computers when the study started. Furthermore, these percentages display an increase in the use of computers after the study with the use of W2.0 tools for improving 4Cs.

Table 5.

Paired Samples t test results for the frequency of using computers

	N	Mean	t	df	Sig. (2tailed)
Before the study	33	3,2	-3.595	24	.013
After the study	33	4,6			

The results show that there is a significant difference in terms of the frequencies of using computers, which lead to the interpretation that using W2.0 tools for fostering 4Cs made them use computers more frequently. Another significant change occurred in terms of the attitudes towards computers, displayed in Table 6.

Table 6.

The positive attitudes towards computers

	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Before	46%	23%	5%	3%	23%
After	52%	24,4 %	6,6%	2,2%	14,8%

Table 6 shows that 46% of the students agree, and 23% of the students strongly agree that they have positive attitudes towards computers. These percentages have increased to 52% and 24. 4% respectively. Paired samples t test results for the present descriptive statistics are presented in Table 7.

Table 7.

Paired samples t test results for positive attitudes towards computers

	N	Mean	t	df	Sig. (2tailed)
Before the study	33	3,8	-5.698	22	.075
After the study	33	4,2			

In addition, paired samples t test results in Table 7 reveal that there is a small increase between the beginning and the end of the study (p=.075). This result displays that the students' positive attitudes increased at the end of the study. The use of W2.0 tools led to an increase in positive attitudes towards computers.

For the statement, "Looking for the Internet for general interest is something that I like." the results are displayed in Table 8.

Table 8.

The rates for searching the internet for general interest

	Agree	Strongly agree	Undecided	Disagree
Before	31%	41%	10%	18%
After	26%	59%	4%	6%

The results in Table 8 illustrate that 41% of the students strongly agree and 31% of the students agree with the idea that they like searching the Internet for general interest. At the end of the study, the percentages did not change a lot and nearly 85% of the students agree with the idea that they like searching the internet for their general interest. These results are also proved by the paired samples t-test results in Table 9.

Table 9.

Paired samples t test results for searching the internet for general interest

	N	Mean	t	df	Sig. (2tailed)
Before the study	33	3,5	-5.698	22	.015
After the study	33	4,9			

This result, which was also indicated by paired samples t test results (p=0.015) highlighted that using W2.0 tools changed their attitudes towards searching the internet at a significant level. Another significant difference was found for the statement "In my opinion, W2.0 tools are not fruitful in language teaching." The results are displayed in Table 10 as follows.

Table 10.

Usefulness of W2.0 tools

	Agree	Strongly agree	Disagree	Strongly Disagree
Before	8%	12%	36%	44%
After	2%	5%	33%	60%

As shown in Table 10, 44% the participants strongly disagree and 36% of the participants disagree with the statement. The students started to think more that they disagree with this idea (93%) when compared with the beginning of the study (80%). This result highlights that the use of W2.0 tools for developing 4Cs made them change their minds about usefulness of W2.0. We assume that the students developed their knowledge about how they could be effective in their lives by experiencing how to use them for the development of 4Cs. The paired samples t test results also point out this fact.

Table 11.

Paired samples t test results for the usefulness of W2.0 tools

	N	Mean	t	df	Sig. (2tailed)
Before the study	33	3,4	-1,485	26	.008
After the study	33	4,7			

As displayed in the Table 11, there is a significant change ($p<0.05$) which might have been resulted from the fact that they became aware that W2.0 tools would be fruitful for them after the study. For the statements related to computer efficiency, the role of computers on completing tasks, as pedagogical tools and supplements to teaching and learning process, positive attitudes towards using computers in teaching and liking computers, there were not statistically significant differences. There did not exist any significant change in the statement "Computerized teaching tools are not appropriate for me." and "Using computers is something that I like."

Finally, at the end of the study, the participants were asked whether "simply providing technology resources was enough to make them use in teaching." The results highlighted that of the students 3% strongly disagree and 23% disagree with that idea. On the other hand, the majority of the students (33% strongly agree; 33% agree) agree that simply providing technology resources would not be enough. Thus, this finding of the current study is consistent with those of other studies which reported that technology could not replace teachers (Collinson, 2001; Li, 2007 among others).

In the fourth part of the questionnaire, open ended questions aimed to have the reflections on W2.0 tools was asked. Thematic analysis was used to identify, analyze and report the frequency of the occurrence of the related patterns in the data. The pattern that occurred most commonly was related to the "effectiveness of the tools" on their skills.

Participant 14

I think it is not boring to learn with them; meanwhile, I have the chance to improve my 4Cs.

Participant 27

We can watch the correct pronunciations from native speakers, and it is beneficial for my communication skill. Without learning the best and correct version, I cannot say that I have learnt enough or I have become proficient.

Participant 33

For the educator, it can be more useful. For the student, it can be more sufficient. However, I have to admit that they helped me more than I expected.

Regarding the comments of the students, we assumed that the students enjoyed the learning experiences with W2.0 tools. Participant 14 stated that W2.0 tools were not boring, while Participant 27 pointed out the positive effects of the tools on pronunciation skill. In addition, Participant 33 pointed out that the usage of W2.0 tools contributed to them more than they expected. Hence, it is possible to claim that the ideas of the students were mostly based on the effectiveness of W2.0 tools.

The present study also yielded results in action, observe and reflect parts of the action research cycle (see Figure 1). For the action part of the action research cycle, the students created presentations with W2.0 tools to develop their 4Cs within the framework of Bruner's 5Es (Kivunja, 2015). In addition, to fulfill the action research cycle, two independent instructors and the researcher observed the presentations of the students to see how they were able to achieve 4Cs. Finally, for the reflection cycle of the action research, minute papers and semi structured interviews were examined by the researcher and two independent instructors. The results for 4Cs obtained as a consequence of action research are discussed in the following section under the sub questions of the research question.

The content analysis of the qualitative data collected from the participants indicated several remarks hinting on the way the participants report their ideas related to W2.0 integrated syllabus to develop their 4Cs within Bruner's 5Es framework. Borgatti (2005) claims that while creating new categories, creating a codebook is a fruitful idea; in addition, writing memos could help for the discussion of codes. Therefore, the codebook was created by the researcher and two other instructors. The codebook

included codes which were frequently repeated by the participants. Table 12 displays the commonly repeated codes that came out as initial themes.

Table 12.

Codes that came out as initial themes

Name of the Code	Number of participants who referred to that code	Number of excerpts included in that code
Sharing	27	42
Sharing opportunities	29	69
Making a difference	17	50
Different presentations	20	71
Thinking more	14	38
Talking more	31	83
Accessing presentations	28	75

In line with the content analysis of the data, initial codes that emerged from the data were “talking more, sharing opportunities, accessing presentations, sharing, different presentations, making a difference and thinking more.” These key words that emerged from the data led to the interpretations related to the following categories.

Table 13.

Categories that came out from initial themes

Name of the category	Number of participants who referred to that category	Number of excerpts included in that category
Presenting via W2.0 tools	32	124
Collaboration	22	85
Creativity	28	92
Critical thinking	15	38
Communication	33	148

Regarding the categories above, it can be said that they match with the predetermined categories, defined by the participant instructors and the researcher, in the codebook. Codebook analysis is a widespread method used in content analysis

(Neuendorf, 2002), and it supports code definitions of the researchers with examples from the text. In that sense, the following definitions were made for the abovementioned categories in the codebook.

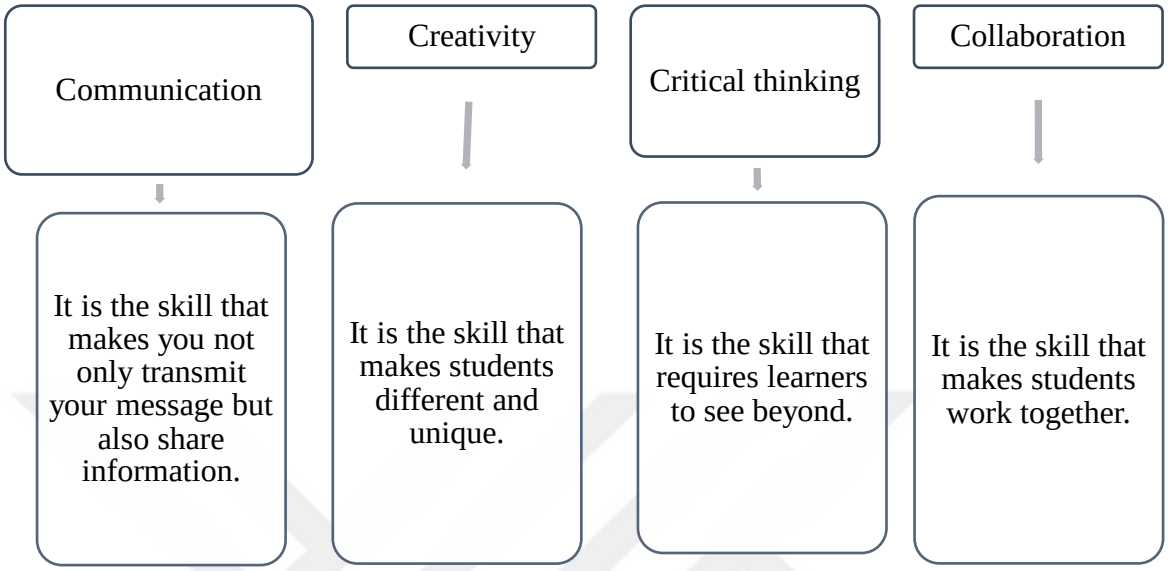

Figure 2. The definitions of the categories in the codebook

By taking the route from the definitions of categories in the codebook, the data were examined by the participant instructors and the researcher. The aforementioned codes were the pre set (a priori) codes of the study; furthermore, another category "presenting via W2.0" tools was also identified as the emergent codes of the study throughout the coding process. It was defined by the researcher, supervisor and two other independent instructors as "the skill required in the 21st century and new to the students." The emergent codes and a priori codes of the study are illustrated in Figure 3.

Presenting via W2.0 tools	**Collaboration**	**Creativity**	**Critical Thinking**	**Communication**
• sharing opportunities, presenting, new tools	• accessibility, talking with friends, working together	• making a difference in presentations, being different, creating	• thinking more, having a different perspective, point of view	• talking more, sending messages, understanding meaning

Figure 3. The emergent codes for presenting via W2.0 tools and a priori codes for 4Cs

In that sense, the matches between 4Cs and 5Es and their related codes are illustrated in the following table.

Table 14.

The categories and related codes obtained from excerpts of the participants

4Cs/5Es	Critical thinking	Communication	Collaboration	Creativity
Engagement	Not fruitful for learning, engaging tasks, considering ideas, not being different	Making people interested in messages, doing the best for taking attention	Decreasing anxiety with friends, taking part as groups	Choosing user friendly tools, choosing attractive materials
Exploration	Exploring with friends, thinking differently, learning and doing	New ideas, new perspectives, new tools	Being a member of an online blog, learning how to use the tools, accessibility	Deciding on materials, discussing the choice of materials, making a difference
Explanation	Sharing ideas, activating thoughts, sending messages	Creating presentations, feeling anxious	Getting help of my friend, keeping calm while explaining, talking with friends	Doing something to attract attention, sharing explanations
Elaboration	Being able to understand related topics, considering relations	Feeling lost while creating presentations	Solving technical problems, sharing the workload	Using tools to understand related concepts, thinking on relationships
Evaluation	Criticizing weaknesses, mentioning strengths, understanding meaning	Sharing presentations online, difficulties in creating presentations	Having the same product with my friends, commenting on our product	Evaluating the products, trying to be the most creative, being different

Through the matches between the categories and 5Es, the abovementioned codes were found out. In this respect, the discussions related to this category along with the

categories emerged from sub questions are presented in the following sections by taking the findings in Table 14 into consideration.

4.2.2. Findings for Sub-Questions

4.2.2.1. The Development of Critical Thinking Skill

To evaluate the critical thinking skill, the questionnaire prepared by Bedir (2016) was used (See Appendix 5). In this questionnaire, students were asked multiple choice questions related to given situations. The scenarios in the questions were evaluated according to Bracken's (1993, 1996) seven important life-domains which are social, affect, competence, environmental, family, physical, and academic. The results did not reveal any statistically significant difference in those domains in terms of critical thinking skill. Although some of the students pointed that they think their critical thinking skill developed in their minute papers, the statistical results showed that the use of W2.0 tools did not contribute to all of the strategies of life domains at a significant level. Only three of them, namely affective critical strategies, cognitive macro strategies, and cognitive micro strategies revealed a statistically significant change (see Tables 15-17).

The results, which display a statistically significant change, for affective critical thinking strategies (3 out of 13 strategies), are illustrated in the following table.

Table 15.

Affective critical strategies that changed significantly

Statements	Before (M)	After (M)	P level
I can solve problems that I experience in an orderly, organized way.	3,4	4,9	.006
I don't let my emotions direct me when I decide on something.	2,8	3,8	.002
Sticking to a problem is always better than giving up.	2,7	4,7	.001

Considering the results in Table 15, it can be said that there is a significant change in three affective critical strategies which are solving problems, not directing himself/herself through emotions and sticking to a problem. This result help us interpret that problem solving skills, decision making without emotions and being stuck to problems are the areas in which the students might feel the change in their affective critical thinking strategies.

In terms of cognitive critical thinking strategies, seven strategies out of 21 strategies displayed a statistically significant difference (see Table 16).

Table 16.

Cognitive macro strategies that changed significantly

Statements	Before (M)	After (M)	P level
I look up what I don't understand and question what I read until I understand.	2,6	3,9	.039
	3,8	4,9	.049
I am able to form a new sentence using the opposite or synonym of a word.	2,7	4,7	.009
I respect the views of my friends and I listen to them eagerly.	3,1	4,8	.035
I find questions in order to reinforce what I learnt.	2,5	4,7	.010
I listen to what my friends carefully.	3,2	4,9	.042

A significant difference exists in five macro strategies which are shown in Table 16. These are looking up in dictionary; reading till understanding; forming new sentences; respecting friends; finding questions and listening to friends. On the other hand, two micro strategies out of 11 micro strategies indicate statistically significant difference.

Table 17.

Cognitive micro strategies that changed significantly

Statements	Before (M)	After (M)	P level
I can distinguish what I know from what I don't know.	2,4	4,2	.008
I have realistic ideals and I study hard to achieve them.	3,0	4,8	.037

As can be seen from Table 17, students were not able to differentiate between the things they know, and they don't know at the beginning of the study. However, after the study, this situation changed. Their realistic ideals and their desire to achieve them also changed significantly. Though Shirkhani and Fahim (2011) state that language learning becomes more effective with an increase in critical thinking, this skill was not found out to be a statistically significant category in many domains of the present study.

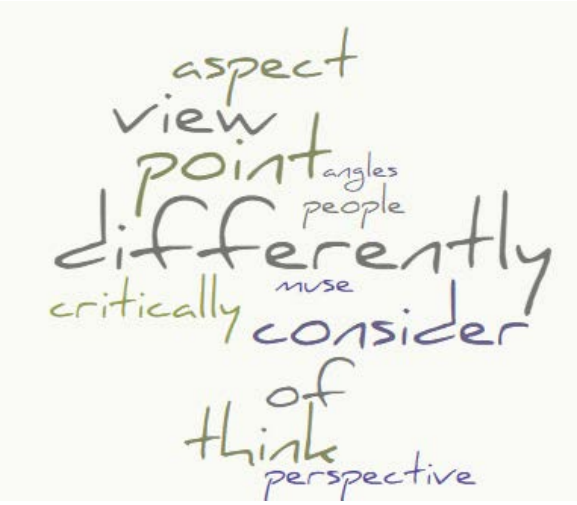

Figure 4. Word cloud for the category "critical thinking"

In line with Figure 4, it can be said that the words that stand out for critical thinking skill are *differently*, *consider* and *point*. In addition, the excerpts from the students were examined according to the matches between 5Es model (Kivunja, 2015)

and 4Cs (see Figure 2). The match of engagement lens with critical thinking skill led to codes which are not being different and not "being fruitful for learning, engaging tasks, considering ideas". Thus, it was assumed that the students did not experience a fruitful learning atmosphere although they were engaged in tasks and considerate about ideas of being different.

Participant 18:

"When I watched myself, I think that I could do better at work. I saw I was so excited. Also, I think I could prepare better and longer. Our video could be more impressive. Nevertheless, I think I memorized well. I could have told everything without looking at paper. I hope I can develop myself, and I can do better things by thinking critically."

Participant 22:

"I need to have a different point of view to attract my friends' attention, just using a W2.0 tool is not enough to attract them. They are colorful and lively, but we are not at primary school so as to be attracted by colorful things. Therefore, I need to think more to do something different. They do not make me think critically."

For the match of exploration lens with critical thinking skill, the codes "exploring with friends, thinking differently, learning and doing" were found out. These codes illustrate that the students fulfilled the exploration lens by thinking differently.

Participant 9:

"To prepare better presentations, I have a long way to go. To tell you the truth, W2.0 tools helped me to present what my friends and I know in a different way. However, I have to admit that I still do not have a critical point of view."

Also, for the elaboration lens, it was observed that "being able to understand related topics and considering relations" were the codes. The codes demonstrate that students have problems in this perspective.

Participant 7

"I am so desperate about the fact that I was not able to go beyond seeing just one perspective of events. I thought W2.0 tools would help me on this issue, but they did not."

Finally, for the evaluation lens, criticizing weaknesses, mentioning strengths, understanding meaning were the codes. The codes related to critical thinking skill move us to an interpretation that improving 4Cs with a W2.0 integrated syllabus based on

Bruner's 5Es is not fruitful activity for the learners in terms of engagement and elaboration lenses. However, the other 3Es, namely, evaluation, explanation and exploration helped to develop 4Cs according to the remarks of the students.

In line with the abovementioned excerpts derived from the interviews and as a result of the content analysis of the codes, it is possible to claim that participants mentioned problems related to critical thinking skill. Responses of the Participants 22 and 18 display that the students were thinking that they needed more than W2.0 tools in order to present better and develop critical thinking skill. (22 out of 33 students mentioned this). On the other hand, Participant 9 claim that to be able to prepare better presentations, which require a critical point of view along with the need of C21. W2.0 tools helped, but there is a long way for being different. This problem was highlighted in 5 out of 33 students. In a similar vein, Participant 7 point out that W2.0 tools did not broaden the perspectives of the student along with 4 students out of 33 students.

The abovementioned problems reported by the participants in excerpts shed lights on declarative knowledge developed with the help of the instruction videos in the first term. It appeared that the students were having problem in the application of the knowledge they gained (Willingham et al., 1989).In the second term, the students had the chance to develop their critical thinking skill in the projects applied via the strategies put forward by Kivunja (2015). However, although the students had declarative knowledge related to critical thinking skill, they were not able to transfer this into procedural knowledge with the help of W2.0 tools.

This result is also observed in responses of the students in minute papers, semi-structured interviews. The students claim that they need further education on it. In this respect, Participant 1 claims that watching the videos without applying was in vain since they were not able to understand why they were watching them. The participant proposes that application of the tool and preparations on how to use the tool must be in the same term. Another participant, Participant 21 asserts the idea that knowing and applying are at different levels, and although she was able to understand how to use the tools and how to develop 4Cs, it was not the same in practice. It was difficult to transfer the critical point of view to examine the materials.

Thus, it can be said that the problems mentioned by the students in critical thinking domains as well as most of the micro and macro strategies of critical thinking were highlighted by the abovementioned qualitative and quantitative results. In that sense, the results shed light onto the deficiencies in Bruner's 5Es model integrated W2.0

supported syllabus in terms of the development of critical thinking skill particularly for engagement lens and important life-domains which are social, affect, competence, environmental, family, physical, and academic. According to these results, it is possible to claim that the suggestions of Kivunja (2015) need to be improved to develop critical thinking skill.

4.2.2.2. The Development of Creativity Skill

The instructors evaluated the creativity skill with the help of a rubric. The Rubric for Creative Thinking Assessment was evaluated (based on KPM 2010, cited in Kuong et al. 2012) (see Appendix 4) by the researcher, supervisor and two other independent instructors. The rubric included items related to "sensitivity, fluency, flexibility, elaboration and originality criteria" for the assessment of creativity. According to the results, the sensitivity, fluency, flexibility, elaboration and originality criteria of the students display a statistically significant change ($p<0.05$) according to the scores of three instructors. The results are displayed in Table 18.

Table 18.

The means of creativity scores of the students by the evaluators

Creative Thinking domain	Before	After	P level
Sensitivity	45.7	94.8	<0.05
Fluency	15.8	65.7	=0.01
Flexibility	54	97.4	<0.05
Elaboration	25.4	98.3	<0.05
Originality	20.5	74.5	=0.01

In addition, the responses of the participant instructors related to the creativity skill indicate the need to use W2.0 tools to observe a change.

Instructor 2

"As a teacher, I know that it is difficult to define and assess creativity. However, as far as I have observed, I have found out that students displayed a change in their behaviors. They used basic techniques and programs in their first presentation; however, they used

better ones in their last presentation. I cannot say that all of the students display a change, but maybe their creativity increased because they improved their W2.0 programme knowledge."

Instructor 3

"In my opinion, W2.0 tools affected creativity skill to a great extent. The students created different presentations with various tools. However, they couldn't have them without W2.0 tools. They can use different posters or colorful items which would be nothing when compared with W2.0 tools."

Regarding the responses of the participant instructors, it can be said that instructors thought integrating W2.0 tools was a fruitful idea. They pointed out that using them made the presentations of the students different. In order to see the most commonly repeated words in the present category, the following word cloud was prepared (see Figure 5).

Figure 5. Word cloud for the category "creativity"

In line with Figure 5, for the category "creativity", words that stand out are different, design, make, unique and idea. Furthermore, the matches between creativity skill and Bruner's 5Es were examined in terms of the codes obtained from the content analysis. To have the engagement lens and to be creative at the same time, the students preferred to choose user friendly tools and attractive materials according to the codes.

Participant 31

"While presenting, I always try to attract attention of my friends. Using a W2.0 tool helped me on this issue; moreover, I have to admit that I couldn't have been more

creative without using them. The colors, the animations that I made were all something new and different for me as well as my friends."

Secondly, to fulfil exploration lens, the codes were deciding on materials, discussing the choice of materials and making a difference. These codes move us to the understanding that the decision of the students' on materials and their choices made them different and creative.

Participant 27

"Using W2.0 tools helped me to foster my creativity. For example, in my second presentation, I created an animated movie with a W2.0 tool that used artificial intelligence that assisted me while making the movie. I was the first to use it, so my presentation was unique for many of my friends."

For being creative, the students reported that they did some things to attract attention, and they shared explanations, while for elaboration lens, they claimed that the tools made them understand the related concepts and relationships.

Participant 8

"Doing something new when compared with other students made me study more. From now on, I am going to use W2.0 tools to do something different and new."

Participant 7

"Generally, I am lost while I am preparing presentations with ready information stores from the internet. Since I learnt how to create a presentation with W2.0, I could do presentations in which relationships among information sources are not vague."

Lastly, for the evaluation lens, the codes make us think that being the most creative one with the presentations was most of the students' ultimate aim.

Participant 21

"Creating presentations with W2.0 tools was funny because the animations in them were attractive. I couldn't have done a better presentation in terms of its authenticity. The tools made me feel different from my classmates; I mean; it was like a talent show with different programs to show what we had done.

In a nutshell, the participant responses indicate that most of the students (32 out of 33) point out the use of tools as a new idea, and it made them create more creative presentations. The students also pointed out the use of animations as the factor that made them create more creative presentations. On the other hand, the participants pointed out that it was funny to use the tools, and they did something different from

what they had already done. Although some of the participants reported that the creative presentations did not prevent anxiety, most of them reported that they were fruitful for them with their artificial intelligence properties.

4.2.2.3. The Development of Collaboration Skill

Collaboration is a significant skill, and it is an integral part of 4Cs cycle. Therefore, peer assessment collaboration rubric prepared by Intel Tech program (2010) was used. The students evaluated their peers according to their participation, leadership, listening, feedback, cooperation and time management properties. The results for the participation of the peers, done via descriptive statistics, are in Table 19.

Table 19.

The collaboration skill evaluation by the pairs

Item	First presentation	Second presentation
The rate of participation	78%	43%
Leadership	65%	54%
Listening	80%	85%
Feedback	49%	85%
Cooperation	65%	80%
Time management	54%	70%

The percentages display that the rate of participation and leadership percentages decreased, while listening, cooperation, feedback and time management percentages increased when compared with the beginning of the study. The rate of participation and leadership levels might have diminished because of the fact that students could do their own parts, and they do not need to be the leaders of their own learning processes. Since they developed their W2.0 skills in time, they did not need as much help as they needed at the beginning. Therefore, one of pairs did not become the leader, instead, they became the leaders of their own learning processes. Listening, feedback, cooperation and time management might have shown an increase due to the time interval spent on doing presentations.

In addition, as a consequence of open coding process of the qualitative data, it was found out that collaboration was the other category obtained from the code

'accessibility' Students indicated that preparing presentations with the help of their classmates contributed to them in many respects, while some of them complained that they were able to present with their partner's help. In that sense, accessing to pairs was a problem if there was not a good relationship between the pairs, while if there was a good relationship, accessing to friends was not a problem. The responses of the participants created the following word cloud:

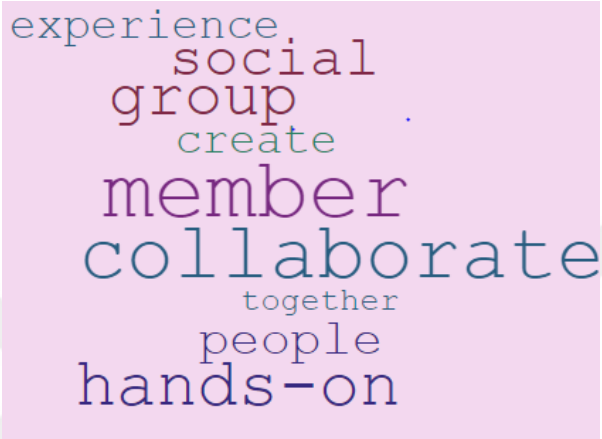

Figure 6. Word Cloud for the category "collaboration"

In line with Figure 6, it can be said that words that stand out for collaboration are *collaborate, member and hands-on*. In addition, the matches of the category with 5Es were also examined (see Table 14.) For the match of engagement lens with collaboration, it was found out that the codes were "decreasing anxiety with friends, taking part as groups."

Participant 19:

"My friend decreased my anxiety level. Feeling that somebody was with me while I was experiencing problems related to the use of W2.0 tools was good"

Participant 7:

"Taking part as groups was an advantage. I knew that there would be someone to support me. My friend, a person who studied the topic just like me, was there, and I was relaxed."

Participant 17:

"I was so nervous that I cannot describe it, but thanks to my friend, I tried to keep calm. Knowing that there is someone who can help me decreased my anxiety. Throughout the project, we worked together, and we were on the stage together."

In line with the statements of the participants, it is possible to comprehend that knowing that there was someone to help them in possible problems decreased their anxiety. Therefore, engaging in activities was not a difficult task for them thanks to the advantages of being groups. In addition, being a member of an online blog, learning how to use the tools and accessibility were the codes for exploration. The participants reported the following ideas for being a member of an online blog.

Participant 1

"I became the member of the website, and I started to learn more about the ways to use Web 2.0 tools. I cannot say that I did not know it, but after the study, I started to understand more why they are helpful for my studies."

Participant 24

"It was difficult to study something with Web 2.0 tools, and I didn't want them at the beginning. Then, I learnt how to use them, and how they were increasing access. Now, I believe we need them more than I thought."

In terms of explanation, getting help of my friend, keeping calm while explaining and talking with friends were the codes.

Participant 11:

"The help that I wanted from my friend made me spend my time effectively. Although I had some problems related to how to do some things while we were studying, I did not feel bad a lot in our presentations."

Participant 4

"To be able to talk with friends was the best thing. Since I chose my pair on my own, I was able to explain my problems. If my pair was somebody that I did not know, it could be more difficult."

In this regard, it is possible to say that working with pairs was fruitful for them in terms of explaining their problems. Solving technical problems and sharing the workload were the codes for elaboration skill.

Participant 32:

"I have read everything from paper or my friend made me remember. I could do it on my own, but my friend helped me hopefully."

Participant 33:

"My friend and I spent a lot of time preparing for this presentation, but mostly for the video. Therefore, we had too short time to practise our speech. I think our video was very good. It was too hard to use Powtoon for us, but we managed. I just think that our speech was not that good, we should study more."

Participant 9

"My friend was better than me while we were trying to solve technical problems. Thanks to my friend, I was not anxious. If I were on my own at this term, I would not be so relaxed."

Lastly, for the match of evaluation lens with collaboration skill, codes "having the same product with my friends, commenting on our product" emerged.

Participant 2

"What we did was our mutual product. Therefore, it was not hard to evaluate our product. We shared the same destiny in terms of comments of our friends and instructors. Feeling that I was not the only responsible person made me relaxed."

Participant 13

"Commenting on our product was a piece of cake since it was ours. I would not be so fair if I was not involved in the process, or if I just helped. Since I was involved in every part and we collaborated, I was happy to comment and share my thoughts after the presentations we did."

The excerpt indicate that participants 17, 32 and 19 point out that while they were trying to develop their 4Cs with the help of W2.0 tools, their friends helped them a lot, particularly for decreasing anxiety. This situation was highlighted by 28 out of 33 students. On the other hand, some of the participants (Participants 11, 33) report problems related to time limits and problems with their pairs. Five out of 33 students mentioned these problems. Therefore, it is possible to claim that collaboration skill developed significantly according to the descriptive results obtained from peer assessment forms; however, problems still exist related to time and personal problems.

In addition, it was found out that working collaboratively contributed to them a lot to decrease anxiety. The effects of these tools were also highlighted on the matches of 5Es with 4Cs. According to the abovementioned excerpts, students were able to fulfil the needs of 5Es mentioned in Table 14.

4.2.2.4. The Development of Communication Skill

To evaluate the change in the communication skill, Communication Skills rubric prepared by Schreiber et al. (2012) was adapted and used. The rubric was evaluated with two instructors in addition to the researcher in order to obtain reliable results. To serve this aim, videos of the student presentations were recorded, and they were sent to the other evaluators weekly. The participants were given points according to their grammar and vocabulary use, discourse management, pronunciation and interactive communication skills, and mean of the three instructors' points were found. The results were analyzed via Paired Samples t test. The Paired Samples t test results are illustrated in Table 20.

Table 20.

Paired Samples t test results for communication rubric

	N	Mean	t	df	Sig. (2tailed)
The beginning of the term	33	23.2	-4.665	29	.004
The end of the term	33	39.5			

According to the results, there is a statistically significant difference ($p<0.05$) between the beginning ($M=23.2$) and the end of the term ($M= 39.5$). This result was also highlighted via the semi structured interviews with the instructors. The views of the instructors regarding the change in communication skill are:

Instructor 2:

"At the very beginning of the study, the majority of the students were new to the idea that Web 2. 0 technologies might improve their communication skill. They were novice to use the tools. I thought this situation would go on till the end of the term. However, I was wrong. Even though I always agreed with the idea that 'W2.0 technologies are fruitful', it was different to see it in flesh and blood. The students had the chance for a change in one of their 4Cs, communication, by using them. When I watched the first presentations of the participants and compared it to their last presentation, I was so happy to feel that change. Therefore, from now on, I believe that W2.0 technology is a 'must' to develop communication skill."

Instructor 3:

"The idea that Web 2. 0 technologies are beneficial for the students was not new to me, but at the end of the study, I started to believe more that I need to include them in my practices. Generally, I prefer to use available sources that I find from the websites. However, after seeing that students could do something to develop their communication skills on their own, I am planning to make my students use them, too. It is obvious that some of the students still feel shy while presenting with a W2.0 tool, but I don't think that that would be different without a W2.0 tool."

The ideas of the participant instructors indicate that the students displayed a change in communication skill, and they reported that it was good to use the tools. Although they were not affected emotionally and went on being shy, one instructor thinks it would be a good idea to use the tools in their own setting. In addition to the abovementioned ideas of the participant instructors, the researcher wanted the students to write minute papers related to the problems that they encounter throughout communication skill development with Web 2. 0 tools. The ideas of the students related to the weak and bad sides of W2.0 tools for communication skill development are:

Participant 6:

"Although I had difficulty in using the programs, I think they made me develop my communication skills more. While I was trying to learn the program, I had difficulties. However, by using these programmes, I had the chance to listen to different accents at the same time. For instance, I found the right intonations as well as the right pronunciation techniques."

Participant 14:

"It was not only good but also bad to these tools for developing communication which is a C21 skill. It was bad because I had no idea related to what W2.0 tool was prior to the prep class. That's why, I had to learn a totally new tool. It was good because we learnt a different way to develop our skill. We did not study with a W2.0 tool throughout our school years. Therefore, I enjoyed using it."

Participant 12:

"I am a shy person, so I have many difficulties related to communication skill. However, by using a W2.0 tool in my presentation, I had the chance to relieve my anxiety. My animation video took two minutes, and I had just eight minutes left ☺ That's why, I wish I could create longer ones so as to relieve my anxiety."

Participant 29

"The weak side of the W2.0 that I used was that I was not able to create a story as long as I want. It was, in fact, my weakness because I did not know how to use them effectively. The good side of the tool was that I had something to trust on when I forgot something. Instead of taking a small note paper, I used the clues in my presentation."

Participant 3

"To tell you the truth, I thought there would be no good sides to affect my communication skills. However, as time went by, I felt the difference. The weakness was that the tool that I preferred was difficult. It was difficult because I did not know how to change the format of my voice that I recorded. Then, I learnt how to convert it at the end."

According to the views of participants related to communication skill improvement, it can be said that most of the participants indicate the importance of Web 2. 0 tools to improve their 4Cs. Furthermore, in semi structured interviews, the students were asked what communication skill meant to them. Communication was defined by the participants.

Participant 4

"It is to be able to transmit my messages as C21 citizen in more than one language."

Participant 33

"It is the skill that I need to make people understand what I mean."

Participant 22

"Communication is conveying ideas in an appropriate way."

Participant 13

"Communication is the ability to talk effectively."

Furthermore, the open coding of student responses in minute papers and semi structured interviews led to the birth of another category which is communication. Although the name of the course included communication skill, it was not repeated as much as collaboration skill. The word cloud created according to the responses in minute papers and semi structured interviews is illustrated in Figure 7.

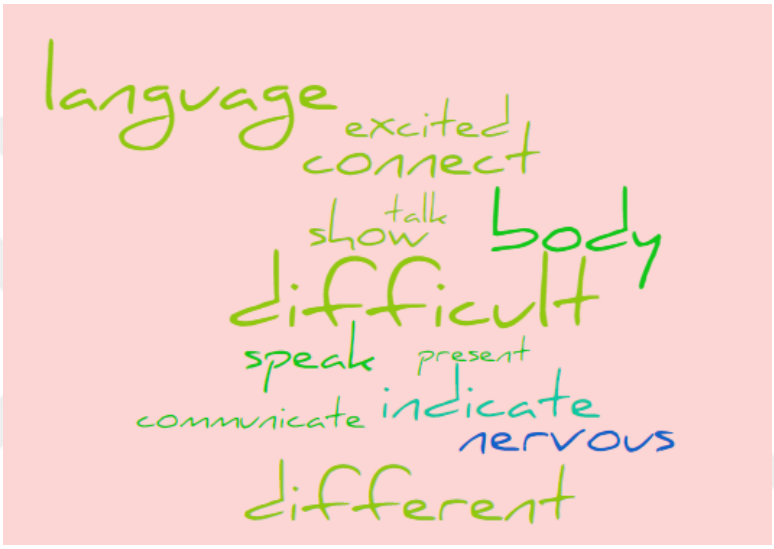

Figure 7. Word cloud for the category "communication"

In Figure 7, it can be seen that words that stand out for the communication skill are *language, difficult, body and different.* Furthermore, Bruner's 5Es match with communication skill according to the responses of the participants (see Table 14). For engagement lens, making people interested in messages and doing the best for taking attention were the codes.

Participant 30

"The storytelling program that I used made my story stay alive. Normally, I would be a classic boring storyteller, but thanks to it, I was able to transfer my messages clearly. It helped me to convey my messages. I cannot say that it helped me to decrease my anxiety, but it helped me to communicate."

Participant 1

"I thought using W2.0 tool would be enough to make my friends interested in, but it wasn't. I did my best for taking attention. W2.0 tool was the first thing that they realized; then, I found out that I needed to add something to do more."

By the time the match of exploration lens with communication skill was examined, codes that start with "new" emerged. The codes, which were yielded, were new ideas, new perspectives and new tools.

Participant 10

"Having something new in my presentations made me feel afraid at first. As soon as I had new ideas, I began to feel less afraid. Now, I am so new!"

Participant 18

"The new tools offered us new perspectives. We were bored of classic presentations in which my friends only used slide shows."

As for the explanation lens, the emerged codes were creating presentations and feeling anxious. The students reported that:

Participant 5

"To clarify topics, presentations were created by us. I think they helped us to explain what we meant."

Participant 19

"When our instructor told us that we were going to explain things with W2.0 tools, I was so anxious that I cannot describe. I had so many things to learn, and I thought it would be impossible in this limited time. Now, I think I wouldn't have done anything without W2.0 tools in this limited time."

For the elaboration lens, some of the participants point out that they feel lost while creating presentations.

Participant 23

"It is difficult to distinguish real and fake things on the net. Therefore, I was lost at some points."

Participant 27

"I have problems related to the choice of source. There is too much information, but I don't know which one is reliable."

The participants reported that choosing information is something difficult for them because they don’t know which source is reliable. Lastly, for the evaluation part, Sharing presentations online and difficulties in creating presentations were the codes.

Participant 31

“The best thing was the sharing online duty. People can see it at least whenever yjeu want”

Participant 22

“I had difficulties in presentations; however, it is OK. I can overcome them and share.”

CHAPTER V

5. DISCUSSION

5.1. W2.0 tools within Bruner's 5Es Integrated Syllabus for Developing 4Cs

To develop 4Cs, W2.0 tools were used throughout the study. As a result of the action research, there were effects on 3Cs which are collaboration, communication and creativity. However, for critical thinking skill, there is not a statistically significant difference in terms of various domains of critical thinking skill. It was found out that 2 micro strategies out of 11 micro strategies indicate statistically significant difference, while 7 strategies out 21 macro strategies displayed a statistically significant difference.

As one of the critical thinking skill studies, Aydın (2007) conducted a study related to the effects of Intel Learn program which aimed to make students access to technology at home or at school. According to the results, the program was successful in that they developed communication, collaboration and creativity skills; however, the author points out that there should be more stress on critical thinking development. This result is consistent with the present study in that the results of the present study also indicate the need for critical thinking skill development. As it is widely known, knowledge of cognition consists of three different types of metacognitive awareness that are declarative, procedural and conditional knowledge (Brown, 1987). In that sense, it can be said that the students in the present study were able to obtain declarative knowledge, rather than procedural and conditional knowledge of critical thinking skills. That is to say, the metacognitive awareness was not reached in terms of this skill. Furthermore, it was found out that Bruner's 5Es match with 4Cs (Kivunja, 2015) except for critical thinking skill.

On the other hand, although Tuzlukova and Hall (2017) state that taking part in a functional communicative language classroom, which would improve critical thinking skills, would increase students' success at school and at their future career, the present study found out that W2.0 tools did not affect this skill significantly. In another study, Daud and Husin (2004) tried to develop reading and critical thinking skill in computer aided classroom. According to the results, using concordances is fruitful for critical thinking skill development for the present case of reading class. In addition, the use of Wiki offers a chance to take part in critical thinking activities (Papadima-Sophocleous, 2012). From another point of view, Thadphoothon (2005) mentions that even deciding

whether the online information is related to topic or not promotes critical thinking; thus, the students might have the chance to develop Friedrich Frobel's law of growth and education. In this respect, it can be said that the use of Wiki and concordances might be the solution to the critical thinking skill problem mentioned in the present study.

For communication skill, as a result of the quantitative data analysis, it was found out that there is a significant difference between the scores that the students got as a result of the points of three instructors from the rubric. In addition, regarding the responses of the participants, it might be claimed that the participant students found W2.0 tools fruitful for communication skill; however, it was not enough to use the tools to decrease their anxiety levels. In a study that examined the heart rates of the participants in traditional face to face speech and web based speech, it was found out that the heart rates of the participants increased more in web based speech and they were more anxious (Campbell & Larson, 2013). In that sense, this finding is consistent with their study. Furthermore, according to the results, there is a statistically significant difference in collaboration skills of Turkish adult students. This result is consistent with Beamish and McLeod (2014). As a result of the collaborative movie projects with 1193 students taking part in groups, Beamish and McLeod (2014) concluded that Web 2. 0 tools contribute to the development of C21 learning. In a similar vein, it was found out by Roussinos and Jimoyiannis (2013) that blended collaborative learning with the help of Wiki contributes to the development of collaboration skill. Furthermore, Angelaina and Jimoyiannis (2011) claim that blogs provide chances for collaboration outside the classroom.

Last but not least, it is important to note down that numerous studies were conducted to indicate the role of W2.0 tools for developing creativity skill. According to the results, there is a statistically significant difference in terms of creativity skill. The remarks of the students also indicate the benefits of W2.0 tools in the present study. In such a study, with the contributions of ICT tools, Pinto and Escudeiro (2014) used an ICT program to foster the development of C21 skills. According to the results, the use of the program contributed to the development of creativity, relationships among classmates and collaboration. Lewin and McNicol (2014) also claim that using ICT based generic learning activities and example learning stories contribute to the development of C21 skills particularly creativity and collaboration. In addition, Thang et al. (2014) point out that both language skills and C21 skills (creative thinking and communication) might develop by using digital stories. A study in a similar vein,

Theodotou and Papastathopoulos (2016) conducted a case study in which they examined the development of creativity among higher education students. According to the results of their case study, they claimed that the use of social networks foster creativity of higher education students. In another case study, Lin and Wu (2016) worked with 186 students for 4 months to find out the effects of web based creative thinking activities. They claim that creative thinking and creativity levels of learning outcomes increase with the help of web based creative thinking activities.

Furthermore, it was found out that the use of Wiki contributes to the development of creative thinking processes (Pifarre et al., 2014). As a different tool suggestion, Dale (2008) puts forward that the use of iPods helps students to develop creativity. In this respect, it is possible to claim that the findings of the present study are consistent with the studies that claim that creativity, communication and collaboration might be developed with the help of W2.0 tools.

5.2. General Conclusions and Discussion

For the first part of the action research in this case study, it was found out that the students mostly used social networks prior to the study, while their preferences changed to the educational W2.0 tools after the study. Moreover, according to the statistical results, their attitudes towards W2.0 tools changed significantly. A study in a similar vein, Usun (2002) tried to find out the attitudes of undergraduate students in Turkey. The author points out that there are positive attitudes towards computers among undergraduate students in that they organize life in an effective way by using it. However, the students did not begin to like computers more when they used W2.0 tools. Thus, it can be said that the present result is not in line with Zaidi and Khattak (2016) who found out that the students started to like computers with W2.0 tools more when compared with the percentages at the beginning.

After the action part of the action research, both qualitative and quantitative data were gathered. The qualitative data was analyzed via content analysis. As a consequence of the content analysis and open coding process, it can be said that four main codes emerged from data which were sharing opportunities, making a difference in presentations, thinking and talking more and accessibility. The categories that were created based on these codes are presenting via W2.0 tools, collaboration, creativity, critical thinking and communication.

By taking the route from previous studies that emphasized the importance of W2.0 tools for developing 4Cs and language teaching, the present thesis transferred the idea into a language classroom setting. In that sense, it adds a different perspective to the literature by claiming that W2.0 tools also foster C21 learning experiences of Turkish adult language learning students. As it was highlighted by Partnership for C21 Skills (as cited in deRamirez, 2009), the present study reinforced the idea that the students of the C21 need to be creators of the knowledge rather than being the consumers of it. In addition to the abovementioned properties, TESOL, which is one of the most prestigious organizations, developed technology standards for language learners thanks to the studies of Healey et al. (2008). Two other independent instructors and I considered the learners' performance by taking the indicators into consideration. When the learners in the present study are evaluated based on these standards, it can be said that the students are able to fit well with those goals some of which are achieving basic W2.0 skills, using basic programs.

In this regard, Başal and Aytan (2014) put forward the idea that teachers need to make decisions related to the use of W2.0 in language education by thinking whether the tool fits well with the pedagogical needs of teaching situations. In that sense, Başal and Aytan claim that W2.0 tools help students more than traditional communicative and collaborative language teaching contexts. By the same token, Elmas and Geban (2012) highlight that the use of W2.0 tools lead to not only meaningful but also active learning. Fandino (2013) also claims that by using many types of technologies, teachers can make their students not only learn English but also improve life and 4Cs.

Considering the abovementioned findings, in a nutshell, it is possible to claim that the findings of the present study are consistent with many studies in the literature which point out that using W2.0 tools would be fruitful for language students and 4Cs. It is widely known that ICT tools have positive effects on 4Cs, and they could be used for many curriculum areas (Lewin & McNicol, 2014). In such a study, Beamish and McLeod (2014) claim that using W2.0 tools might make the students obtain 4Cs. In a similar vein, Cephe and Balçıkanlı (2012) conducted a study with ELT student teachers, and they claimed that W2.0 tools are good for language learning. Furthermore, Latham et al. (2013) point out that 4Cs offer a solid framework for teaching collaboration skill. In that sense, not only skills but also content knowledge must be emphasized in a C21 curriculum to make students achieve 4Cs (Rotterham & Willingham, 2010).

CHAPTER VI

6. CONCLUSION AND IMPLICATIONS

6. 1. Introduction

In this chapter, an overview of the study in line with the research question, the limitations and the implications of the study are going to be presented.

6.2. Overview of the Study

The present study was conducted as a case study. Thirty three Turkish adult students and three instructors at a preparatory class took part in the study after they signed consent forms. As the sampling method, convenience sampling was used, and the syllabi were used for two terms. For the first term, the students tried to improve their 4Cs with the help of traditional coursebooks. At the end of the first term, they were taught some theoretical knowledge related to the development of 4Cs with the help of Web 2. 0 tools, and they were taught how to use Web 2. 0 tools. Throughout the second term, the students tried to implement these ideas into their presentations prepared as groups or pairs. They applied this syllabus for fifteen weeks.

During the application, the students created presentations as W2.0 projects, and they presented it in class. After that, they uploaded their presentations and wanted their friends to comment on them. Furthermore, after each presentation, they filled the collaboration rubric, and they wrote minute papers. The researcher, as the instructor of the class, took some field notes for this process. In order to have an objective point of view as well as valid and reliable results, two other instructors also filled in the questionnaires related to critical thinking skill. Also, they completed creativity, communication and critical thinking rubrics and evaluated the progress of the students in semi structured interviews.

The main aim of the study was to develop 4Cs of Turkish adult students with the help of W2.0 tools, and the syllabus was prepared according to Bruner's 5Es (Kivunja, 2015). To serve this aim, the students prepared presentations by using W2.0 tools; hence, their 4Cs were evaluated throughout the presentation process. Therefore, it can be said that the present study provides a considerable insight into the use of W2.0 tools to develop 4CS in a Listening-Speaking course. The upshot of this study indicates that

using W2.0 tools might help to develop 4Cs of the students within Bruner's 5Es model (Kivunja, 2015). The research extends our knowledge related to this issue.

Returning to the research question reported at the beginning of this study, it might be claimed that before the study was conducted, the students used to use W2.0 tools and social networks such as Facebook, Youtube and blogs. At the end of the study, they added a new repertoire to the tools that they use. They began to use comics, podcasts, stories and various educational tools. Furthermore, there is a significant difference in their positive attitudes towards W2.0 tools; using W2.0 tools in teaching; the role of computers as being a good supplement to teaching and learning; their ideas related to coping with W2.0 tools and their beliefs related to the use of W2.0 tools in language teaching.

On the other hand, comprehensive results were found related to 4Cs, namely 4 Cs. The feelings that the students felt throughout the development of 4Cs process were investigated. The student responses were obtained from minute papers and semi structured interviews, and content analysis was conducted. As a result of the content analysis, four codes were created which were sharing opportunities, making a difference in presentations, think and talking more and accessibility. These codes were transferred into five categories which were presenting via W2.0 tools, collaboration, creativity, critical thinking and communication (Strauss and Corbin, 1990).

In addition, the effects of W2.0 tools were investigated in order to develop 4Cs of Turkish adult students. According to the results, W2.0 tools affect communication skills of Turkish adult students significantly, and paired samples t test results for the group highlight this change. Furthermore, instructor and student responses indicate this change. For creativity and collaboration skill, responds of the instructors to rubrics also illustrate the fact that the skills of the students improved. Lastly, for critical thinking skill, it is possible to claim that there is not a significant change in affect, social, environmental, family, competence, physical and academic domains which highlights the need for a further investigation.

6.3. Implications

As a consequence of the qualitative and quantitative data analyses, the present study led the conclusion that W2.0 tools foster the development of 4Cs within Bruner's 5Es model in many respects except for critical thinking skill. The study did not find

significant differences when the beginning and the end of the term were compared for this skill. The most remarkable data that emerged from the study is that using W2.0 tools was not effective for the development of critical thinking skill although the students had declarative knowledge about the ways to foster that skill. On this issue, it can be claimed that critical thinking skill remained as declarative knowledge, and it was not transferred into procedural knowledge.

The research threw up many questions that need to be investigated thoroughly; therefore, the research has considerable implications to the ELT researches. First and foremost, using W2.0 tools had effects on the development of 4Cs except for critical thinking skill. The reasons of this could be investigated in detail, and further studies could be done to enhance W2.0 tools use. This is a vital issue for future research.
Secondly, the present study found out that critical thinking skill did not develop with such a syllabus. Since critical thinking skill is a skill that requires metacognitive awareness, activities to increase metacognitive awareness can be included by the decision makers in the syllabi of adult language students. Different instructional models could be used to develop this skill.

Thirdly, another implication of the present research is for decision makers regarding syllabi of adult language students. The findings might be a useful aid for decision makers because they might want to integrate W2.0 tools to integrate 4Cs. If they want to integrate these skills, they might also use the syllabus which is based on Bruner's 5Es Instructional Model. Furthermore, the present study used Bruner's 5Es in order to develop 4Cs in a Listening & Speaking course of preparatory class students. Further studies might deal with the use of W2.0 tools to develop four language skills along with the 4Cs by applying Bruner's 5Es.

Last but not least, it can be said that these findings would contribute a lot to the ELT adult classrooms in that this study shed light onto the use of 5E's instructional model (Kivunja, 2015) integrated within the syllabi of language students. By using Bruner's 5Es to foster 4Cs with W2.0 tools, the model was fruitful for 3Cs which are communication, collaboration and creativity. The student responses, semi structured interviews, the statistical data and instructor views indicate the change in 3Cs. In this respect, decision makers might also integrate the proposed model (Kivunja, 2015) in order to improve 4Cs of adult preparatory class students.

In a nutshell, it must be kept in mind that English is the second medium for education in Turkey (Zok, 2010); therefore, attention needs to be paid on finding the

ways to teach it along with 4Cs. Other studies might focus on using different instructional models in order to develop the fourth C, critical thinking, of 4Cs.

6.4. Limitations

The present study clearly has some limitations. Nevertheless, it could be a springboard for studies that can yield more comprehensive results. To begin with, there is still a need for a discussion on the extent to use W2.0 tools in the classroom settings. As it was mentioned in this thesis, W2.0 tools were used for four hours weekly in our study. Further studies might deal with determining the relationship between course hours and the development of 4Cs.

Another limitation of the study is that the study was conducted with a limited number of participants. Therefore, given the small sample size, it can be claimed that caution needs to be taken. Following studies might be done with a bigger number of participants in order to compare and contrast the results of two groups related to the development of 4Cs with W2.0 tools. The results are encouraging, but they should be validated by a larger sample size.

Last but not least, after carrying out the research, it can be said that the picture is still incomplete. Notwithstanding these limitations, the study suggests that W2.0 tools might develop collaboration, communication and creativity skills of adult students when they are taught in line with Bruner’s 5Es.

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8. APPENDICES

Appendix 1: Attitudes towards computers questionnaire (adapted from Connolly et al., 2009)

Dear students,

Thanks to the following questions, your general attitudes towards computers and integrating computer technology in language instruction will be found out. We would like to express our special thanks for your help and cooperation.

Gender: Male Female

Duration of Learning English: 1-5 years 6-10 years 11-15 years

I. Experience in using computers

1. I use the computers for…….. Please tick (√) the appropriate option(s), and also

indicate your frequency of use (e.g., _ √ _ electronic mail [1 2 3]).

1= rarely 2= sometimes 3= often

__ electronic mail [1 2 3]
__ games [1 2 3]
__ online shopping [1 2 3]
__ web page design [1 2 3]
__ chat rooms [1 2 3]
__ surfing the Internet [1 2 3]
__ entertainment [1 2 3]
__ homework via e-mail [1 2 3]

2. I use computers…….. Please tick (X) the appropriate option.

[ ] less than once a week
[ ] 1-2 times a week
[ ] 3-4 times a week
[ ] 5 or more times a week

For the following items, please circle the answer that best shows your opinion.

1= strongly disagree 2= disagree 3= undecided
4= agree 5= strongly agree

3. Using computers is something that I like.	
4. My attitudes towards computers are generally positive.	
5. Computers increase efficiency in my life.	
6. If I use computers, they generally make completing tasks easier.	
7. Looking for the Internet for general interest is something that I like.	
8. I conceive computers as one of the pedagogical tools.	
9. My general attitudes towards using computer technology in teaching are positive.	
10. To back up teaching and learning, computers are good supplementary.	
11. Computerized teaching tools are not appropriate for me.	
12. In my opinion, W2.0 tools are not fruitful in language teaching.	

II. Experience in using Web 2.0.

1. Please tick the W2.0 tools have you used in your personal life

☐ Blogs

☐ Wikis

☐ YouTube

☐ Flickr

☐ Facebook

☐ GoogleDocs

☐ Other (please, specify) ……

(Use as many options as applicable.)

Do you use any of abovementioned W2.0 tools for personal purposes?

☐ Yes ☐ No

If, yes, please tick the frequency of using the abovementioned tools

☐ Never ☐ Almost Never ☐ Sometimes ☐ Most Days ☐ Every Day

(Choose one option)

3. Please specify what for you have used abovementioned tools

4. Please tick how proficient you are in using Web 2.0

☐ Non-existent ☐ Very modest ☐ Good ☐ Very good ☐ Excellent

III. Reflections on W2.0 tools

1. To what extent could W2.0 tools could be used in your classroom?

2. The advantages of W2.0 tools not only for the educator but also for the students are……..

IV. Expectations

What do you expect from a listening & speaking course which includes the use of Web 2. 0 tools in syllabi?

2. I need training in

☐ General use of W2.0 tools

☐ Pedagogical use of W2.0 tools

☐ Both

(Choose one option.)

3. I expect to take part in activities related to…….during the training.

Appendix 2: Consent form

CONSENT FORM

Title of the study: 21st Century Learning: Integration of Web 2. 0 Tools in Turkish Adult Language Classrooms

I voluntarily agree to take part in the study conducted by Mrs. Özge KUTLU DEMİR. I am going to take a copy of this form after I signed it.

Name of the Participant:

Date:

Signature:

Appendix 3: Rubric for Communication Skills (Schreiber et al., 2012)

The student's performance indicates that the student….	Advanced (4)	Proficient (3)	Basic (2)	Minimal (1)	Deficient (0)
Chooses a proper topic relevant to the audience and situation	Topic involves the audience; topic is meaningful, well-timed, presents new information to the audience	Topic is suitable for the audience and offers some convenient information for the audience	Topic is ill-timed or deprive of originality; ensures new information to the audience	Topic is very unimportant, very complicated or unsuitable for the audience, topic unsuitable for the situation	No topic can be inferred.
Creates an introduction to clarify the topic for the audience	Outstanding attention drawing, resolutely establishes reliability, coordination with the topic, well-defined thesis, previews basic components convincing and notable	Worthy attention drawing, usually establishes reliability, certain coordination with the topic, tangible thesis, previews basic components	Standard attention drawing, establishes reliability, partial coordination with the topic, clumsy thesis, presents limited guidance for the audience	Unrelated opening, weak effort to construct reliability, unexpected pass to the body speech, thesis and key points can be determined but are not clearly specified	No opening method, no construction of reliability, no pre-definition, no thesis, no preview of arguments
Utilizes efficient organization	Excellently planned,	Organizational pattern	Organizational pattern	Speech was not fluent, speech	No structural

models	basic components well-defined, bilaterally exclusive and straight address to the topic, effective shifts and indications	is clearly planned, basic components are defined, shifts between basing points and partial usage of indications	is clearly planned, basic components are defined but not bilaterally exclusive, shifts between basing points exist but are barely effective	was not arranged coherently, transitions present but were not well constituted	form, no modification, seemed like information was arbitrarily presented
4. Finds, unifies and applies the materials which are intriguing and approving	All key points are promoted by diverse reliable materials such as facts, stats, and quotes; the great support is given by the sources that are clearly cited	Proper materials reinforced main points; sources accord with thesis; almost all sources are cited	Mix of materials were generally enough to support the points; thesis is supported by some evidence; clarification of source citations are needed	Some points were not promoted; necessity of a more quantity/quality of material; insufficient quality of sources	Supporting materials do not exist or are not cited
5.establishes a conclusion	An explicit and	Points are summarized	Some summary of	No clear conclusion; the	No conclusion

supporting the thesis and giving psychological closure	significant summary of points are supplied; the thesis or big picture is pointed out; concludes with compelling clincher or call for action	appropriately; refers back to thesis; explicit clincher and call for action	points are supplied; does not refer back to thesis; enrichment of closing techniques	rest of the speech ends with an oddness in tone	; sudden ending of speech without closing
6. shows careful word choice	Clear, creative and powerful language is used; bias, grammatical errors and inappropriate usage are avoided	Appropriateness of language to the presentation goals; no apparent grammatical errors and bias	Appropriate selection of language; some grammatical errors; misused language from time to time such as jargon, slang and awkward structure	Development of grammar and syntax is needed at the language comprehensiveness level; sometimes biased	Many grammatical and syntactical errors; misused language such as jargon, slang, sexist/racist terms or mispronunciation is extensively used
7. with the purpose of employing the audience,	Vocal variation, intensity and pacing are	Vocal variation and pace are satisfying;	Some vocal distinction is shown; explicit	Occasional usage of too soft voice and too obscure	Softly speaking; poorly enunciatio

utilizes vocal expression and paralanguage efficaciously	used excellently; natural and passionate vocal expression; fillers are avoided	vocal expression corresponds to assignment; few but not many fillers	enunciation and audible speaking; avoidance of fillers such as um, uh, like	articulation which are not comfortable for listeners; many fillers are used	n; monotone speaking; insufficien t pacing; too many fillers disturbing listeners
8 In order to strengthen the message that given verbally, conducts nonverbally	Good use of gestures, mimics, posture and eye contact and performs in a calm and relaxed way	Appropriate use of gestures, mimics, posture and performer seems self-confident	Although speaker is sometimes dependent on notes, eye contact is used enough	Speaker depends on notes excessively and nonverbal expressions seem rigid and artificial	Speaker doesn't make eye contact and uneasy gestures and nonverbal behaviors divert audiences' attention also make the message inconsiste nt
9 Performance is presented to the audience in a well adapted way	Importance of information in person is presented to the audience	Speaker tries to show the importance of the subject and	Despite the speaker's supposition , the importance of the topic	Speaker does not transfer the importance of topic and does not make the speech adaptable	Speech is in conflict with beliefs, values, attitudes

	by the speaker and the speech is adapted proficiently to the audience in terms of beliefs, values, attitudes and speaker refers to cultural experiences in common	speech is made suitable for the audience according to beliefs, values, attitudes of the audience; shared interest is aimed	is not presented directly; Speaker makes little changes in beliefs, values, and attitudes according to audience. Some opinions in speech are extracted from audience's viewpoint or experience	to the audience; more clear connection between speaker and audience is required	of audience; message is given generally. Speaker does not attract attention to create common ground

Appendix 4: Creativity rubric (based on KPM, 2010, cited in Kuong et al. 2012)

Criteria	Being Sensitive	Being Fluent	Being Flexible	Being able to Elaborate	Being Original
Excellent (14-20)	Thoughtful towards diversities in an extensive approach	Variety of continuous ideas are presented related to the task, may or may not be certain but reasonable	Ideas can be subtracted, inserted and adjusted. Effectively present several descriptions, examples relevant to the task.	Idea presentation/ exposition is successfully expounded and intelligible	The idea is presented exceptionally
Fair (3-17)	Thoughtful towards explicit diversities but is not able to differ the implicit ones	Sufficient ideas are presented in standard occurrence related to the task.	Ideas are subtracted, inserted and adjusted irregularly. Can present only few descriptions, examples relevant to the task.	Idea presentation/ exposition is sometimes vague and unfinished	There are limited parts of the idea presentation that vary from the others; exceptional components can be distinguished.
Low (0-6)	Thoughtful towards explicit diversities	Indistinct ideas are presented related to the task.	Ideas are not/rarely subtracted, inserted and adjusted. Can present descriptions, examples relevant to the task.	Idea presentation/ exposition is vague and unfinished	Idea presentation is the same as others; no new components can be distinguished.

Appendix 5: Critical Thinking and Creativity Questionnaire (Bedir, 2016)

Dear students,

To achieve your aims, critical thinking is a significant thing. The questionnaire below includes items related to it. We would like to welcome your faithful answers.

Name:

Age:

Choose one of them by adding (X).

Affective Strategies		Always	Usually	Sometimes	Never
1	The things that everyone else does or says do not make me believe.				
2	I am not impatient. No matter how hard my homework is, I try hard to finish it				
3	While responding a question, making mistakes does not make me feel afraid.				
4	Responding to challenging questions is enjoyable.				
5	By the time I am questioned, I do not feel offended or confused.				
6	I pay attention to what others expect from me a lot, and I would like to be the kind of person that they want.				
7	Emotions do not manage my decisions.				
8	If I come across with a problem, I am able to solve it in an organized and orderly way.				
9	New reasons and evidence are always welcome; therefore, I am able to prevent and correct my prejudiced thoughts.				
10	If I have a disagreement with somebody, I try to see the things from his/her point of view.				
11	If I have a problem, I stick to it rather than giving it up.				
12	The reasons behind the rules, activities and procedures might be questioned by me.				
13	I confess that I am not always a hundred percent right.				
Macro Abilities of Cognitive Strategies		Always	Usually	Sometimes	Never

1	I try to find out the things that I don't understand and question them till I understand.				
2	The things others do and say do not make me believe them.				
3	I can understand whether the information source is reliable or not.				
4	So as to learn details, I ask questions.				
5	I am able to ask proper questions if I want to learn and evaluate a topic.				
6	I am able to use everything that I have to find the best solution.				
7	I have the capacity of getting the main point of a passage or text.				
8	By using the opposite or synonym of a word, I can create sentences.				
9	To be able to understand clearly, I can make information simpler.				
10	My goals and my ways to reach them are planned by me.				
11	The topics are grouped and categorized by me.				
12	If I learn new English vocabularies from a reading text, I can use it in other contents.				
13	To understand deeply, I ask "why" questions.				
14	In order to find a solution, I think more than one way is available to reach my goal.				
15	I appreciate the views of my friends and I listen to them willingly.				
16	To be able to comprehend the definitions is an insufficient level for me. I can provide clear examples.				
17	I can make problems simplify so that I can deal with them easily.				
18	To obtain the information that I require questioning is an efficient technique.				
19	To learn deeply, I question about the topics or subjects.				
20	I think and create questions so as to support the things what I learnt.				

21	The ideas of my friends are listened by me carefully.				
Micro Abilities of Cognitive Strategies		Always	Usually	Sometimes	Never
1	I have a realistic approach to problems.				
2	I can differentiate between the things I know and I don't know.				
3	I can understand the differences between facts and ideals.				
4	The similarities between two or more things can be found by me.				
5	Two or more things can be compared by me.				
6	I have causes and proofs to support my answers.				
7	I can deduce the consequences from stories, story titles and pictures.				
8	To be able to discover the best solution, I create alternative solutions. the best one.				
9	When I talk about my thoughts, I pay attention to choose the most relevant vocabulary.				
10	To reach and be successful in my realistic ideals, I study a lot.				

Dear students,

Critical thinking is a significant skill, and it is a gateway for many of you to be successful. The questions below are about this topic. We hope you would answer the questions in a faithful manner.

Name:

Age:

FOR QUESTIONS 1-10, Answer according to the given situations

1. If polar bears are kept in cages, they show different behaviors such as moving back and forward and turning their heads from side to side. Although they are kept in totally comfortable environments, they do those behaviors which shows that polar bears do not

like being a captivated environment in that it does not provide them their natural habitat. From the statements below, which of the following would weaken the argument?

A) Especially polar bears might not adapt to living in a captivated environment.

B) Most of the polar bears in wild life show various behavioral disorders.

C) If polar bears are in a captivated place, they eat better than the ones in wild life.

D) If polar bears are put in a captivated place, they might not get used to wild life.

If the temperature data is obtained from 3 thermometers, they might be accepted as true in line with +/-2 error limit. The first one is 7°, the second one is 9° and the last one is 10°. In such a situation, which of the following shows the minimum range?

A) 5° - 12° B) 7° - 9° C) 8° - 10° D) 8° - 9° E) 7° - 10°

3. If people become ill or get disabled because of the things that they have done, they have to put up with the health service cost. Which option below displays the argument in that sentence?

If people don't have money sufficient for treatment, they should not utilize free treatment.

If a smoker is ill and he/she doesn't have enough money, he/should be supported with free health services.

If people do not use seat belts and get injured in an accident, they should be provided with free treatment opportunities.

If motorcycle drivers are injured from head because of not wearing a helmet, they should pay money for the treatments.

4. Some educators think that points in high stakes exams need to include lesson success points. They think that education must not be bounded to scores in just one exam

Educators, who think that lesson success points should contribute to a high stakes exam (TEOG), defend the idea that education should not depend on just one exam. As the reason of this situation, they defend the idea that a student who is not successful in one exam may be successful throughout a year. However, this situation leads to negative thoughts like cheating or may be a thought that it might be unfair. For instance, teachers in a school may give points randomly, or they may allow the students to cheat.

Which one of the following conclusions is best supported by the text above?

Lesson success points are not fairer than TEOG success points.

Not cheating on exams makes TEOG success point more fair.

Traditional exams are still the fairest ones for TEOG success.

There is not a totally fair TEOG success evaluation system.

Answer the following questions according to text

Mete and Yiğit went to camping in a public park with their families. The park was very crowded. Their father told them to collect some wood and go to forest area. Two brothers did what their father said. While they were coming back with wood, a forest guard stopped them. He looked at the woods and said “Did you know that you could only take photos and leave footsteps in this forest?” Two brothers listened to what the guard said in a surprised mood. Brothers told the guard that their father asked them to bring some wood to prepare fire for barbecue. The guard made the brothers go back to their family, and he talked to the father in person. The guard, then, attended the family’s dinner. The family started packing early the following day and went back to their home.

5. Why were the kids surprised?

A) The kids only did what they were asked.

B) The kids only took a few wood from forest.

C) The kids did not understand what the forest guard said.

D) The kids did not think it would be a problem to have barbecue.

6. What would be the most important reason for the forest guard to talk to the father?

A) He wanted to explain that the kids cut too many branches.

B) To remind the rules in park

C) To tell that the kids should not be left alone in forest

D) To explain why people should take pictures in forest

7. After the visit of the forest guard, what would be the reason that made family go back home?

A) The forest guard told them to leave.

B) The family has already decided to leave.

C) The forest guard made the family feel unhappy.

D) The family collected too much wood for barbecue.

8. What did the forest guard mean by saying “Did you know that you could only take photos and leave footsteps in this forest?”

A) The brothers should know how to behave in forest.

B) The brother should be taking photos.

C) The brothers may cause fire in the forest.

D) The brothers may cause trouble, and they should stop.

9. Why did the forest guard speak to the father in person?

A) He wanted to complain about his children.

B) He told them to leave the park.

C) He wanted to learner whether the boys were really brothers or not.

D) He wanted to tell the situation to the father without making him embarrassed.

Appendix 6: Course Syllabus

LISTENING AND SPEAKING

Course Description: This course aims to make the two skills of preparatory class students develop along with 21st century skills. Both listening, as a receptive skill, and speaking, as a productive skill, are the skills mostly needed to develop communication skill, which is one of the most important part of 21st century learning skills. In order to be able to create 21st century learning experience, the present course requires learners to integrate W2.0 tools into their presentations in that they may provide hands-on experience for using the skills.

Objectives of the course:

One of the most significant objectives of the present course is that it aims to develop the abovementioned two skills in a 21st century learning fashion. As a 'must' of 21st century, learners need to develop 4Cs which are communication, critical thinking, creativity and collaboration. To make the students develop 4Cs, W2.0 tools will be used. Throughout the first term, students will have the chance to learn how to use W2.0 tools. For the second term, students will come up with the presentations which are the possible products of their 21st century learning experiences.

Requirements of the course:

Students need to have access to Internet.

Students need to follow weekly e-mails related to how to use the tools.

Weekly syllabus

Week	Useful links
1.Introduction Review of W2.0 tools	Blog of the course http://kutludemir.wixsite.com/elt2016
2.Review of W2.0 tools	Blog of the course http://kutludemir.wixsite.com/elt2016
Week 3 and 4 Comics	https://www.pixton.com/tr/ http://marvel.com/games/play/34/create_your_own_comic http://www.toondoo.com/
Week 5 and 6 Podcast	https://www.podbean.com/ http://www.podcastgenerator.net/
Week 7 and 8 Storytelling program	https://utellstory.com/ https://storybird.com/
Week 9 and 10 Animated video website	www.powtoon.com https://www.moovly.com/ https://www.animaker.com/
Week 11 and 12 multimedia slide show	https://www.photosnack.com/photo-slideshow-maker-html/quick-upload?nl
Week 13 and 14 Video authoring tools	https://animoto.com/ https://www.nawmal.com/ https://easyvideomaker.en.softonic.com/

Appendix 7:-Peer Assessment Collaboration Rubric (Adapted from Intel Teach Program, 2010)

	4	3	2	1
Taking part in activities	My pair took part in fully, and he/she was always with me while doing the task.	My pair took part in most of the activities and task with me.	My pair took part in activities, but he/she spent most of our time in vain.	My pair did not help me regarding time or material issues.
Being a leader	My pair helped me a lot with a positive attitude and with solutions whenever he/she was in need in a proper manner.	My pair made me feel leadership in a proper way.	My pair was often more dominant than me.	My pair did not act in line with leadership properties, and he/she was not productive.
Listening to the pair	My pair listened to me in a careful manner.	My pair often listened to the ideas of other people.	My pair sometimes did not listen to the ideas of other people.	My pair did not listen me, and he/she often interrupted.
Providing feedback	My pair was able to share a detailed and constructive feedback when it was the right time.	My pair was constructive and on time while giving feedback.	My pair was occasionally constructive while giving feedback. However, his/her comments were sometimes improper and useless.	My pair was not constructive, and he/she never gave fruitful feedback.

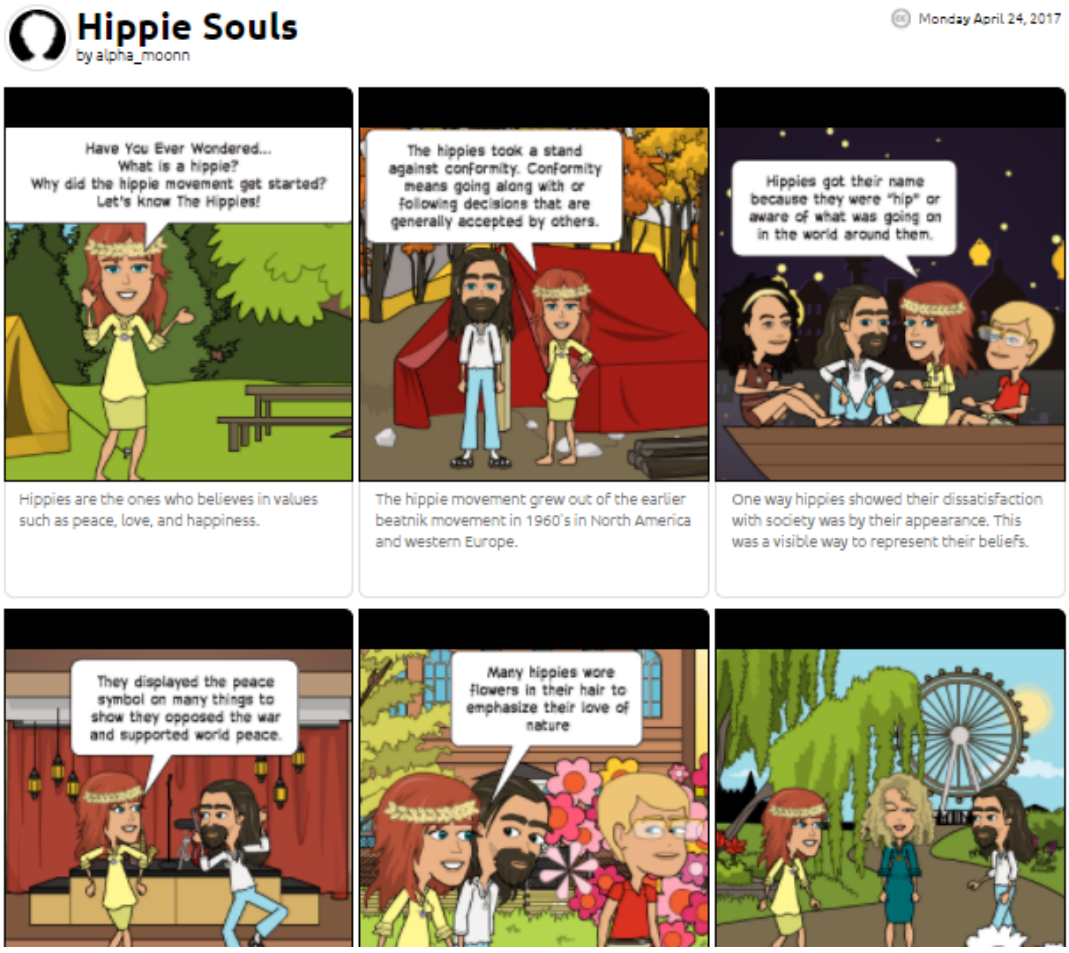
Cooperating with the pair	My pair was always respectful and he/she shared what we had to do for the tasks.	My pair was usually respectful and he/she shared what we had to do for the tasks in a fair way.	My pair was sometimes disrespectful, and he/she did not share what we had to do for the tasks.	My pair was usually disrespectful, and he/she did not share what we had to do for the tasks in a fair way.
Managing time	My pair did the tasks on time.	My pair often did assigned tasks on time and did not make the projects go on more due to incomplete things.	My pair often was not able to do the things on time, and he/she made me hold up.	My pair was not able to do the things on time, and because of him/her, we needed to change at the last minute.

Please note down the proficiency level from the rubric that fits each group members' participation in the box under each skill..

Name of the student	**Taking part in activities**	**Being a leader**	**Listening to the pair**	**Providing feedback**	**Cooperating with the pair**	**Managing time**

Appendix 8: Presentations of the students

Presentations made via a comics maker (www.pixton.com)

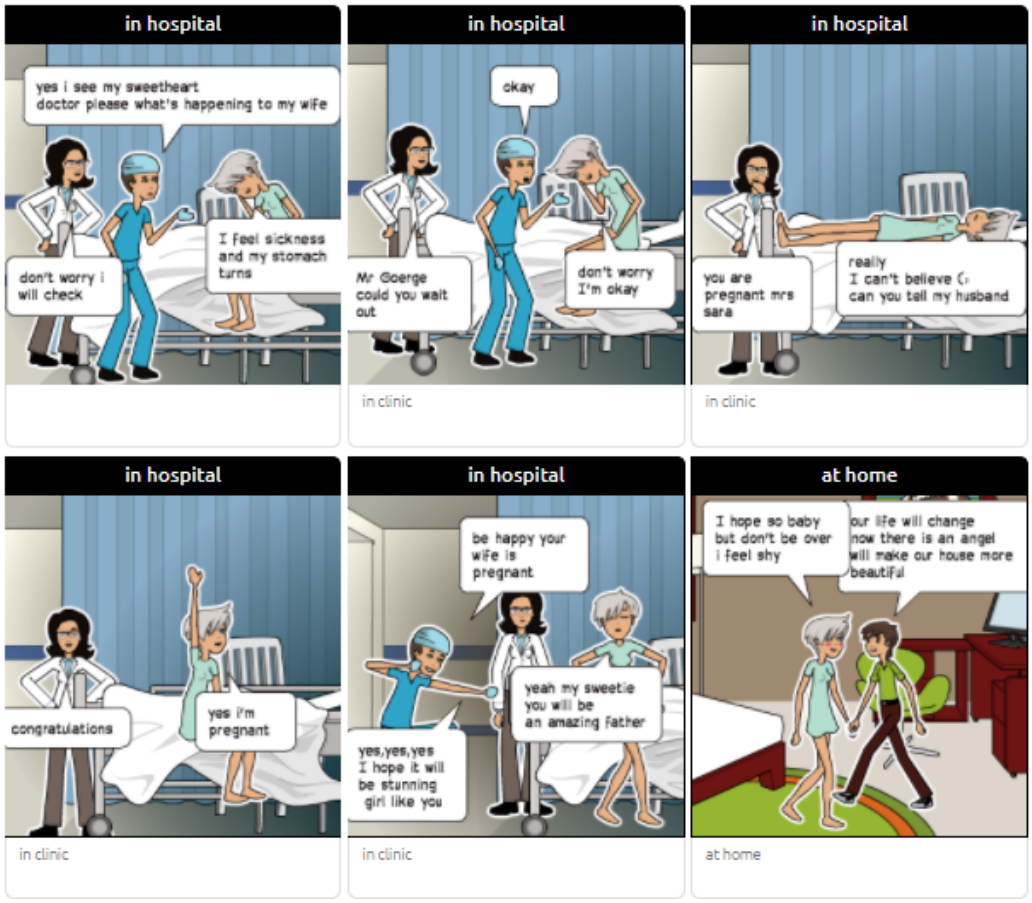


PIXTON

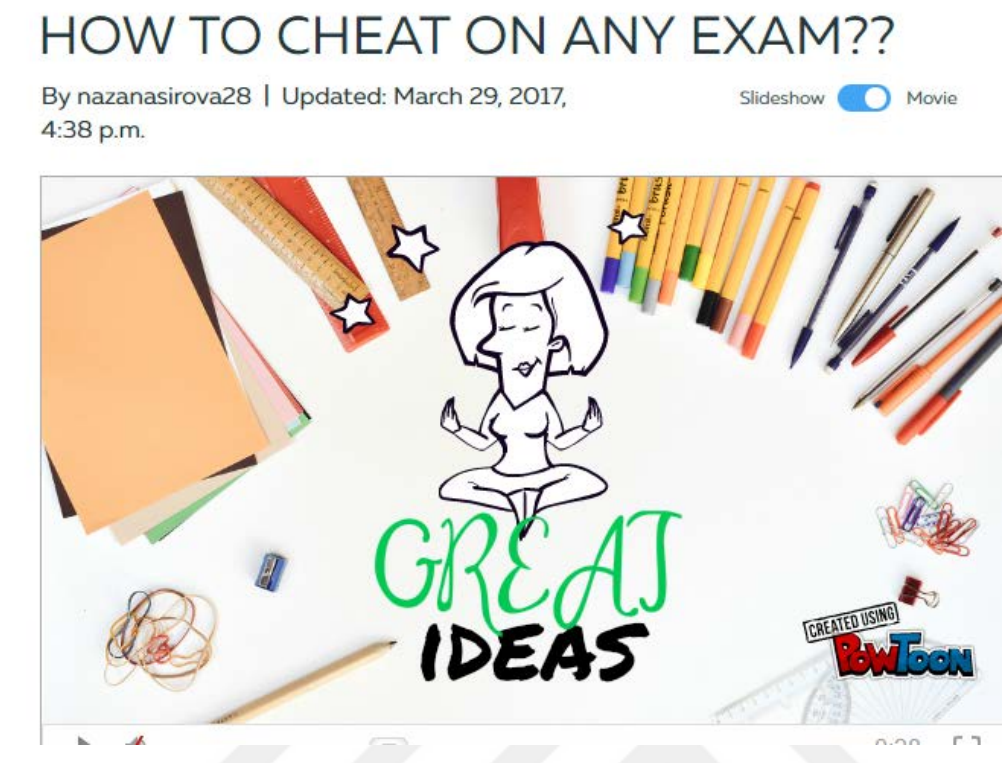
[pregnancy]

by diyaaalrouh

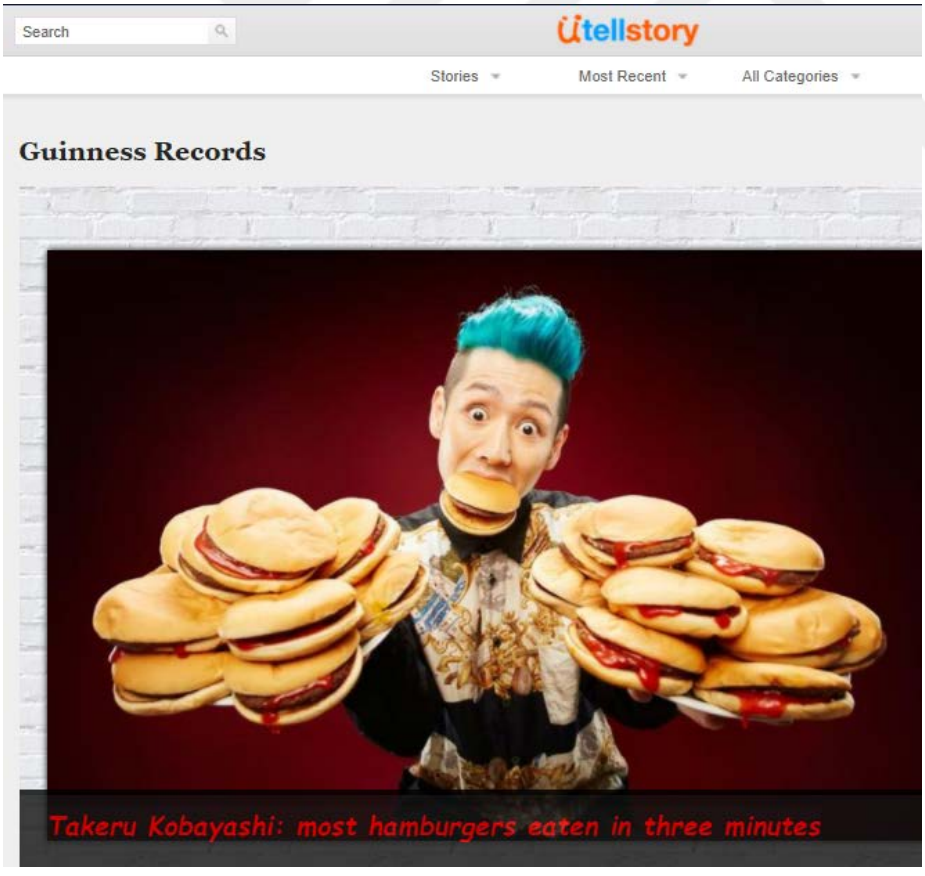
Monday May 1, 2017



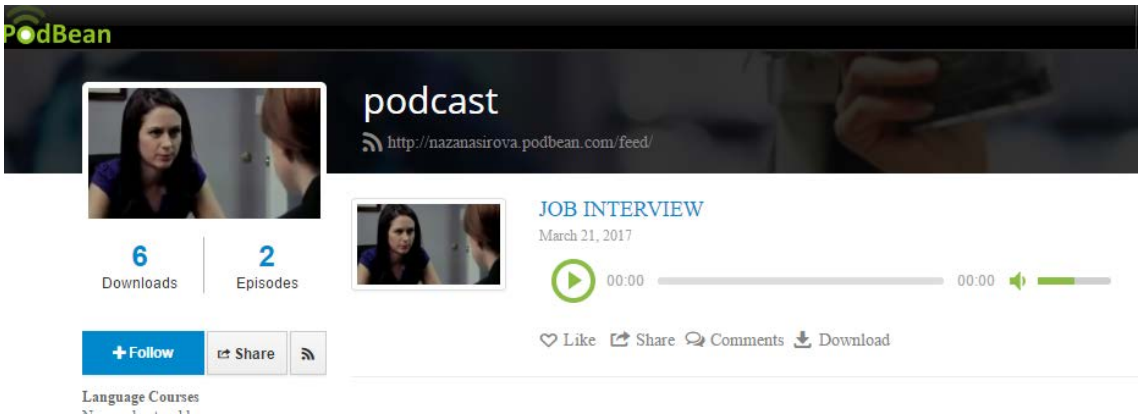
Presentations made via an animated video maker (**www.powtoon.com**)



Presentations made by a story maker (**www.utellstory.com**)



Presentation made by a podcast maker (**www.podbean.com**)



Appendix 9: Ethics Committee Permit Document

T.C
ÇAĞ ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ

TEZ / ARAŞTIRMA / ANKET / ÇALIŞMA İZNİ / ETİK KURULU İZİNİ TALEP FORMU VE ONAY TUTANAK FORMU

ÖĞRENCİ BİLGİLERİ

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ADI VE SOYADI	Özge KUTLU DEMİR
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ANA BİLİM DALI	İngiliz Dili Eğitimi
PROGRAM ADI	İngiliz Dili Eğitimi
BİLİM DALININ ADI	İngiliz Dili Eğitimi
HANGİ AŞAMADA OLDUĞU (DERS / TEZ)	Tez
İSTEKDE BULUNDUĞU DÖNEME AİT DÖNEMLİK KAYDININ YAPILIP-YAPILMADIĞI	2017 / 2018 - BAHAR DÖNEMİ KAYDINI YENİLEMEDİM / YENİLEDİM.

ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ BİLGİLER

TEZİN KONUSU	21st Century Learning: Integration of Web 2. 0 Tools in Turkish Adult Language Classrooms
TEZİN AMACI	The aim of the present study is to find out the effects of Web 2.0 tool integrated syllabi, which have been prepared in line with Bruner's 5Es Instructional Model, on improving the 4Cs of English Language Teaching (ELT) preparatory class students. The syllabi used in this study was grounded on the adaptation of Bruner's Instructional Model of 5Es (engagement, elaboration, explanation, evaluation, exploration) for the integration of 4Cs into content area teaching by Kivunja (2015). Through the application of Bruner's five lenses into the syllabi, the students are expected to foster their 4Cs thanks to using W2.0 tools. Once the students have experienced the procedure of the model for the development of 4Cs at the end of the first term, they are expected to apply it as procedural knowledge in their projects in the second term. In that sense, the present study aimed to investigate the effects of the W2.0 tools on improving 4Cs within the
TEZİN TÜRKÇE ÖZETİ	Son yıllarda dil sınıfları gitgide gelişen teknolojik cihazlardan faydalanmaya başlamıştır. Bu yüzden teknolojilerle birlikte kullanılabilecek pek çok farklı materyal geliştirilmiştir. Bu çağdaş gelişmelerden faydalanmak için her geçen gün yeni bir materyal geliştirilmektedir. Böyle bir bağlamda, dil öğrencileri de bu materyallerden faydalanmaya başlamıştır. Mevcut çalışmada öğrencilerin 21. Yüzyıl becerilerini Web 2.0 araçları ile geliştirmenin yolları aranmaktadır. Çalışma için hazırlık sınıfında okuyan 33 öğrenciye Web 2.0 araçları kullanarak 21. Yüzyıl becerilerini geliştirmek için iki dönem boyu eğitim verilmiştir. Bu programa göre öğrenciler kendi projelerini geliştirip sundukları Web 2.0 araçlarıyla sınıfta sunmak üzere projeler hazırlamışlardır. Program Bruner'in 5E öğretim modeline göre hazırlanmış (Kivunja, 2015) ve öğrencilerin hazırladığı projeler kayıt altına alınmıştır. Dersin web adresini bir ana platform olarak kullanan öğrenciler işbirlikçi aktivitelerinin sonucu olan projelerini burada paylaşmıştır. Onlar paylaşırken arkadaşları ise onları eleştirel ve yaratıcı düşünmeye yöneltecek yorumlarda bulunmuşlardır. Veri toplama aracı olarak yarı yapılandırılmış mülakatlar, sınıf içi gözlemler, bilgisayara karşı tutum ölçeği (Connolly ve ark., 2009) ile işbirliktelik (Intel Teach Program, 2010), eleştirel düşünme (KPM, 2010, akt. Kuong ve ark. 2012), iletişim becerileri (Schreiber ve ark., 2012), yaratıcılık ve eleştirel düşünme (Bedir, 2016) rubrikleri kullanılmıştır. Ayrıca öğrencilerin sunumları kaydedilmiş ve 2 bağımsız okutman tarafından da değerlendirilmiştir. Diğer bir veri toplama aracı ise yarı yapılandırılmış mülakatlar ve bir dakika kağıtlarıdır. Sonuçlara göre Web 2.0 araçların kullanımının,
ARAŞTIRMA YAPILACAK OLAN SEKTÖRLER / KURUMLARIN ADLARI	Mersin Üniversitesi Yabancı Diller Yüksekokulu
İZİN ALINACAK OLAN KURUMA AİT BİLGİLER (KURUMUN ADI - ŞUBESİ / MÜDÜRLÜĞÜ - İLİ - İLÇESİ)	Mersin Üniversitesi Yabancı Diller Yüksekokulu Yenişehir-Mersin
YAPILMAK İSTENEN ÇALIŞMANIN İZİN ALINMAK İSTENEN KURUMUN HANGİ İLÇELERİNDE/ HANGİ KURUMUNA/ HANGİ BÖLÜMÜNDE/ HANGİ ALANINA/ HANGİ KONULARDA/ HANGİ GRUBA/ KİMLERE/ NE UYGULANACAĞI GİBİ AYRINTILI BİLGİLER	Mersin Üniversitesi Yabancı Diller Yüksekokulu-İngiliz Dili Eğitimi Hazırlık Sınıfı
UYGULANACAK OLAN ÇALIŞMAYA AİT ANKETLERİN/ ÖLÇEKLERİN BAŞLIKLARI/ HANGİ ANKETLERİN - ÖLÇEKLERİN UYGULANACAĞI	Attitudes towards computers questionnaire (adapted from Connolly et al., 2009) 2)Rubric for Communication Skills (Schreiber et al., 2012) 3) Critical Thi
EKLER (ANKETLER, ÖLÇEKLER, FORMLAR ..... gibi EVRAKLARIN İSİMLERİYLE BİRLİKTE KAÇ ADET/SAYFA OLDUKLARINA AİT BİLGİLER İLE AYRINTILI YAZILACAKTIR)	1) Attitudes towards computers questionnaire (adapted from Connolly et al., 2009) 2)Rubric for Communication Skills (Schreiber et al., 2012) 3) Critical Thinking and Creativity Questionnaire.....4) Rubric for Creative Thinking Assessment 5) Peer Assessment Collaboration Rubric (Adapted from Intel Teach Program, 2010).....

ÖĞRENCİNİN ADI - SOYADI: Özge KUTLU DEMİR | ÖĞRENCİNİN İMZASI: ..... | TARİH: 28 / 05 / 2018

TEZ/ ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ DEĞERLENDİRME SONUCU

1. Seçilen konu Bilim ve İş Dünyasına katkı sağlayabilecektir.

2. Anılan konu İngiliz Dili Eğitimi faaliyet alanı içerisine girmektedir.

1.TEZ DANIŞMANININ ONAYI	2.TEZ DANIŞMANININ ONAYI (VARSA)	SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRÜNÜN ONAYI	A.B.D.BAŞKANININ ONAYI
Adı - Soyadı: Hasan BEDİR	Adı - Soyadı:	Adı - Soyadı:	Adı - Soyadı: .....
Unvanı : Doçent	Unvanı :	Unvanı :	Unvanı : .....
İmzası :	İmzası :	İmzası :	İmzası : .....
...../...../ 20.....	...../...../ 20.....	...../...../ 20.....	...../...../ 20.....

ETİK KURULU ASIL ÜYELERİNE AİT BİLGİLER

Adı - Soyadı: Mustafa BAŞARAN	Adı - Soyadı: Yücel ERTEKİN	Adı - Soyadı: Deniz Aynur GÜLER	Adı - Soyadı: Ali Engin OBA	Adı - Soyadı: Mustafa Tevfik ODMAN	Adı - Soyadı: .....
Unvanı : Prof. Dr.	Unvanı : Prof. Dr.	Unvanı : Prof. Dr.	Unvanı : Prof. Dr.	Unvanı : Prof. Dr.	Unvanı : .....
İmzası :	İmzası :	İmzası :	İmzası :	İmzası :	İmzası : .....
...../...../ 20.....	...../...../ 20.....	11/06/20 18	...../...../ 20.....	...../...../ 20.....	...../...../ 20.....
Etik Kurulu Jüri Başkanı - Asıl Üye	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Asıl Üyesi	Etik Kurulu Jüri Yedek Üyesi

Adı - Soyadı: .....
Unvanı : .....
İmzası : .....
...../...../ 20.....
Etik Kurulu Jüri Yedek Üyesi

OY BİRLİĞİ İLE ○
OY ÇOKLUĞU İLE ○

Çalışma yapılacak olan tez için uygulayacak olduğu Anketler/ Formları/Ölçekleri Çağ Üniversitesi Etik Kurulu Asıl Jüri Üyelerince İncelenmiş olup, 28 / 05 / 2018 - 28 / 05 / 2018 tarihleri arasında uygulanmak üzere gerekli İznin Verilmesi taraflarımızca uygundur.

AÇIKLAMA: BU FORM ÖĞRENCİLER TARAFINDAN HAZIRLANDIKTAN SONRA ENSTİTÜ MÜDÜRÜNE ONAYLATILARAK ENSTİTÜ SEKRETERLİĞİNE TESLİM EDİLECEKTİR.

EKLERİ: ..... (.....) Sayfa ..... Ölçeği.
..... (.....) Sayfa ..... Anket.
..... (.....) Sayfa ..... Formları.

SOSE - 1193

9. BIOGRAPHY

Özge KUTLU DEMİR was born in Tarsus in 1989. She graduated from Barbaros Primary and Secondary Schools. After attending Dumlupınar High School, she became a bachelor degree student at Mersin University. Upon graduation, she completed her MA in 2014 at Çukurova University and PhD degree in 2018 at Çağ University. She has been working as an instructor since 2011. She works at Mersin University School of Foreign Languages.

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