HACETTEPE ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Department of Foreign Languages Education

English Language Teaching Program

EXPLORING THE PERCEPTIONS OF PRE-SERVICE ENGLISH LANGUAGE TEACHERS OF FLIPPED CLASSROOM

Gizem AKÇOR

Master's Thesis

Ankara, (2018)

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HİZMET ÖNCESİ İNGİLİZCE ÖĞRETMENLERİNİN TERS-YÜZ SINIF MODELİ HAKKINDA GÖRÜŞLERİ

Gizem AKÇOR

Master's Thesis

Ankara, (2018)

Acceptance and Approval

To the Graduate School of Educational Sciences,

This thesis entitled "Exploring the Perceptions of Pre-service English Language Teachers of Flipped Classroom" has been approved as a thesis for the Degree of **Master** in the **Program of English Language Teaching** by the members of the Examining Committee.

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This is to certify that this thesis/dissertation has been approved by the aforementioned examining committee members on 25/05/2018 in accordance with the relevant articles of the Rules and Regulations of Hacettepe University Graduate School of Educational Sciences, and was accepted as a **Master's Thesis** in the **Program of English Language Teaching** by the Board of Directors of the Graduate School of Educational Sciences on ...../...../........

Prof. Dr. Ali Ekber ŞAHİN
Director of Graduate School of Educational Sciences

Abstract

The present study explored the pre-service English language teachers' perceptions of the flipped classroom and provided a detailed account of what they thought of the model. It also assessed their perceptional changes by examining the reasons and motives behind these changes. The study also looked at their attitudes towards the pre-class learning experience and materials. Lastly, the present study investigated the instructor's perceptions of the model and the process she went through. To attain these aims, the study pursued a pre-experimental One-Group Pretest-Posttest research design. A four-week intervention of flipped classroom implementation took place between the pre-test and the post-test. The study adopted a mixed methods research design, so it benefited from both quantitative and qualitative data collection methods. The study was conducted with 29 pre-service English language teachers in English Language Teaching program in the Department of Foreign Languages Education at Faculty of Education at Sakarya University, a state university. The results indicated that pre-service English teachers favored the flipped classroom learning experience. A significant increase in motivation, engagement, participation, and interaction was demonstrated. The participants highly valued in-class applied activities, learning by experiencing, and peer learning. They also developed self-regulated learning skills by taking the responsibility for their own learning. On the other hand, the problems they faced were mainly about the poor internet connection. Likewise, the findings displayed that also the instructor was satisfied with the model because of similar reasons. It can be concluded that flipped classroom model has a promising potential to make learning more effective and increase learning gains.

Keywords: flipped classroom, inverted classroom, pre-service teachers, student perceptions, teacher education

Öz

Bu çalışma, hizmet öncesi İngilizce öğretmenlerinin ters-yüz sınıf modeli hakkındaki görüşlerini incelemiş ve model hakkındaki düşüncelerini detaylı bir şekilde aktarmıştır. Aynı zamanda katılımcıların algısal değişikliklerini, arkasındaki sebep ve güdüleri inceleyerek değerlendirmiştir. Bu çalışma, katılımcıların ders öncesi öğrenme deneyimi ve materyallerine karşı tutumuna da bakmıştır. Son olarak, öğretim elemanının model hakkındaki görüşlerini ve deneyimlediği süreci incelemiştir. Bu amaçları gerçekleştirmek için, çalışma Tek-Grup Öntest-Sontest yarı deneysel araştırma desenini izlemiştir. Dört haftalık ters-yüz sınıf modeli ön test ve son test arasında uygulanmıştır. Araştırma, karma yöntem yaklaşımını benimsemiş ve hem nicel hem de nitel veri toplama araçlarından yararlanmıştır. Bu araştırma, 29 hizmet öncesi İngilizce öğretmeni ile bir devlet üniversitesi olan Sakarya Üniversitesi'nin Eğitim Fakültesi, Yabancı Diller Eğitimi Bölümü, İngilizce Öğretmenliği programında gerçekleştirilmiştir. Bulgular, hizmet öncesi İngilizce öğretmenlerinin ters-yüz sınıf modeli öğrenme deneyimini beğendiklerini göstermiştir. Katılımcı motivasyonunda, okula bağlanmasında, katılımında ve iletişiminde önemli bir artış ortaya çıkmıştır. Katılımcılar, sınıf içi uygulamalı aktivitelere, deneyimleyerek öğrenmeye ve işbirlikçi öğrenmeye oldukça değer vermişlerdir. Aynı zamanda, kendi öğrenmelerinin sorumluluğunu üstlenerek öz-düzenlemeye yönelik öğrenme becerileri geliştirmişlerdir. Diğer bir yandan, karşılaştıkları problemler çoğunlukla zayıf internet bağlantısından kaynaklanmaktadır. Benzer şekilde bulgular, benzer sebeplerden dolayı öğretim elemanının da ters-yüz sınıf modelinden memnun kaldığını göstermiştir. Sonuç olarak ters-yüz sınıf modelinin, öğrenmeyi daha etkili hale getirecek ve öğrenim kazanımlarını artıracak gelecek vaat eden bir uygulama olduğu söylenebilir.

Anahtar sözcükler: ters-yüz sınıf modeli, evde ders okulda ödev, öğretmen adayları, öğrenci görüşleri, öğretmen eğitimi

Acknowledgements

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Symbols and Abbreviations

ALM: Audiolingual Method

BL: Blended Learning

DM: Direct Method

EARGED: Department for Educational Research and Development

ELT: English Language Teaching

FC: Flipped Classroom

FL: Flipped Learning

FLN: Flipped Learning Network

GTM: Grammar Translation Method

MoNE: Ministry of National Education

PSELT: Pre-service English Language Teacher

PST: Pre-service Teacher

SW: Silent Way

TC: Traditional Classroom

TPR: Total Physical Response

Chapter 1

Introduction

This study aims to investigate pre-service English language teachers' (henceforth PSELT) perceptions of flipped classroom (henceforth FC). The purpose of this study is to examine the ideas of them before and after implementing FC, to understand their reactions to this new model of teaching, to see if this new model works for the pre-service teachers (henceforth PST) in the field of English Language Teaching (henceforth ELT). This chapter presents 1) the background of the study, 2) statement of the problem, 3) rationale of the study, 4) research questions to which the study aims to answer, 5) significance of the study with references to the gaps in the literature, 6) limitations of the study which might shed light on further research and concludes with 7) definitions of the terms which will be helpful in understanding of the study.

Background of the Study

Currently, technology is an inevitable part of our lives, an essential tool to discover the world and access the information, and an interactive platform enabling people to keep up to date with the latest developments. The technological advancements have affected almost every facet of our lives such as ways of communication, lifestyle, business, and health, education is no different than these facets.

The use of technology in education has become widespread. The rapid technological developments have caused a rapid change not only in the educational technology tools but also in student profiles and expected educational outcomes. Prensky (2001) refers to this radical change in today's students' profile and continues to discuss that traditional model of teaching is not a good way to meet the needs of individuals, society, the present time, and the students of 21st century. Being able to educate them requires communication in their language which is the language of technology. Even though educators are now surrounded by countless technological tools, using technology in the lessons neither mean communication in the same language nor guarantee of an effective teaching and learning environment (Firmin & Genesi, 2013; O'Flaherty & Phillips, 2015). And herein lies the importance of proper use and integration of technology in education. Although technology

integration was increasingly encouraged in the past, the researchers have recently started to draw attention to the quality of such an integration with references to effective learning experiences (Firmin & Genesi, 2013; Lei & Zhao, 2007). Use of technology at a certain amount or frequency does not necessarily guarantee a constructive and beneficial learning environment (Lei & Zhao, 2007). Educational technology is effective in creating learning environments where students at the center (DenBeste, 2003), yet effective teaching and learning environment and better outcomes are only possible if the new technology is accompanied by appropriate pedagogies (Firmin & Genesi, 2013). The progress in educational technology encouraged educators within higher education to utilize Blended Learning (henceforth BL), one of the leading educational approaches integrating technology (O'Flaherty & Phillips, 2015). Becoming increasingly prevalent, BL combines the traditional face-to-face classroom and online instruction with the help of technological tools.

Ongoing and radical changes in education cover not only technological innovations but also the pedagogical ones. Concerns about the quality of higher education moved educators to improve the traditional educational system in a way that it will prepare the students for today's global world (McLaughlin et al., 2014). Pedagogical innovations have changed the way that education is formed and delivered to students. Traditional teaching methods and passive learning taking place in long-drawn-out lectures started to be replaced by active learning pedagogies (Prince, 2004). As Bergmann and Sams (2012) assert, students can read and learn information by themselves; however, they need educators who will promote active engagement of students in the learning process. Among the benefits of active learning, increased student engagement and motivation, improved learning outcomes, better higher-order, critical thinking, and problem-solving skills can be listed (McLaughlin et al., 2014). Gaining great prominence, active learning pedagogy has been accompanied by the improvements in instructional technology and induced some educators to apply a distinctive and promising alternative model: the FC. It provides a framework which integrates online instructional technologies with in-class active and cooperative tasks.

My inspiration for conducting an investigation into FC came from the need for technology integrated instruction because technological innovations have a

promising potential to make educational practices more powerful and effective; thus, teachers should figure out how to integrate technology in education effectively (Aydın, 2013). Then my interest in FC led me to come across MEF University which was founded by İbrahim Arıkan in 2013. Being an educator and a leader of the industry, Dr. Arıkan was of the opinion that a new approach was needed for today's and tomorrow's learners' needs. He invited an educational leader, Prof. Dr. Muhammed Şahin, to be a member of the team which set out to find a new approach which fosters innovation, creativity, critical thinking and problem-solving skills, and helps students to be global leaders in their fields. FC approach was thus decided to be the new approach that offers the desirable outcomes. MEF University has the feature of being the first fully flipped university in the world (Şahin & Kurban, 2016). With the help of a well-respected colleague of mine, I contacted MEF University and had a chance to meet Asst. Prof. Dr. Faruk Kural, Dr. Caroline Fell Kurban, and Prof. Dr. Muhammed Şahin. My doubt about the applicability and practicality of the FC approach was cleared after spending a day at the university, observing the classroom environment and talking with the teachers. The learning environment I observed impressed me a lot. Teachers were talking much less while students were talking, discussing, sharing, moving, and thinking more. I was fortunate enough to find a chance to join the training session on FC approach given by Dr. Caroline Fell Kurban who is the director of the Center for Excellence in Learning and Teaching (CELT) at MEF University. She works as a consultant who provides orientation and training to students and faculty members, supports the team with course design and development, implementation, and suitable materials. She is responsible for proper functioning of flipped learning and teaching at MEF University. During the training session, a detailed information on what flipped learning is, how it works, how to implement, and how to assess was provided. Dr. Kurban also provided me with some helpful materials and guidance, so my journey with FC officially started.

Statement of the Problem

Global learning approaches, methods, and techniques are currently in a state of radical transformation. Learning is less coupled with a passive reception and transmission of the information, but it is now interpreted as an active process of promoting knowledge construction. Even though the traditional model of teaching is

giving its place to a more active and constructive pedagogies (Prashar, 2015) and ineffectiveness of lecturing has been proved (Basal, 2015; Knight & Wood, 2005), educators are often liable to use conventional ways of teaching (Firmin & Genesi, 2013). Among many alternative methods and models to conventional teaching, the FC which integrates instructional technology with active learning pedagogy is found to be a promising model in the 21st century.

By implementing the FC, this study will attempt to set an example for teachers, educators, teacher trainers, and PSTs with the detailed description of the process. However, the primary aim of this study is to explore PSELT' perceptions of the FC at the end of the 4-week implementation of the model. It also aims to identify if there is a change in their views before and after the implementation. Besides, PSELT' attitudes toward the pre-class learning experience and materials will be explored. This study also aims to describe the instructor's reflections and perceptions of the FC approach. Finally, it will make some suggestions and implications for the future practices and studies of this model.

Rationale of the Study

When the literature is reviewed in detail, it is seen that FC has a long history more than it is assumed, and even in the 1990s, this was a model which was being applied in classroom environments. Despite its long yet unbeknown history, it was only in 2007 when the term FC was coined (Bergmann & Sams, 2012). In the last decade since then, a number of researchers and practitioners became interested in this model, and a considerable amount of literature has been published on the FC model (Adnan, 2017). However, too little attention has been paid to the use of FC model in PST education where further research is necessary (Adnan, 2017; Kurt, 2017). When entering through the doors of universities, it is obviously seen that lecturing is still a widely used method. Teachers talk about the importance of and advocate 21st century skills but do not act accordingly. So, it would be unfair that PSTs do as teachers say but not as teachers do. FC facilitate technology-enhanced learning and teaching, which is a win-win situation for both students and teachers. Conducting more studies on the use of FC would, in turn, help us find out whether this model works in teacher education practices and spot the points that need modification and improvement. PSTs are future teachers of our educational system,

and they need to accommodate to contemporary methods. FC is one of the most popular methods today, and it would be helpful to give PSTs a chance to see the implementation of this model in order to better apply it in their future classes. Educating PSTs in accordance with 21st century skills through 21st century models would be suitable for current educational expectations (Hao & Lee, 2016; Şengel, 2016). New studies fostering this model would fill the gaps on this issue.

Aim and Significance of the Study

The significance of this study is threefold. First of all, the FC sets a good example for the modern teacher profile. 21st century changed not only the society but also the role of a teacher. The teacher is now responsible for making sure that all the students gain all the necessary skills and knowledge, and that they are useful individuals contributing to the society; therefore, mere knowledge transformation to the students is not one of the qualities expected to be gained by the teachers (Guerriero, 2017). As the society changes rapidly, the educational needs change, too. In order to meet the changing needs, the first and foremost things that teachers are supposed to do is to update themselves all the time; that is, they need to be lifelong learners. Today technology is no longer innovative but a part of our lives. Today's modern teacher should be informed about technology-enhanced education and make the most of it. According to the study of Organization for Economic Co-operation and Development (OECD) (Guerriero, 2017), changing nature of teaching profession requires teachers to keep pace with the digital technology and use information and communication technologies in their teaching. To identify the profile of a modern teacher that Turkish educational system needs in the 21st century, Department for Educational Research and Development (henceforth EARGED) by Ministry of National Education (henceforth MoNE) conducted a study in 2001 and found that a modern teacher should be able to meet today's educational needs, be capable of preparing students for the future in the world of 21st century information technology, be able to foster student-centered education, benefit from the communication technologies in order to increase educational productivity, to encourage students to participate in the lessons actively. Universities thus should equip the prospective teachers with up-to-date information considering the needs and conditions of the country; instructors should communicate the innovations and

developments in the field to the prospective teacher, as suggested by EARGED (2001). Being one of the technology integrated pedagogic models, the FC enables teachers to adopt the profile of a modern teacher and gives students opportunities to encounter an effective modern teacher profile.

Secondly, the significance of this study can also be revealed by being one of the rare studies investigating the role of the FC model in teacher education, especially in the field of language teaching education. PSTs are the future teachers who will be using technology actively in their classrooms. In the era of technology-enhanced learning, it is necessary to infuse technology into curriculum. Teaching with traditional methods such as lecturing would not correspond to the expected profile of PSTs. They can benefit from the advantage of experiencing a fine example of FC where they can also find an opportunity to equip themselves with pedagogical skills and strategies necessary for the engagement of their future students (Vaughan, 2014; Hao & Lee, 2016). Moreover, in addition to Goubeaud and Yan (2004), Hao and Lee (2016) recently recommend teacher educators to set an example for PSTs by applying the effective teaching techniques so that they can also use these techniques with their own students in the future. This study provides an exciting opportunity to advance our knowledge of the applicability of the FC model in teacher education because so far too little attention has been paid to utilizing this model in teacher education (Vaughan, 2014).

Thirdly and lastly, in-depth review of the literature shows that there have been few studies regarding the FC in the Turkish context (Kurt, 2017) and that much of the current literature pays particular attention to the fields of STEM (science, technology, engineering, mathematics) (O'Flaherty & Phillips, 2015). The significance of this study is determined by the detailed description of the PSELT' perceptions of the FC which might provide valuable information for practitioners, teacher educators, PSTs, researchers, administrators, and policymakers. It can give an idea about how FC works and what instructional strategies the students most benefit from. Considering the insights of PSTs, they may decide to use the model and plan their instruction accordingly or modify their instruction according to the preferences of the students.

Taking these above-mentioned gaps in the literature, the present study is significant in terms of contributing to the literature and filling in the gaps.

Research Questions

Trying to fill the research gap on PSELT' perceptions regarding the FC in Turkey, this study aims to answer the following research questions:

1. What are PSELT' perceptions of the FC?

2. Are there any changes in PSELT' attitudes after experimenting the FC?

3. What are PSELT' attitudes toward the pre-class learning experience and materials in this course?

4. What are the instructor's perceptions of the FC model?

Limitations

The major limitation of this study might be the limited number of participants because only two classes in one higher educational institution were flipped. Even though it makes the generalization of the results for larger groups difficult, it still offers some important insights into PSELTs' and the instructor's perceptions of the model. Due to the possible reaction of students to two different teaching methods, this study did not have a control group to compare the results, which can be another limitation. Thus, the results touched upon the perceptions, attitudes, and experiences within two FCs, not two different classrooms taught by different teaching methods such as flipped vs traditional. Third, this study is limited to only one instructor whose philosophy of teaching, pedagogical knowledge, teaching skills, attitude towards technology and efficient use of it might affect the attitudes and perceptions of the students. To eliminate this limitation, the present study was conducted with a volunteer instructor who was willing and open to new ideas and approaches, and the instructor was ensured that any kind of support regarding technology and FC were going to be provided. One of the groups has experienced the FC before, which is regarded as a limitation. Since their teacher did not apply the model appropriately and gave up implementing after a while, the students in this group were prejudiced and thought that the FC would not work again. Finally, classroom dynamics might need to be considered. The interaction among the teacher and students and the atmosphere of the classroom might have an impact on how they are going to perceive the FC.

Definitions

To ensure the proper understanding of the study, the following definitions will be clarified as follows:

Pre-service Teacher: "A pre-service teacher is a student pursuing a degree to become a teacher at the postsecondary level." (Arnett & Freeburg, 2008, p. 48)

Blended Learning: "the inclusion of e-learning elements in the design of subjects delivered using a face-to-face approach." (Gomez & Duart, 2012, p.261)

Flipped Classroom: "a new pedagogical method, which employs asynchronous video lectures and practice problems as homework, and active, group-based problem solving activities in the classroom." (Bishop & Verleger, 2013, no page.)

Active Learning: "instructional activities involving students in doing things and thinking about what they are doing." (Bonwell & Eison, 1991, p. 5)

Student-centered Learning: "the action focuses on what students (not teachers) are doing; what the student is learning, how the student is learning, the conditions under which the student is learning, and how current learning positions the student for future learning." (Weimer, 2002, p. XVİ)

Digital Native: "a new generation which has grown up with information and communication technology (ICT) as an integral part of their everyday lives." (Bennett, Maton, & Kervin, 2008, p. 775).

Traditional Learning: "is claimed to produce inert knowledge in students, knowledge that can be used in educational settings such as preparing for tests and examinations, but cannot be transferred into real life situations." (Tynjälä, 1999, p. 373)

Constructivism: "the acquisition of knowledge is metaphorically described as a building process in which knowledge is actively constructed by individuals or social communities." (Tynjälä, 1999, p. 364)

Chapter 2
Literature Review

Introduction

      This chapter is dedicated to present relevant literature in the research area. Firstly, some theoretical information on lecturing will be given in order to better understand the necessity for flipped learning. Secondly, blended learning which is a broader category including FC will be described. Next, Flipped Classroom section will give the elaborate definition, conceptual framework, and history of FC. It will be followed by the characteristics of today's learners which will help to better understand why FC is needed. Then, benefits and criticisms/ disadvantages of FC will be touched upon. Finally, some leading studies conducted on FC abroad and in the Turkish context, student and teacher perceptions of the FC, and studies conducted with PSTs will be covered.

Lecturing

      Lecturing is considered as the standard way of academic teaching (Exley & Dennick, 2009). A visit to a lecture hall of a university will reveal a scene of a teacher standing at the center and talking on and on while students are just sitting in that hall, watching and listening to their teacher passively, and trying to take notes. This method of teaching is well defined by Bligh (1998), "They sit listening; their activity usually consists of selecting information from what is said, possibly translating it into their own words or 'shorthand', and then writing it down" (p.14). Cussler (2015), with an illustration depicting a lecture scene in 1233, reveals that delivering education through the lecture format has not changed much over the last 1000 years. The illustration demonstrates a professor sitting and giving a lecture behind a lectern and students sitting in rows; some of them listening to the professor, some of them looking at their books, some taking notes, some talking among themselves, and one falling asleep. Although the lecture scene remained the same, many things have changed over the years. In earlier times students were expected to memorize an extensive amount of knowledge but access to information was not easy. Today students are exposed to huge amounts of information as they can access information easily on the internet. However, 21st century requires students not to

memorize but to "apply conceptual knowledge to problem solving" (Knight & Wood, 2005, p. 298). 21st century puts emphasis on active learning which is defined by Prince (2004) as "any instructional method that engages students in the learning process" (p. 223). Student engagement in the process of learning means that they should be engaged in the material by questioning, discussing, working cooperatively and collaboratively, solving problems, and thinking critically, which is possible in a student-centered classroom environment where student motivation, satisfaction, and performance increases. On the contrary, the traditional model of teaching, lecturing, does not engage students in higher-thinking skills. Instead, students are passive listeners in these teacher-centered classrooms. The inefficiency of lecturing has been brought forth by many studies (Knight & Wood, 2005).

Udovic, Morris, Dickman, Postlethwait, and Wetherwax (2002) developed a course called Workshop Biology in which students were provided with effective learning opportunities that help students gain necessary skills and apply conceptual knowledge to problems. When they compare the outcomes of the Workshop Biology course and the comparison version of General Biology course which is dealt with in a more traditional way, the results indicated that workshop students advanced their conceptual understanding more and improved their learning skills and that they were more motivated and engaged in activities.

Likewise, Knight and Wood (2005) conducted a study to see if it is possible to increase student learning gains attained in pure lecture format by adding some interactive parts to the traditional classroom (henceforth TC) format. Students were engaged more in discussions and worked collaboratively thanks to the more interactive classroom environment. The findings revealed that student learning gains increased and that they developed their conceptual understanding in the more interactive way of teaching.

Similarly, Tiwari, Lai, So, and Yuen (2006) compared a problem-based learning (PBL) and traditional lecture format in order to see which method of teaching is good at improving nursing students' critical thinking skills. The results suggest that students taking the course in the former method developed significantly better critical thinking skills.

Miller, McNear, and Metz (2013) touched upon engaging lectures in which the lecture is mingled with some breaks. During these breaks students had a chance to engage in some problems, have brainstorming sessions, to have discussions. While quantitative data indicated that student performance increased statistically, qualitative data revealed that students found the engaging lectures more effective. This study comparing traditional and engaging lecture methods reveals the positive effect of active learning even if the whole session was not instructed in an engaging way.

Regardless of the improvements in educational practices and the increasing demand for 21st century skills, in many universities the instruction is still delivered through lectures (Chaudhury, 2011) for some reasons such as being comfortable with lecturing style, increased time and effort, difficulties in assessing the outcomes, and beliefs about students' acquisition of less content (Knight & Wood, 2005). Hence, taking into consideration positive outcomes of the studies above, delivering education through more interactive ways promoting active learning should be of prime importance.

Blended Learning

With the arrival and advancement of computer technologies many educational avenues have arisen and the boundary between the traditional model of teaching and distance learning environments have been blurred. Online learning, distance learning, synchronous learning, asynchronous learning, hybrid learning, Massive Open Online Courses (MOOCs), Computer Assisted Language Learning (CALL), Information and Communication Technologies (ICT), e-learning are some terms that appear frequently. Another prominent trend in recent years is BL.

Although the term has been coined in recent years, it has drawn considerable interest and its adoption has increased in higher education institutions (Graham, Woodfield, & Harrison, 2013; Porter, Graham, Spring, & Welch, 2014). However, it is difficult to define BL since it has a wide variety of definitions. The meaning of BL differs from person to person, as asserted by Chigeza and Halbert (2014). Horn and Staker (2011) define BL as "any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace"

(p.3). Graham (2006) defines BL as a part of combination of conventional face-to-face learning environment and distributed learning environment which is "a principal method of instructional delivery that includes a mix of Web-based instruction, streaming video conferencing, distance learning through video, and other combinations of electronic and traditional educational models" (Thakar, Pal, Bangera, & Gupta, 2016, p. 465). In the past, these two different learning environments existed independently of each other. While the traditional face-to-face model of teaching was used in teacher-centered, synchronous classrooms in person, the distributed learning environment was for the self-paced learning in asynchronous settings with learner-material interaction (Graham, 2006). However, the fast progress of computer technologies and the arrival of internet-enabled distributed learning environment to expand and utilize the methods that were once possible only in the traditional face-to-face learning environment. Being "the combination of traditional face-to-face and technology-mediated instruction" (Graham, Woodfield, & Harrison, 2013, p.4), BL is the integration of traditional teaching and e-learning environments and "can merge web-based instruction, streaming video, audio, synchronous and asynchronous communication with face-to-face learning" (Quevedo, 2011, p.198). However, utmost attention must be paid to ensure that BL is not just mingling traditional learning environment with technologies, but it requires careful consideration of specific teaching and learning process and students' needs and involves taking advantage of strong aspects of each one accordingly. BL is the integration of e-learning components in the subjects delivered in a traditional synchronous learning environment (Gómez & Duart, 2012).

The fundamental advantages of BL are: 1) "it represents a real opportunity to create learning experiences that can provide the right learning at the right time and in the right place for each and every individual, not just at work , but in schools, universities, and even at home" (Thorne, 2003, p. 18), and 2) it develops one's critical thinking skills by allowing them to be more independent of the control of a teacher and take more responsibility for their own learning process (Garrison & Kanuka, 2004). Having access to education from a distance, being able to implement it easily and with a low budget, yielding better results, addressing to diverse needs and people, and responding effectively to people's needs and

expectations are also some benefits of BL, proposed by Wilson and Smilanich (2005).

Rovai and Jordan (2004) conducted a study with 68 graduate students enrolled in one of the courses: 1) face-to-face traditional course in which no online technological resources were used, 2) online course in which the curriculum was covered online through a course management system, and 3) blended course which included face-to-face and asynchronous online components such as videos and online discussions. The students who followed blended course displayed notable higher learning scores compared to other two.

Orhan (2007) designed a study to investigate the effect of incorporation of self-regulated learning strategies into BL environments on students' self-efficacy beliefs. Students displayed increased academic achievement and improved use of self-regulated learning strategies as well as more confidence, more responsibility for their own process of learning in virtue of BL.

Ünsal (2007), in his doctoral dissertation, aimed to explore the effect of BL on student achievement and motivation. His study revealed that BL is more permanent compared to face-to-face traditional learning, that academic achievement of students who took BL course increased significantly, that BL offers advantages such as a self-paced learning, easy access to information, flexibility repeatability, traceability, suitability for individual differences and different learning styles, abundance of learning activities, and low cost. Besides, the results showed the necessity and importance of an instructor in both face-to-face and e-learning environments.

Usta and Mahiroğlu (2008) conducted a study with 73 students to examine the effect of BL and online learning environments on students' academic achievement and learning satisfaction in distance education. The results indicated that BL environments give better results in academic achievement and retention of information and that students got more satisfaction out of blended learning environment. Their study also revealed the necessity of integration of both face-to-face and online activities to ensure student academic achievement.

Karaman, Özen, Yıldırım and Kaban (2009), in their study exploring students' perceptions of BL instructional practices, suggested that increased student

satisfaction, providing supportive learning resources, getting students' attention, more interaction with the course content, reflecting and commenting, increased motivation and participation, and ease of communication are among the benefits experienced in BL.

Uluyol and Karadeniz (2009) blended face-to-face traditional learning with online and project-based learning to examine students' academic achievement and perceptions of BL environment. The findings of the study suggest that students favored BL environment since they accessed the course content and learning materials easily and got constructive gains, and that they were of the opinion that other courses should be blended with e-enabled environments.

Flipped Learning

Definition of Flipped Classroom. Being the key component of blended learning, the FC is defined as a pedagogical method in which "that which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class" (Bergmann & Sams, 2012, p.13). As its name suggests, the class time allocated to lecturing and out-of-class time devoted to homework are reversed. Instead of lecturing in class time, instructors prerecord the course content and assign readings to students and post them online, which enables students to access the learning material anytime and anywhere. In simplest terms, teachers should deliver the instruction by creating their own videos, recording their voice of lecturing on the topic, selecting ready-made videos from reliable sources, and/or assigning some readings and students should access the content whenever and wherever they want. In other words, individual learning takes place not only at home but also on the way, at a café, in a park etc. as long as the material can be reached online or available in a computer, a tablet, even in a cell phone. In FC model "content acquisition then is self-paced and self-guided, enabling students to control when and how much content they view", as McLaughlin et al. (2014, p. 237) asserted. Students should have necessary theoretical knowledge of the content in advance before coming to the class so that students engage in interactive lessons. This nature of FC makes classroom time available for a student-centered learning environment (Baker, 2000; McLaughlin et al., 2014) and opens up space for "more cooperative, constructivist, and inquiry-based learning" as Overmyer

(2012, p.46) mentioned. To be specific, the FC model frees up class time for active learning activities such as discussions, working on problems, games, case studies, labs, and collaborative tasks since students watch prerecorded videos and read assigned readings ahead of time to learn the content of the course at home.

Bishop and Verleger (2013) reject the idea that FC is simply reordering the activities done in the classroom and at home, and instead assert that cooperative in-class learning activities and individual direct learning through computer technologies outside the classroom are two main components lying at the heart of FC model. Similarly, Overmyer (2012) defines FC as a model that utilizes a variety of technologies, especially through videos created by the teacher but not limited to them, to get the best out of the process of learning by having more time for interacting with students instead of necessity and urgency of covering the subject. However, the FC is far beyond the videos. What makes the traditional teaching different from the FC is not the integration of instructional videos but how they are exploited and leveraged in this new approach (Tucker, 2012). As Herreid and Schiller (2013) mention, listening to a lecture, watching videos, working on some pre-given problems and reading assigned material are some ways to be used at home by students so as to be dealing with engaging activities in the classroom. This feature of FC is properly and clearly stated by Martin (2011, para. 8):

> Flip your instruction so that students watch and listen to your lectures (or those of other expert lecturers, including MIT professors and Salman Khan) for homework, and then use your precious class-time for what previously, often, was done in homework: tackling difficult problems, working in groups, researching, collaborating, crafting and creating. Classrooms become laboratories or studios, and yet content delivery is preserved.

Displaying the class time allocated to practice in each type of classroom, Figure 1 (Bergmann & Sams, 2012, p. 15) below is an evidence of having more time for in-class activities in FC.

Traditional Classroom		Flipped Classroom	
Activity	*Time*	*Activity*	*Time*
Warm-up activity	5 min.	Warm-up activity	5 min.
Go over previous night's homework	20 min.	Q&A time on video	10 min.
Lecture new content	30–45 min.	Guided and independent practice and/or lab activity	75 min.
Guided and independent practice and/or lab activity	20–35 min.		

Figure 1. Comparisons of class time in traditional versus flipped classroom

The literature lacks a single agreed definition of FC because "there is no single way to flip your classroom—there is no such thing as the flipped classroom…Flipping the classroom is more about a mindset: redirecting attention away from the teacher and putting attention on the learner and the learning" (Bergmann & Sams, 2012, p.11). Despite all the definitions and different forms of FC, the same underlying idea is shared by all: Students are not passive receivers of the information, instead they should be applying what they have learned on their own to new context and correcting their misconceptions just in time with the help of their fellow students and teacher (Berrett, 2012). From the current definitions in the existing literature on FC, Abeysekera and Dawson (2015) identified some common qualities of FC approach:

• a shift in the use of in-class time

• a shift in the use of out-of-class time

• activities traditionally referred to as 'homework' take place in class

• activities traditionally regarded as in-class work are carried out outside of the classroom

• in-class activities should foster active learning, learning from peers, critical thinking, and problem-solving skills

• pre-class activities

• use of technology, especially video.

While mentioning or searching the term FC, Flipped Learning (henceforth FL) is another term to be frequently encountered. In 2012 Bergmann and Sams, often accepted as pioneers of FC and FL, initiated a non-profit Flipped Learning Network (henceforth FLN) to help educators to be equipped with better knowledge, skills, and necessary resources and support to successfully flip their classes. However, it is utmost important not to confuse FC with FL. The leaders of FLN distinguish between these two which are not used interchangeably. Flipping a class may or may not result in FL. These leaders also proposed four pillars of F-L-I-P^{TM} to be incorporated into the practice to achieve FL (FLN, 2014). The four Pillars of F-L-I-P^{TM} are as follows:

F-   Flexible Environment: FL allows both students and teachers to be flexible in their learning environment. While teachers can arrange the learning space according to the learning needs to cover a subject or unit such as group work or individual study, students can make their own choices about when and where to learn. Teachers should also demonstrate flexibility by offering students different ways of learning the content and assessing their knowledge.

L-   Learning Culture: This might be the mostly uttered and well-known dimension of FL, which is the shift from a teacher-centered to a student-centered classroom. Traditionally teacher is the main source of information. However, in FL model students are at the center of learning. In the guidance of the teacher, students are involved in an engaging classroom environment where they construct their own knowledge by exploring the content in deep thanks to the rich learning opportunities.

İ-   Intentional Content: Teachers should consider and decide what to be taught directly during face-to-face classroom environment for the smooth running of in-class learning procedures and what content to be dealt with by students on their own outside of the classroom to boost the classroom time to carry out a variety of instructional methods such as peer instruction, problem-based learning, active learning strategies and tasks.

P-   Professional Educator: Being a professional teacher in a FC learning environment requires much more skill and effort than in a traditional model of teaching. The teacher should be monitoring the students attentively, giving feedback if need be, and evaluating their work. Besides, professional educators should be

reflecting on their practice, seeking ways to improve their teaching, tolerating constructive criticism and a state of chaos.

Theoretical Framework. The theoretical foundations of FC are based on the idea that precious classroom time should not be wasted on lecturing, but instead the springs of the model are based on the student-centered learning (Bishop & Verleger, 2013; Merrill, 2015; Zuber, 2016). Earlier studies on student-centered learning theories are rooted in the theories of Dewey (1916), Piaget who was the pioneer of cognitive constructivism (1973), Vygotsky who was the founding father of social constructivism (1978), and Bruner (1996). All these psychologists suggested that "learners could learn actively and construct new knowledge based on their prior knowledge" (Huang, 2002, p. 28). The FC is, therefore, grounded in constructivism where "knowledge is actively constructed by the learner, not passively received from the outside. Learning is something done by the learner, not something that is imposed on the learner" (Sjøberg, 2010, p. 159). Unlike the positivism where the instructor is responsible for delivering the content clearly and understandably while students' responsibility is to receive it, understand and process it (Felder, 2012), the FC promotes a learner-centered learning environment in which students are responsible for their own learning and they construct their own reality and understanding based upon their previous learning experience and knowledge by actively interacting with the content. Many recent instructional models propose that the most effective learning environments activate learners' existing knowledge and experience, display the necessary skills for them, help them apply and incorporate these skills into real-world tasks (Merrill, 2002). Being student-centered and based on the constructivist approach, the FC model promotes understanding instead of rote learning, active construction of the knowledge instead of passive transmission and reception of the information, and social interaction and cooperation instead of the teacher-centered learning environment. This does not imply that a constructivist learning environment should be free from the lectures, instead they should exist and be supported by the tasks which promote student reflection and application of the information delivered in the lectures, as argued by Tynjälä (1999). Briefly, the nature of FC allows learners to construct their meaning through the active and engaging in-class activities based on their previous knowledge and learning experiences obtained from the pre-class materials.

History of Flipped Classroom. FC is a relatively new term coined that has gained its popularity recently. Bring viewed as a novel and innovative by many, FC is actually not a new phenomenon. FC has been around for a couple of decades in different names and forms; however, not long ago the term FC has started to be used as an umbrella term that covers all these forms, approaches, and ideas. The leading pioneers of the FC phenomenon will be presented chronologically below.

In 1993, Alison King starts her article entitled "From Sage on the Stage to Guide on the Side" (King, 1993) with a description of a TC setting where roles of the teacher and students are very traditional: the teacher as a lecturer and students are passive receivers of information. In other words, the teacher is the "sage on the stage" (p. 30) who is responsible for transmitting information to students who passively receive, memorize and reproduce it in exams. She compares this traditional way of teaching to a "jug and mug" theory of learning named by Rogers and Freiberg (1994). The teacher is likened to a jug full of information and the student is an empty mug that needs to be filled by that jug, which is a concrete example of how students are viewed as passive learners. However, King criticizes this model of teaching by her words: "Such a view is outdated and will not be effective for the twenty-first century, when individuals will be expected to think for themselves, pose and solve complex problems, and generally produce knowledge rather than reproduce it" (p. 30). She then refers to the current theory of learning which is constructivist and proposes that instructors adopt the role of a "guide on the side" (p. 30) who is not at the center of learning but a facilitator who helps students construct or reconstruct their own knowledge. In such a view students are not passive anymore, instead they are active learners trying to construct their own meaning by drawing connections between the new material and previous knowledge and consulting previous experience with the help of instructor and peers. King is of the opinion that learning becomes more meaningful, easily remembered, and more likely to succeed in real life situations thanks to this approach which requires a change in the role of instructor. The transition to the new role of the instructor can be achieved through the sequence suggested by King: encouraging active learning, guided reciprocal peer-questioning, and cooperative learning. She finally claims that involving the students in such an active model of learning helps them gain 21st century skills and cope with the challenges of the century.

In 1997, Eric Mazur, professor of physics and applied physics at Harvard University since 1984, published a book named Peer Instruction: A User's Manual (Mazur, 1997). Upon the request of a couple of his students, Mazur started to share his lecture notes in advance at the beginning of the term so they would listen to lectures more attentively instead of trying to take notes of everything said by the lecturer. This experience inspired him to teach through a new approach which he called 'Peer Instruction'. In this approach, students read the assigned chapters from their books before the class and lecture time is spent for discussing assigned readings in further detail, focusing on possible problems, ensuring the understanding, and working on more examples. He finds this model effective as it helps the understanding of theoretical ideas of the subject matter and improves the student performance on solving problems. Firstly, students read the assigned parts of their books before coming to the class and take a reading quiz. Next, in class, in contrary to presenting every detail in the course book or lecture notes in the traditional model of teaching, the instructor lectures on the main points very briefly. Their understanding of the concepts discussed is checked through a ConcepTest consisting of some basic conceptual questions (Mazur, 1997) about which students think deeply and carefully for a minute. Then, they enter their answers individually through clickers. The instructor checks the answers in order to see how many of the students have understood the concept. Afterward, the instructor asks the students to persuade their peers about the correctness of their response. Once again students enter their responses through clickers, which allows the instructor to assess the students' understanding. Lastly, the correct answer is explained briefly or in detail depending on the distribution of the answers. Peer instruction has proven its positive effect on student performance and satisfaction. Furthermore, it opens up more class time to work on the problems by interacting and discussing with peers rather than one-way knowledge transfer.

In 2000, Maureen Lage, Glenn Platt, and Michael Treglia, in their article: "Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment" (Lage, Platt, & Treglia, 2000), touch upon the problem of the discrepancy between the way an instructor teaches and the way students learn, which may cause students to lose their interest in the course and learn less. They recognized that time constraints restricted economics instructors in higher education

level to the traditional way of teaching. Varying teaching styles depending on the students' needs and learning styles such as delivering lectures for students who likes lecturing, doing experiments for those who likes to be involved in an experiment, assigning group works for those who like working collaboratively, and supervising self-study for the ones who like studying individually and independently would be realistic only with a fourfold increase in class time. However, they noticed that their students were using technology actively and major breakthroughs in the development of multimedia were achieved, which helped them to benefit from the situation by developing a strategy for teaching which is called "The Inverted Classroom" (Lage et al., 2000). In this model of learning, the instruction is not delivered during the class hours anymore. Students learn the content of the course outside the classroom with the help of educational technologies provided through the internet, which allows the instructors to spend the class time with assignments to be done in groups. Inverting the classroom is basically changing the order of what is traditionally done in the classroom and outside the classroom. An inverted classroom looks like as follows. Before coming to the class, students prepare for the relevant content of the course. Students were expected to not only read the assigned chapter in their course book but also view the lecture content offered in a variety of options such as videos, PowerPoint slides, and audios to choose from according to their learning styles. The class starts with the questions of students related to the content of the lesson if there are any. Generally, these questions allow the instructor to deliver a 10-minute mini-lecture. If there are no questions, the instructor does not lecture because asking no questions is a sign of a complete understanding of the subject matter. Then, an experiment or lab on the relevant is carried out by the instructor and the students, which helps them. The experiment or lab is followed by the group discussion of the answers on their worksheet given to be completed before the class. Lastly, students working in small groups are assigned challenging review questions which help them to put into practice the theories already studied and discussed. They found that students favor the inverted classroom and wished to take their future economics courses in this model of teaching.

In 2000, J. Wesley Baker presented a conference paper called "The 'Classroom Flip': Using Web Course Management Tools to Become the Guide by

the Side" (Baker, 2000). He mentions that two changes are observed in university learning settings. The first one is the change in the philosophy of education which is moving from a teacher-centered classroom to a learner-centered one. The second change is the development of interactive instructional technologies. These technologies enable the instructors to change the way they deliver the lecture content and create more time for cooperative student-centered activities in class, states Baker. He introduces a new method of teaching named 'The Classroom Flip' for the following reasons: to find a way that will make instructors to become a guide rather than a sage, to decrease in-class time spent for lecturing and to increase in-class time for activities promoting active learning, to give more importance to the application of theories and concepts rather than memorization of the information, to help students become autonomous learners and take their own responsibility for their learning, and to create a collaborative environment where students can learn from each other. In the Classroom Flip, outside the classroom students learn the lecture content online, involve in online threaded discussions that extend the in-class classroom conversation and make it more interactive, and take online quizzes to encourage students to read the assigned chapters, whereas inside the classroom the in-class time is spent for active learning activities. Baker offers a 4-stage structure of the classroom flip as follows: The instructor starts the class by clarifying the questions of students related to the topic. Next, the knowledge is expanded by the students sharing ideas with each other collaboratively. The third one is the stage where the students apply the theories and concepts they have covered. The final stage is practice where students engage in cooperative group works using their creative thinking skills. Baker is of the opinion that the Classroom Flip provides the instructors with a way of increasing interaction and collaboration in the classroom.

In 2004, Salman Khan started to teach his cousin, Nadia, math over the phone and through Skype sessions. In time he also started to teach his other cousins, family members, and friends. Skype sessions with three or four tutees did not turn out to be as effective as expected. Upon the suggestion of his friend, Khan started to teach through the videos he created himself and posted them online. Soon the videos went viral. Just like Nadia, many students and teachers all around the world found the videos very effective. They started to use videos for different purposes. Some teachers were using them as supplementary tools. Some were

using them to assess their own way of teaching. Some teachers, on the other hand, had their students watch the videos outside the classroom and whenever they want before coming to the class. Thus, they were able to open up class time for solving problems and helping students who had difficulty in understanding some concepts. In 2009 he quitted his job as a financial analyst to work full time as a founder and developer of Khan Academy. By the middle of 2012, the videos in Khan Academy reached more than 6 million students monthly and had been watched over 140 million times, and Khan himself had uploaded over 3000 video lessons (Khan, 2013). Khan is worldwide known as a leading provider of free education to everyone. In 2013, he published his book The One World Schoolhouse: Education Reimagined (Khan, 2013) in which he defines the school system he envisions. In this school students spend only few hours on the content and spend the rest of the school time on active learning cooperative activities and projects. They study at their own pace and proceed only when they have mastered the concepts. Students from all ages study together and older ones are expected to help and guide younger ones. Letter grades are eliminated in this vision.

In 2007, Bergmann and Sams, chemistry teachers at Woodland Park High School in Woodland Park, Colorado, realized that many of their students were missing the classes because of the fact that they were taking active part in sports and activities, and these students had a good deal of difficulty in catching up on the classes they missed. An article they saw on a technology magazine gave them the idea of recording their own lectures and post them online for the students who missed the classes and fell behind in their schedule. However, other students liked the online videos very much as well because they could watch the videos again and again for different purposes such as reviewing the content, preparing for the exams, clarifying the unclear points, and so on. Soon they discovered the idea that if they assigned the videos as homework to be watched before the class, they would have more time for labs, problems, experiments, and projects, which was the birth of Flipped Classroom (Bergmann & Sams, 2012). For the 2007-2008 school year, they recorded all their lectures beforehand and asked students watch them in advance. In a very short time they reaped the benefits of this model. Students had an opportunity to get a personalized education suitable for their individual learning styles and needs. They could study on the subjects at their own pace according to

their understanding. Weaker students as well found a chance to get their instructor's help in the class. Interaction in the classroom increased, which enabled the instructors to get to know their students better. Their test results went up and their engagement increased. The idea of FC worked and it went viral. Students and teachers from all over the world started to watch the videos and thank them. Bergmann and Sams were invited to many schools and conferences to introduce their idea and share their experiences. In 2012, their first book entitled Flip Your Classroom: Reach Every Student in Every Class Every Day (Bergmann & Sams, 2012) was published. In 2014, they published another book which is Flipped Learning: Gateway to Student Engagement (Bergmann & Sams, 2014). Under the leadership of Bergmann and Sams, FLN was founded to help educators to get informed on the model and to connect with the other ones all around the world and share their experiences.

Today's Learners. There is a radical shift in today's learners. Today's students are surrounded by a diverse range of technologies from a very early age. Computers, internet, video games, e-mail, cell phones, music players, text messaging, social media, and applications are the integral parts of their lives and they all are engaging. They spend more time for playing video games, downloading music, shopping online, talking to friends online than reading. As Halvorsen observed, they listen to an iPod on a roller coaster because it is not engaging enough (as cited in Reilly, 2012). Prensky (2005) points out that today's learners all do something engaging outside the school, and yet educators still teach by 'yesterday's education', which causes them to get enraged. This enragement and boredom might result in a decrease in learning of students (Vaughan, 2014). He also believes that their short attention spans are for the old models of teaching not for their video games, movies, music, messaging, creating their own web pages and blogs, and internet surfing. He suggests to teach them with an engaging curricular and calls these new students of today 'digital natives' (Prensky, 2001) who "are all 'native speakers' of the digital language of computers, video games, and the Internet" (p. 2). Howe and Strauss (2000) call them as 'millennials' and describe them as optimists, cooperators who like working in teams, and a more skillful generation at technology.

Digital natives are immersed in technology, and not only their ways of playing, living, and working but also their ways of thinking and learning differ greatly from those of older generations. Thanks to technology, today's learners are informed about anything they would like to know and they are interested in. Google, Yahoo, Bing, Facebook, Twitter, Instagram, and millions of other internet websites and applications offer them an enormous amount of knowledge and a vast number of opportunities to connect to the world around them. When they get to school, they already have knowledge in pretty much everything and developed their own opinions on many issues. Therefore, educators should acknowledge that "today's students are no longer the people our educational system was designed to teach" (Prensky, 2001, p.2). Unfortunately, unlike digital natives, most teachers today are 'digital immigrants' who "speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language" (Prensky, 2001, p. 3). The role of a teacher as a transmitter of information and knowledge is not the most effective way to teach digital natives. While transmission model of teaching allows students to learn information, it does not ensure that students can make active use of this newly acquired knowledge (Saavedra & Opher, 2012). Active use of information requires applying new information to real-world contexts, getting benefit from it to solve complex problems, and using it to work creatively which are some 21st century skills today's learners are expected to have. Thus, instead of being the provider of information, teachers should be a resource who provides students with a context through which they could construct their own knowledge, an explainer who clarifies misunderstood and unclear concepts, a guide who shows them how to reach reliable resources and evaluates the information they have found themselves, as suggested by Prensky (2008). He then makes four suggestions to make our educational system relevant to today's learners' lives, skills, and expectations. They are 1) creating opportunities for our students to use technology in school, 2) getting the ideas of students on how they want to be involved in the teaching and learning process, 3) connecting them to the rest of the world with the help of internet, and 4) helping them to acquire 21st century skills they will need today and in the future (Prensky, 2008). At this point FC takes the stage as it is an effective model of teaching for students of today as the reasons can be found below.

Benefits of Flipped Classroom. Previous studies have demonstrated that FC model of teaching may provide numerous benefits that are not achievable through the traditional model. First of all, FC speaks the language of today's millennial learners who grow up with technology (Bergmann & Sams, 2012). This digital generation of today has a strong urge to reach the information immediately and rarely excuses the delay, which makes them look for information through the internet instead of textbooks (Oblinger, 2003). Outside the classroom they already have recourse to the internet to reach the information. Therefore, embracing technology by offering our students options to learn the content through ubiquitous digital resources prevents them from powering their brains down in the school (Prensky, 2008).

Another benefit is the maximization of class time. Delivery of content is moved outside the classroom, which frees up the class time for more student-centered instruction that involves active learning (Hamdan, McKnight, McKnight, & Arfstrom, 2013). The class time becomes available for students to apply and practice what they have learned. This kind of active learning enables students to engage in higher order thinking skills and experience deeper learning (Bonwell & Eison, 1991; Chickering & Gamson, 1987). Students also find more opportunities to engage in collaborative activities with their peers. As a result, sharing their knowledge and opinions, helping each other to solve problems, clarifying misunderstood points, and constructing their own meanings while working in collaborative groups increase the student-student interaction (Bergmann & Sams, 2012). Along with the student-student interaction, teacher-student interaction increases as well (Gannod, Burge, & Helmick, 2008), which gives teachers opportunities to build better and stronger relationships with their students (Bergmann & Sams, 2012). Instead of one-way lecturing, the teacher observes the students, provides assistance and immediate feedback, and clarifies misunderstood or unclear concepts by engaging in more conversations with the students (Berrett, 2012). This kind of collaborative and interactive learning environment can result in better problem-solving skills and more student learning gains (Knight & Wood, 2005).

In addition to collaboration, the active learning environment is also associated with critical thinking. Both collaboration and critical thinking are the essential skills

in the 21st century (P21, 2016). FC allows teachers to focus on higher levels of Bloom's Taxonomy which are application, analysis, synthesis, evaluation (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) by moving the lower levels of the taxonomy to outside the classroom, and accordingly students might develop higher order thinking skills (Roehl, Reddy, & Shannon, 2013). Bloom et al. (1956) remark that each level of the taxonomy is built on the preceding one. In other words, students have to master one level to be able to manage further learning. Since the lower levels of the taxonomy which are knowledge and comprehension (Bloom et al., 1956) are mastered at home by learning the content through written and online resources provided by the teacher, students work on problems, discuss the concepts, develop ideas, and carry out projects together in the classroom. These kinds of activities in the higher level of the taxonomy encourage students to think more critically.

Another advantage is the flexibility provided by the nature of FC which is about the online pre-class materials. Students have a chance to learn at their own pace. Making the content accessible online gives students opportunities to go over the subject and materials as many times as they want, to rewind and fast-forward the videos or audios according to their level of understanding and satisfaction (Horn, 2013). Students themselves have a voice in deciding upon where, when, how, and through which materials to study the subject. The benefits of video-recorded lectures, for example, were well documented by Franciszkowicz (2008) who created Video-based Additional Instruction (VAI) to promote the problem-solving skills and the understanding of the course content of students in the general chemistry course. Most of the students found the instruction useful and they commented positively on the problem-solving approach, availability of the materials at any time, options for rewind and replay, and the visualization. The comparison of results over 5 years showed an increase in student's motivation, study skills, problem-solving and critical thinking skills. Also, Copley (2007) aimed to find out the effectiveness of audio and video podcasts of lectures. His study revealed students' enthusiasm about this method, and he found that students found this method very effective since it allows them to catch up the points they missed, to take notes at their own pace, to revise the content and get prepared for the assessments.

An additional benefit is the continuous progress of the classes even when the teacher or the students are absent for some reasons. Students may miss the classes because of health or extracurricular issues, and sometimes even the teacher may be absent and has to make up for the missed classes. The nature of FC allows the course to move forward as scheduled (Roehl et al., 2013).

Furthermore, students develop a sense of responsibility by taking control of their own learning. They have to decide what they need to know, how to learn, what to do more, and how to achieve the goals of the course. They take the ownership of their learning by taking an active part in FC.

Fulton (2012) lists seven major benefits of a FC:

•   Students are able to move at their own pace.

•   Working on "homework" in the classroom gives teachers some ideas about student struggles and their learning styles.

•   The curriculum can be shaped and updated according to the students' needs by the teacher easily and the lessons are accessible at any time.

•   More effective and creative use of in-class time is possible.

•   Increased student achievement, interest, and engagement are among the contributions of FC.

•   The learning theory of FC supports the recent approaches such as critical thinking and problem-solving skills, working collaboratively etc.

•   Use of technology is inevitable and necessary for 21st century learning environment.

Herreid and Schiller (2013) surveyed STEM case study teachers who teach in FC and they mentioned some more reasons in addition to the ones defined by Fulton (2012): 1) more time to engage in authentic research and work with scientific equipment available in the classroom; 2) having a chance to compensate the hours students missed; 3) fostering thinking at all times; 4) students having an active role in their learning; and 5) favored by students.

Millard (2012) also suggests five advantages such as increased student engagement, stronger collaborative skills, providing personalized assistance for

students, giving rise to more focused discussions, and providing teachers with more flexibility in the class.

Criticisms and Disadvantages of Flipped Classroom. Along with the benefits of FC come the drawbacks as well. The first disadvantage is related to technology. Some students may not have a computer or internet access to reach and study the assigned materials (Siegle, 2014). However, at this point, LaFee (2013) suggests that teachers can burn the pre-class materials on DVDs or flash drives and give them to the students who do not have access to the internet.

Another criticism is about teacher preparation and planning which takes too much time (Mason, Shuman, & Cook, 2013). Especially creating their own videos might be very time-consuming (Talbert, 2012). The teacher should learn how to create and edit videos. While creating videos, s/he should be anticipating students' questions and answers and shape the instruction accordingly.

One of the most common concerns is whether students have studied the materials necessary for the subject and watched the videos or not, and thus coming to class unprepared (Gaughan, 2014; Gilboy, Heinerichs, & Pazzaglia, 2015; Siegle, 2014). To overcome this problem Bergmann and Sams (2012) mention that they ask their students to come up with interesting questions about the videos. They also taught their students how to take effective notes while watching the videos through Cornell note-taking system (Bergmann & Sams, 2012).

Another concern discussed by Gilboy et al (2015) is that students do not have an instructor available to ask their questions during their out-of-class time study. Moreover, students may feel alone or abandoned in learning since they have to cover the content by themselves (Talbert, 2012). A further concern is about the culture shock student may encounter especially when they are used to lecturing and rote learning (Talbert, 2012).

Nielsen (2011) raises her concerns about accessibility to online materials, the reality of assigning homework in a FC, spending in-class time for traditional requirements such as tests, not designing a suitable environment for FC by ignoring the fact that students at the same age do not have to be at the same place and level, and still depending on lecturing method of content delivery by paying no attention to different learning styles.

Milman (2012) also addresses some limitations such as poor-quality videos, not being sure of the conditions where students watch the video, not having a computer or internet access to watch the videos, difficulty in checking student comprehension, inability to provide enough scaffolding and immediate feedback, and not being the best method for second language learners or learners with disabilities.

November and Mull (2012) discusses five common concerns which include teachers who believe that their role will be less important, students who get bored while watching lectures with no interaction at all, accessibility to online resources, not being totally sure whether students complete the assigned work or not, and limited time and skill to create videos. On the other hand, they come up with some suggestions. Firstly, they express that the role of the teacher is more important in a FC. Teachers might face many questions during the class time. Asking the right questions is now crucial for teachers to check their students' understanding. Secondly, they suggest not to record lectures with the same length as the classroom in order to prevent students from getting bored. They should be five to ten minutes long, and students should be interacting with the videos through quizzes, links to other websites etc. Videos may not work for every student; therefore, teachers should provide them with other resources as well such as readings, audios, concept maps etc. Giving students a chance to interact with one another is another point teachers should be aware of. Students can have discussions on online platforms such as Edmodo, Skype, Facebook, and so on. Besides, teachers should burn the videos and audios to DVD or USB memory sticks in case some students do not have an internet connection at home. It is also necessary to make sure that school library and local libraries are available to access the materials. Regarding the concerns about students not doing the assigned work, questions requiring critical thinking, reflections, discussions are some alternatives to make sure of accountability. The final remark is about getting professional help or searching the Web to find ready-made videos if teachers do not have enough time or skill to create tutorial videos.

Similarly, Enfield (2013) applied FC model of teaching in two classes at California State University Northridge and discussed some challenges faced during the implementation. The first challenge is about spending enough time while creating the videos or finding ready-made videos that cover the subject matter

sufficiently. Another one is with regard to technological issues which should not cause any problems. Repetition should be avoided in videos because students have an option to rewind the videos. Even though mistakes and pauses are tolerated in class, videos should be free from any mistakes and pauses as students expected, which means more time and effort are necessary. Lastly, in-class activities should be planned carefully and precisely in order to provide a more active, engaging, and useful learning environment, which is also discussed by Vaughan (2014).

Lastly, Herreid and Schiller (2013) refer to two major pitfalls stated by STEM case teachers: the first one is about students' resistance to a new method that requires studying the content at home before exposed to it in class, which may cause them to come to the class unprepared; and the other one is related to videos which need to be planned and created carefully according to the needs of students and the subject matter, which takes a remarkable amount of time.

Relevant Studies on Flipped Classroom

Although there is a large and growing body of literature has focused on FC in general, research on FC in the Turkish context and in pre-service teacher education is quite limited. The relevant studies on FC are examined in detail under four categories: studies conducted abroad, studies conducted in the Turkish context, studies on student and teacher perceptions of FC, and finally studies conducted with pre-service teachers.

Studies conducted abroad. In the literature on FC, there seems to be general agreement that FC shows promise since it enables active engagement, more interaction, a more inclusive and effective learning environment even though it is criticized at some points, (Talbert, 2012). Previous studies have demonstrated that FC model has both advantages and disadvantages. However, when the literature has been investigated, it is noted that pedagogic advantages outnumber the disadvantages (Bolat, 2016).

Davies, Dean, and Ball (2013) investigated the effects of the FC on academic achievement and satisfaction of the students taking a course on spreadsheets and integration of technology. The researchers found that the students were more satisfied with the flipped learning environment, that their learning was higher, and

that students displayed more eagerness to take another flipped course and to recommend this course to their friends.

Mason et al. (2013) conducted a two-year study where one-year TC was compared to the one-year inverted classroom in order to evaluate the effectiveness of the latter one. The results of the study demonstrated that studying outside the classroom required less time for students in the inverted classroom compared to the ones in the TC. Another result of the study was that students were annoyed because of the responsibility they had to take while making decisions on the resources to be utilized for studying the subject matter, and yet they noticed that coming to the classes prepared resulted in more learning gains. This is regarded as the development of self-regulation habits.

The study carried out by Chen, Wang, Kinshuk, and Chen (2014) revealed that the students found FC model more useful, their attendance increased, and they put more efforts. However, interestingly, some of the students had some adapting problems, which is thought to be because of their passive learning habits from the past. These students fell behind the others since they could not follow the discussions and applied activities.

Similarly, Galway, Corbett, Takaro, Tairyan, and Frank (2014) conducted a study where they explored the public health students' learning experiences and perceptions of the FC. Study results revealed a dramatic increase in students' self-perceived knowledge which was also one of the aims of the study. Students held highly positive attitudes towards the flipped model of teaching, and most of them were of the opinion that they would prefer taking a flipped course to a traditional one.

The study conducted by Kim, Kim, Khera, and Getman (2014) yielded similar results, too. Student satisfaction, the usefulness of classroom interaction, and more student-centered learning environment were reported by the students. In addition, they stated that they developed more positive emotions and experienced open learning environment thanks to the collaborative activities. They also perceived that their self-regulated learning developed with the help of assignments.

Merrill (2015) carried out a study to examine the way experienced teachers implemented FC model for the first time and their thoughts on it. Identifying better

and more effective FC practices was also another purpose of her study. She found one math and two science teachers who were already using FC model, and she had to convince another math teacher to flip his classroom and to participate in the study. After a six-week data collection period, results showed no dramatic changes in the grades. While two of the teachers stated that the grades were almost the same as the previous ones, the other two discovered their students' grades increased just a bit. However, both the teachers and the researcher observed increased student engagement, motivation, and understanding and better questions posed by the students. Observations also revealed that students were on the task for the most of the time thanks to the collaborative tasks and student-centered classroom environment.

The study by Guy and Marquis (2016) compared the students in traditional and FC environments and found the participants in the latter group holding more positive attitudes. This group also seemed more enthusiastic about the course.

Sherrow, Lang, and Corbett (2016) investigated the impact of FC approach in a postsecondary business communication course. The results revealed that students' attendance in the class appeared to increase as they already studied the content and had more in-class time for practice. Engaging in collaborative tasks promoting active learning, increased interaction with fellow students and the teacher, enjoying the process were also among the results of the study.

Contrary to much of the current literature, Strayer (2007) carried out his doctoral study aimed to assess the impacts of a FC on the learning environment from the perspectives of the students enrolled in the Introduction to Statistics course. The results indicated that some of the students were less satisfied with the new learning environment and they felt lost. The study also concluded that FC might fit some courses better than the others. On the other hand, Jaster (2013), who explored the student perceptions of the flipped college algebra course, found that the majority of students valued the lecture-based classes more than the FC. Likewise, Wilson (2013) argued that some participants found the lectures insufficient and increased responsibility unfair. Burke and Fedorek (2017) conducted a study to compare the engagement reported by the students in three different course modalities: traditional face-to-face, flipped, and online classroom. Unlike most of the research, students in FC reported lower scores on student engagement compared

with the ones in the traditional and online classroom. Besides, they displayed low critical and analytical skills and lower understanding of diversity.

As seen above, previous research has indicated that students in a FC environment enjoyed the learning process, held positive attitudes towards the course, and displayed enthusiasm and satisfaction (Al-Zahrani, 2015; Chen et al., 2014; Galway et al., 2014; Gaughan, 2014; Guy & Marquis, 2016; Lage et al., 2000; Mason et al., 2013; Musib, 2014; Roach, 2014; Sherrow et al., 2016). A great majority of the participants show their satisfaction with FC (Al-Zahrani, 2015; Chen et al., 2014; Davies et al., 2013; Gilboy et al., 2015; Kim et al., 2014; Mason et al., 2013; Ramnanan & Pound, 2017). Not only the student but also instructor satisfaction is reported (Gilboy et al., 2015; Lage et al., 2000). Past studies have clearly shown increased motivation as well (Davies et al., 2013; Franciszkowicz, 2008; Merrill, 2015). Previous research has also revealed that students favored studying at their own pace, whenever and wherever they want (Davies et al., 2013; Gilboy et al, 2015). Majority of the participants, in the previous studies conducted, commented on the usefulness of the FC (Chen et al., 2014; Kim et al., 2014; Lage et al, 2000; Musib, 2014). Numerous studies have also revealed increased participation and active student engagement (Clark, 2015; Elmaadaway, 2017; Steen-Utheim & Foldnes, 2018), increased interaction with fellow students and the teacher (Clark, 2015; Galway et al., 2014; Roach, 2014; Sherrow et al., 2016), and student empowerment (McLaughlin et al., 2014). Improvements in the quality of instruction and use of in-class time have been also reported by several studies (Clark, 2015; Gaughan, 2014). The FC allows more time for active learning (Ziegelmeier & Topaz, 2015; Galway et al., 2014), and most students highly appreciated in-class active learning activities (McLaughlin et al., 2014; Musib, 2014; Ramnanan & Pound, 2017; Ronchetti, 2010; Toto & Nyugen, 2009). Besides, a number of studies in the literature put forward the link between FC and collaboration that increases with the help of the model (Gannod et al., 2008; Kim et al., 2014; Lage et al., 2000; Love, Hodge, Grandgenett, & Swift, 2014; McLaughlin et al., 2014; Merrill, 2015; Ronchetti, 2010; Sherrow et al., 2016; Strayer, 2012; Strohmyer, 2016, Toto & Nguen, 2009). Moreover, numerous studies have examined the relationship between the FC and learning styles, and they have demonstrated that FC appeals to a wider scope of learning styles when compared to the TC (Houston & Lin, 2012;

Lage et al., 2000; Toto & Nguen, 2009; Zappe, Leicht, Messner, Litzinger, & Lee, 2009).

Alongside the positive aspects and benefits, there come the negative aspects and challenges, too. Among the difficulties noted by the participants, FC demanding more effort than the traditional model of teaching appears (Al-Zahrani, 2015; Lage et al., 2000; Papadopoulos, Santiago-Román, & Portela, 2010). After a detailed overview of relevant literature, O'Flaherty and Phillips (2015) conclude that FC may not be appropriate for all the subjects (Hamdan et al., 2013; Roehl et al., 2013; Wong, Ip, Lopes, & Rajagopalan, 2014) and refer to Strayer (2012)'s study where participants of the introductory statistics course taught by FC model were not as satisfied as the ones taught by the traditional model. As for the challenges, Herreid, Schiller, Herreid & Wright (2014) warn that one of the foremost issues in FC a teacher should be dealing with is to make students watch and learn from the pre-class materials and suggest that assigning them an online or in-class quiz before starting the in-class activities would be a good solution for the problem, which is also suggested by Musib (2014). A number of studies have also found that in the beginning the implementation of the FC requires a considerable amount of time investment for preparing before each class such as creating videos and quizzes, and planning tasks (Mason et al., 2013; Siegle, 2014; Talbert, 2012). However, as Ferreri and O'Connor (2013) pointed out, increased time in preparing materials decreases the time to be spent in the lecture and in-class time. The teacher had better remember that the content videos longer than 15 minutes might cause boredom and distractions (Gaughan, 2014; Gilboy et al, 2015; Siegle, 2014). Similarly, Musib (2014) suggested that videos should not be more than 10 minutes. However, the optimal length was found as 20 minutes by Zappe et al. (2009), as 30 minutes by Toto and Nyugen (2009) and as 90 minutes or less by Wong et al. (2014).

As previously indicated, in spite of the increased popularity of FC, the novelty of it might be the primary reason why the research on the effectiveness of FC is limited and has yielded mixed results (Burke & Fedorek, 2017; Gilboy et al., 2015; Johnson, 2013; Moos & Bonde, 2016; Steen-Utheim & Foldnes, 2018). Even though the effectiveness of FC has not directly been evidenced, the effectiveness of active

learning engagement over passively listening to lectures has been indicated (Knight & Wood, 2005).

Studies conducted in the Turkish context. It is an unfortunate fact that there have been limited studies on FC in Turkey (Çukurbaşı & Kıyıcı, 2017; Filiz & Kurt, 2015; Gençer, Gürbudak, & Adıgüzel, 2014; Karaca & Ocak, 2017; Kardaş & Yeşilyaprak, 2015; Özpınar, Aydoğan Yenmez, & Gökçe, 2016; Yıldız, Sarsar, & Çobanoğlu, 2017). Teacher's lack of knowledge about the use and benefits of FC model is among the reasons why FC model is underutilized (Gençer et al., 2014).

Görü Doğan (2015) in her study found that FC provides opportunities for more interaction, collaborative practices, and preliminary preparation, and that it also enables more permanent learning, contributes to the development of professional qualifications, and fosters self-learning. However, students also reported some problems resulting from the internet access.

Similar to the studies conducted abroad, domestic literature also indicates positive perceptions (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016; Özyurt & Özyurt, 2017; Sezer, 2017; Şengel, 2016), usefulness of the model (Turan & Göktaş, 2018), enjoyable learning experience (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016; Sezer, 2017), more permanent learning (Akgün & Atıcı, 2017; Zengin, 2017), better and easier understanding (Özyurt & Özyurt, 2017; Zengin, 2017), increased participation and active engagement (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016;Sezer, 2017; Şengel, 2016), increased motivation (Aşıksoy & Özdamlı, 2016; Boyraz, 2014; Sezer, 2017; Turan & Göktaş, 2018), fostering preliminary preparation and positive effect of coming to the class prepared (Akgün & Atıcı, 2017; Boyraz, 2014; Özyurt & Özyurt, 2017; Şengel, 2016; Zengin, 2017), increased satisfaction (Akgün & Atıcı, 2017; Sezer, 2017; Şengel, 2016), opportunity for repetition (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016; Şengel, 2016), access to the materials anytime and anywhere (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016), increased student-student and teacher-student interaction (Akgün & Atıcı, 2017; Özyurt & Özyurt, 2017), progress at their own pace (Akgün & Atıcı, 2017), visualization of the concepts (Zengin, 2017), more in-class discussion (Aşıksoy & Özdamlı, 2016; Şengel, 2016), asking more questions (Akgün & Atıcı, 2017), ability to replay, rewind, and pause (Şengel, 2016), and increased collaboration (Görü Doğan, 2015; Özyurt & Özyurt, 2017). Surprisingly, most participants in two studies

(Akgün & Atıcı, 2017; Boyraz, 2014) uttered that FC model does not demand too much time outside the classroom.

With regard to negative aspects, not having the necessary technological equipment and/or internet (Boyraz, 2014; Zengin, 2017) and having difficulty because of timidity, unpreparedness, and lack of self-learning abilities (Özyurt & Özyurt, 2017) were reported. On the other hand, some students touched upon the importance of the choice of good quality videos (Boyraz, 2014).

Studies on student and teacher perceptions of FC. A growing body of research can be found on students' perceptions of FC. According to the current literature, general student accounts display that student perceptions of FC are mostly positive (Bishop & Verleger, 2013).

Toto and Nyugen (2009) redesigned an industrial engineering course to integrate more active and learner-centered activities through the FC model. The purpose of the study was to gather student perceptions of the model because they believe that student feedback plays a crucial role in assessing the effectiveness of any instructional model. In addition, the researchers wanted to see if this model of teaching fostered the understanding of the students and if they should be continuing using this method in future. The results revealed that the optimal length for video lectures is 30 minutes according to the student participants of the study. The results also indicated that students prefer face-to-face lectures, but interestingly they attach high importance to class time requiring active engagement and learning by doing and problem-solving rather than classes where they just sit and listen passively.

Johnson (2013), on the other hand, was concerned with perceptions of the students on FC. The study which he conducted with 63 students in total also provided a detailed account of students' thoughts on contributions of FC on their learning and their suggestions for a better flipped learning environment. Most of the students in the study experienced FC learning environment for the first time. The results yielded some interesting findings in terms of the workload. The students reported that their homework load in a FC was less than in a TC, as opposed to the common belief. The data provide convincing evidence in favor of student engagement, interaction, and understanding in which an increase was perceived by the students. They also expressed their satisfaction with the FC environment. The

study revealed that the majority of the students found FC more engaging than the conventional way of teaching. One last finding provided support for instructional videos. The students stated that they enjoyed self-paced lectures at home since they can learn at their own pace depending on their understanding.

Love et al. (2014) conducted a study where they compared two sections of a linear algebra course. One section was delivered through the traditional way of teaching, and the other one was flipped. Student perceptions indicated that they had very positive attitudes towards the flipped course, and that they especially valued the collaborative learning and instructional videos.

Another study exploring students' perceptions of FC was conducted by McLaughlin et al. (2014). The researchers flipped a pharmacy course, and the results revealed an increase in class attendance and student's learning. The majority of participant students expressed an increase in their understanding and confidence as well. Coming to the class prepared, interactive applied in-class activities and collaborative activities with peers contributed to their learning, they stated.

Musib (2014) also carried out an extensive study on student perceptions of FC. The results revealed that students found this model helpful in their preparation for in-class activities, and that students highly appreciated the capability of rewind and revising the videos. According to students' reports, in-class active learning activities enhanced their learning. Meanwhile, in the first place, the students had concerns about their workload which they thought to be a lot. Once they experienced the FC and its benefits, they were of the opinion that they should continue having classes with this approach.

The study of Ducrot and Sockalingam (2015) looks at the perspectives of students in a flipped programming course at Singapore Management University. The content of face-to-face Information Systems Software Foundations (ISSF) course was changed into online videos. Students were required to watch the videos and take the online quiz before the class and revise the misconceptions and do the assigned tasks during the class. At the end of the course an online survey with five classes was conducted to see if the course objectives were achieved and what needs to be improved, and to understand the students' experience with the model.

The results revealed that most of the students (91%) were of the opinion that FC was more engaging and 85% of them enjoyed the fact that the model enabled them to learn and reach the materials anytime and anywhere and at their own pace. Students reported that they were able to participate in lessons more and actively and spend more time with their teachers. Experiencing a positive learning environment, 87% of the students expressed that they would wish to be taught in this model in future.

Turan and Göktaş (2015) also explored the students' perceptions of FC through a case study. Study results indicated that students held positive attitudes towards the FC model. The students reported that this method enabled more permanent, easier, fun, and flexible learning. Being built upon the applied practices, more permanent learning, hindering rote learning, providing opportunities for revising the content, fostering preparedness for the class, and preventing distractibility were among the advantages of the method according to the students' opinions. As regards disadvantages, lack of technical tools, requiring too much time, the obligation of watching the pre-class videos, not being able to get immediate feedback, and adaptation period were listed by the students.

Hunley (2016), with her qualitative phenomenological study, aimed to examine the perceptions of teachers and students in a high school FC in detail by focusing on the perceived advantages and disadvantages of this model. Three high school science teachers who have had minimum 2-year FC teaching experience and students from three participating high schools were the participants of the study. The data obtained from the online survey, direct observation of the flipped classes, interviews with the teachers, and focus group interviews with the students illustrated that most of the students prefer FC to a traditional one because of availability of materials anywhere and anytime and increased time spent with the teacher. The students, however, reported that the FC works for some classes while it is not suitable for some others such as maths. Not being able to ask their questions immediately is the reason why some students did not prefer the FC. Both the students and teachers reported that their relationship got better. The surprising result uttered over and over by students, teachers, and the researcher was the dependence on technology in most areas of our lives.

Strohmyer (2016) investigated deeply into high school math students' perceptions of flipped learning. The study tried to add valuable insights into literature by bringing out these students' experiences of flipped learning regarding content, instruction, critical thinking, collaboration, and interaction. Employing a phenomenological research design, the study was carried out in two public high schools. Seven students were interviewed while nine students participated in the forum discussion. The results provide convincing evidence in favor of increased student engagement, interactions, confidence, and critical thinking, deeper learning, more collaboration with peers, learning to regulate their own learning. The students also expressed that they got more chances for questioning which helps them cope with difficulties of learning.

Recently, Ramnanan and Pound (2017) have also explored the medical students' perceptions of the FC. Their findings indicated that the participants highly valued the pre-class materials and interactive and engaging in-class cooperative activities. They also reported that this model fostered their lifelong self-directed learning skills.

More recently, Turan and Göktaş (2018) examined the relationship between FC and student motivation, and they found an increase in student motivation and confidence. Finding course content more useful thanks to this approach was also among the results.

Conversely, studies investigating teacher perceptions of FC are scarce. Teachers observed increased interaction, engagement, and participation among students (Gannod et al., 2008; Lage et al., 2000) and reported that students took the responsibility for their own learning (Lage et al., 2000). The most rewarding aspect of FC is interaction with students, uttered by the teachers (Gannod et al., 2008).

Gaughan (2014) applied FC model in her own class, and she reflected her opinions as followed: she loved and was satisfied with this model of the classroom; she also participated in the classroom discussions with more engaged students, and she got to know her students better because of the increased interaction. With respect to the students, they perceived an increase in their knowledge.

Gough, DeJong, Grundmeyer, and Baron (2017) examined the teacher perceptions, and their study demonstrated that teachers perceived benefits of the FC such as increased interaction between students and the teacher, increased instructional time for active learning activities, and the opportunity for revising and rewinding the pre-recorded videos. However, they observed neither any improvement in students' self-discipline nor enhanced student learning as a direct result of the approach.

The teachers, on the other hand, expressed that they spent intensive time to create videos but increased student engagement and responsibility was satisfactory, and that the FC is not well suited for low-level students (Hunley, 2016). Even though teachers had to cope with the increased workload required by the preparation of pre-class materials (Gannod et al., 2008) and with the planning and creation of in-class activities (Gannod et al., 2008), their perceptions were mostly positive (Lage et al., 2000).

Studies conducted with pre-service teachers. A limited number of studies with PSTs but even more limited research with PSELTs can be found as follows:

Fraga and Harmon (2014) performed a study investigating the PSTs' perceptions of the FC and the effect of it on student achievement. Even though the study did not demonstrate any significant differences in academic achievement of students when taught via traditional instruction and when taught via flipped instruction, it revealed that PSTs liked this model of teaching for some reasons: assistance and clarification of missing or misunderstood points during in-class activities, flexibility, and being responsible for their own learning. Most of them were of the opinion that their learning was supported by FC. Speaking of dislikes of participants, some of them had difficulty in time management while several participants felt lost about the process not knowing what to do.

Vaughan (2014) investigated the impact of FC model in an introductory teaching course with PSTs. The study also researched the need for teacher education courses to adopt more innovative teaching models and strategies. The study results indicated that students were taking their own responsibility, reflecting and making connections more, posing more and higher-level questions, and increased awareness of instructional strategies.

Al-Zahrani (2015) studied the effect of the FC on student creativity with the PSTs from an e-Learning course. The results revealed the high impact of FC on the creativity of students and higher-order thinking skills. Student satisfaction was well-documented once again.

Graziano (2017) conducted a study where PSTs enrolled in his class taught a lesson through the flipped instruction. He investigated the PSTs' experiences of FC in an attempt to determine the advantages and challenges of flipped instruction, to discover how much of the content the students have learned via flipped instruction, and to see how many of the participant PSTs are planning to flip their own classrooms after experiencing it. The results revealed that the students found the lessons interactive and fun, and they expressed that peer interaction led them to be more productive and have more enthusiasm for classes. Among the challenges, the PSTs reported that creating their own videos might be very time-consuming. The majority of the PSTs (66.6 %) were of the opinion that they would flip their classes in the future (16 out of 24).

Another study on FC conducted with PSTs was conducted by Göğebakan Yıldız, Kıyıcı, and Altıntaş (2016). Among the advantages of the model, pre-service science teachers uttered enjoyable learning, coming to the class prepared, reinforcement of the content knowledge while not getting immediate feedback, demanding too much time were among the disadvantages. There were also some participants who expressed no disadvantages at all. Additionally, having activities, permanency, collaborative practices were the aspects of the model the participants liked most while not being able to ask the teacher different questions, lack of time during the activities, and the teacher being not much active were the ones they liked the least. According to the researchers, the perceived disadvantages and the least liked aspects of the model can be resulting from the way the students are used to be taught. Most of the participants found this model effective.

In their study with PSTs at the elementary mathematics education program, Özpınar et al. (2016) aimed to find out the impact of the FC model on students' motivation and academic achievement and to identify their perceptions of the model. Alongside the positive thoughts and perceived efficacy and applicability of the model, the participants displayed higher academic achievement and higher levels of motivation. Students also reported increased student-student and teacher-

student interaction, flexibility, and opportunity for repetitive watching thanks to the FC model. Some disadvantages such as not getting immediate feedback, a decrease in student-teacher interaction, and the obligation of watching the videos before the class were listed by the students. However, the researchers discussed that this might be because of being unaccustomed to the model. The long duration of the videos was also one of the factors decreasing the motivation.

Çukurbaşı and Kıyıcı (2017) pointed out that PSTs were mostly very prejudiced against the FC in the beginning, but their biases were removed over the course of the study, which was also encountered in some other studies in the literature (Adnan, 2017; Mason et al., 2013; Turan, 2015; Turan & Göktaş, 2015). This might originate from the students not being accustomed to the FC (Göğebakan Yıldız et al., 2016; Özpınar et al., 2016; Talbert, 2012). On the other hand, some of the participants reported curiosity, interest, and excitement towards the course. In terms of the educational benefits, PSTs stated that FC enabled more effective use of in-class time, preliminary preparation for the classes, active student engagement, enhanced content knowledge, collaborative learning environment, and increased interaction.

A study conducted with PSELTs' perceptions of the FC belongs to Basal (2015). Some benefits listed by the participants as follows: moving at their own pace, the opportunity for replaying and rewinding the videos, positive impact of coming to the class prepared, increased participation, reducing the physical constraints of the classroom, increased interaction, and more student-centered learning environment.

Kocabatmaz (2016) carried out a similar study with PSELTs. The positive findings were as follows: significant increase in student(s)-student(s) and teacher-student(s) interaction, the opportunity for unlimited revision, more permanent learning, the content accessible anywhere and anytime, learning by doing, progressing at individual paces, learning from different resources, and cooperative learning. In terms of the negative perceptions, PSELTs stated that FC model demands too much time and effort and requires the use of technology and internet. The problems encountered during the process were as follows: not being used to pre-class study and backward progress of the learning, not being able to access the internet all the time, and distracting.

Similarly, Adnan (2017) explored PSELTs' perceptions of the FC. The findings revealed mostly positive attitudes and satisfaction with the learning environment. Conversely, heavy workload and concerns related time were also uttered by the participants. PSELTs perceived that the FC model enhanced their learning and fostered social learning. General satisfaction with the model in terms of the structure, format, instructional materials, technology use, and provided resources was reported. Besides, easy access to the materials, being able to move at their own pace, effective and engaging activities were frequently stated. The PSTs were also of the opinion that their confidence increased, and that they became more self-disciplined, active and creative learners. Moreover, collaborative in-class activities alongside the increased interaction were observed. Participants also mentioned the changing instructor role like a guide, supporter, and facilitator now. Not surprisingly, they raised their concern over the duration of videos which they found long. Even though PSELTs greeted the model by doubt and anxiety, their negative concerns turned into the positive ones at the end of the study.

Likewise, Kurt (2017) conducted a pretest-posttest quasi-experimental study with 62 PSELTs and explored their perceptions of the FC and measured its effectiveness against a TC. Improved self-efficacy beliefs and academic achievement, positive perceptions, feeling preparedness and confidence, feeling relaxed and confident and sharing their opinions comfortable in the classroom learning environment, the opportunity for self-pacing, perceived engagement, increased motivation, and active participation were among the findings of the study.

Chapter 3
Methodology

Introduction

This chapter describes the methodology used for this study. The chapter will start with the presentation of the theoretical framework of the study justifying the research design followed. Following that, the description of the setting and participants will be presented and the instruments used will be explained. Next, a thorough description of the data collection process will be depicted and the chapter will end with the data analysis procedures which include the description of quantitative tests employed and qualitative data coding process.

Theoretical Framework

This study followed a pre-experimental research design where intervention is applied only to a single group of participants (Faulkner & Taylor, 2005; Murphy, 1987; Thyer, 2012), namely it lacks a control group. This pre-experimental study involved the One-Group Pretest-Posttest Design (Campbell & Stanley, 1963; Shadish, Cook, & Campbell, 2002) which involves the administration of a pre-test, an intervention, and a post-test. This design in the study was used to assess the PSELTs' perceptions of the FC and to assess the changes in their perceptions after participating in a 4-week FC environment. An intervention was found to be appropriate since it was useful to assess the changes in their perceptions after the intervention, so as to decide whether this model of teaching should be used with similar groups of PSTs. Only an experimental group took place in the study and the participants were selected through convenience sampling that is a type of nonrandom sampling (Mackey & Gass, 2005). In the study, the pre-test (O1) which included a questionnaire to obtain participants' perceptions was followed by a 4-week intervention of FC implementation (X). After the intervention, a post-test (O2) that included a survey in addition to the questionnaire used in the pre-test took place as can be seen below:

O1   X   O2

The methodological approach taken in this study is a mixed methods research design in which a study benefits from both quantitative and qualitative data

collection techniques (Christensen, Johnson, & Turner, 2015). This union "involve[s] the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study" (Hanson, Creswell, Plano Clark, Petska, & Creswell, 2005, p. 224). As Johnson and Onwuegbuzie (2004) note, both quantitative and qualitative purists consider their own paradigm as the ideal one for research. However, both are not free from the drawbacks. Exploratory aspect of the quantitative methods is insufficient in revealing the reasons behind the phenomenon under research and Brannen finds this method "overly simplistic, decontextualized, reductionist in terms of its generalizations, and failing to capture the meanings that actors attach to their lives and circumstances" (as cited in Dörnyei, 2007, p.35). Qualitative methods, on the other hand, are found by many others to be inapplicable to a wider scope, blurry in terms of its methodology, and time-consuming (Dörnyei, 2007). Researcher bias is another downside of the qualitative method. Mixed methods research, accepted as the third research paradigm (Cameron, 2009; Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007; Teddlie & Tashakkori, 2009), makes the schism between quantitative and qualitative methods smaller by drawing on the strengths of both (Berman, 2017; Johnson & Onwuegbuzie, 2004). More accurate data, a bigger picture and fuller understanding of the investigated idea, and reducing weaknesses of single methods, and reaching multiple audiences are among the advantages of mixed methods research design (Denscombe, 2008; Dörnyei, 2007). Furthermore, mixed method research design facilitates triangulation that is "an effective strategy to ensure research validity" (Dörnyei, 2007, p. 165). Similar reasons listed by Johnson, Onwuegbuzie and Turner (2007) are as follows: providing and enhancing better, deeper and more elaborated understanding, providing a fuller picture and description, achieving internal consistency and more comprehensive and valid findings, getting more meaningful and useful answers to the research questions.

The distinguishing characteristics and fundamental practices of the mixed methods research design are represented in the works of Creswell and Plano Clark (2007), and Teddlie and Tashakkori (2009), and Creswell (2012). Among the six mixed methods designs emphasized by Creswell (2012), this study adopted an embedded design, a design in which one type of data plays a secondary, supportive role to support the main source of data. The primary purpose of this study used a

questionnaire and a survey in order to see whether the intervention had an impact or a change in the perceptions of PSELTs. The secondary purpose benefited from qualitative data (i.e. interviews) that helped to explain and extend more on the quantitative outcome results and to assess how the PSELTs experienced the intervention. The reason behind collecting the secondary data is to provide additional information to the primary source of data by addressing both PSELTs' and the instructor's reflections on the process they went through.

Setting and Participants

The current study took place at Sakarya University in Turkey. The study was conducted with PSELTs studying in English Language Teaching (ELT) program in the Department of Foreign Languages Education (FLE) at Faculty of Education. The medium of instruction in the Department of Foreign Languages Education is English; thus, students are required to study English language in the preparatory school of the Faculty of Education before proceeding to the ELT program. However, according to the requirements of the department, the student teachers do not have to study a preparation year if they present a valid English proficiency exam result on a national English proficiency exam such as YDS and YÖKDİL or an international one such as TOEFL İBT or get a result of at least 80 points from the proficiency exam held by the higher education institution, they do not have to study in the prep school. If not, they must register at the preparatory program and study for a maximum of four semesters. Not being able to succeed in the proficiency exam at the end of the allowed time by the Council of Higher Education (CoHE) results in being expelled from the institution. To put it briefly, students who meet the certain standards and prove it are qualified to proceed with their studies in the department.

The ELT program in the department of FLE aims to educate qualified English language teachers. The program prepares the teacher candidates to be fully equipped to be professionals in the field by helping them gain necessary field, theoretical and practical knowledge, cognitive and practical skills, the ability to work independently and responsibly, and core competencies related to learning, communication, socialization and the field of specialization. Students in the program start to take field-specific courses (i.e. methodology courses such as Approaches to ELT, Materials Design and Technology, ELT Methodology, Curriculum

Development, Teaching English to Young Learners, etc.) since the third semester. In order for teacher candidates to gain practical experience, they start to observe real educational settings in practicum schools as of the sixth semester. For three semesters in total they visit practicum schools on a regular basis, make observations, and have many opportunities to teach.

The participants of the current study were selected through convenience sampling which is a nonrandom sampling method. Fraenkel, Wallen, and Hyun (2012) define convenience sample as "a group of individuals who (conveniently) are available" (p. 99), and the present study was conducted with the students whom the volunteer instructor taught. The participants of this study involved sophomore PSELTs taking ELT methodology course in 2017-2018 academic year. Among 35 students registered for the course, 6 participants were not included in the study. One of them did not want to take part in the study while one participant was unable to continue the classes due to some health problems. One student missed more than one flipped class while three of them did not take the pre-test since they were absent that day. In conclusion, the final number of participants in the study was 29, 17 of whom were female while 12 of whom were male.

As regards the participants of the interview, this study utilized the purposive sampling strategy that is a non-probability sample. The need for purposive sampling comes from the prominence given to in-depth understanding (Patton, 2002). The population was deliberately selected to have "information-rich cases….from which one can learn a great deal about issues of central importance to the purpose of the research" (Patton, 2002, p. 46). The participants were chosen with a purpose to explore the phenomenon in detail and get a better understanding of it. Among the several different strategies for the purposive sampling, the maximum variation (heterogeneity) sampling (Patton, 2002) was used to identify the population to be interviewed. Patton (2015) asserts that "any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon" (p. 283). Therefore, the participants selected varied widely from each other. Firstly, the participants of the study were asked to use a metaphor to define the FC. The metaphors used were coded as negative, positive, and neutral, and an expert opinion was taken to determine them. Only three of them used a negative metaphor, so they were chosen

for the interview. Secondly, among the ones who used a positive metaphor, two female and two male students who had the lowest midterm scores and two female and two male students who had the highest midterm scores were selected as well. In addition to these eleven interviewees, one male student who used a neutral metaphor but had the second lowest score was also chosen. In total there were 12 PSELTs interviewed. Additionally, the instructor was interviewed.

Instruments

Data for the current study were collected by two different questionnaires measuring the PSELTs' perceptions of the FC before and after the implementation and also their attitudes and perceptions of the pre-class learning experience. Besides, the PSELTs and the instructor were interviewed to gain insight into the phenomenon studied.

Perception of Flipped Learning Experience Questionnaire. PSELTs' perceptions of the FC experience were examined by Perception of Flipped Learning Experience Questionnaire (see Appendix A) which was developed by Chen Hsieh, Wu, Marek (2017) after a detailed literature review. The 5-point Likert scale instrument includes 14 statements based on four constructs which are motivation (items 2, 4, 7, 9, 11), effectiveness (items 1, 3, 8, 10), engagement (items 5, 6, 12, 13), and overall satisfaction (item 14). The validity of the instrument was ensured by two outside experts in the field of EFL while it has Cronbach's alpha reliability score of $\alpha = .934$.

Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey. This instrument (see Appendix B) was used to have an idea about PSELTs' attitudes toward and perceptions of pre-class learning experience and materials. It was adapted by Long, Logan, and Waugh (2016) from Kay's and Kletskin's study (2012). The 5-point Likert scale includes 7 items asking the participants to evaluate how much the pre-class videos and quizzes were helpful for the course content. The Cronbach's alpha reliability score of the instrument is $\alpha = .74$.

Interviews. Interviewing is a way of "understanding the lived experience of other people and the meaning they make of that experience", as described by Seidman (2006, p.9). As Perakyla and Ruusuvuori (2011) remark, "by using

interviews, the researcher can reach areas of reality that would otherwise remain inaccessible such as people's subjective experiences and attitudes" (p. 529). Thus, in order to elicit the PSELTs' perceptions on the FC model in-depth, guided semi-structured interviews were conducted with 12 PSELTs. How PSELTs feel about this new model were investigated as well. The interview questions for both the participant students (see Appendix C) and the instructor (see Appendix D) were planned beforehand and revised according to three different expert opinions. The guided semi-structured interview included 9 questions for the participant students and 12 questions for the instructor. How the interviews were conducted was explained in the data collection procedure section of this study.

Procedure for Data Collection

Data collection process started after the necessary approval was granted by Hacettepe University Ethics Commission indicating that the study was in accordance with the ethical principles of Hacettepe University (see Appendix J).

Participant PSELTs were selected through convenience sampling. Since the researcher was a research assistant in the FLE department at Sakarya University at that time, she decided that it would be more convenient to apply the FC model in that university. Upon the consent of Faculty of Education administration, the researcher discussed the details with the volunteer instructor. Being open to and excited by the new ideas and striving for continuous improvement, the volunteer instructor had heard of the FC before and she got excited by the idea of teaching a course via this model of teaching. A methodology course was thought to be more appropriate since methodology courses require more practices, but in-class hours are never enough for lecturing and practicing at the same time. The methodology course the volunteer instructor was going to teach was ultimately decided to be flipped, and an official consent form was received from the instructor (see Appendix E).

The data collection process comprises three phases (see Table 1). The researcher started the data collection process with the PSELTs registered for the methodology course given by the volunteer instructor at that semester. Before implementing the FC model, at the very beginning of the semester the participant PSELTs were informed about both FC model and the researcher's study. They were

told that the course would be flipped for a whole semester but only the ones who gave their permission would be included in the study. The researcher further explained that they would be asked to take a few questionnaires and take part in an interview if they agreed to participate in the study. The researcher also assured that the questionnaire and the interview would be used only for the scientific purposes, they would not be shared with any other people or institutions, and they would not have any negative effects on their grades. After informing the participant students briefly, the researcher gave them an official consent form expressing their rights clearly (see Appendix F).

Table 1

Data Collection Process

	Data Collection Process
Before implementation	*Introduction of FC* *Pre-test scale*

Implementation	*Pre-class*
	    Assigned reading chapters; PPT; audio; the ready-made videos
	    Online quiz
	In-class
	    Active learning activities
	After-class
	    checking understanding
	    extending learning

After implementation	*Post-test scale* *Survey on pre-class experience* *Interviews*

In the very first week of the semester the participant students were told that their classes would be taught via a different model of teaching throughout the semester. Then, in the second week the FC model was explained in a way refrained from any judgmental ideas. After the introduction of the model, students were asked to complete Perception of Flipped Learning Experience Questionnaire (see Appendix A), which was the first phase of the data collection. This instrument, at this step, served as a starting point to determine the participants' perceptions and expectations of the model before it was conducted. Enough time was allocated to complete the questionnaire.

Next week the FC model was initiated, and the implementation took place for four weeks in total and each class was observed by the researcher. Before moving on to the details of each week, it is necessary to sketch a rough outline of the model. As discussed in the literature review part of this study, FC can be defined as turning conventional teaching on its head. That is, the places of in-class and out-of-class work are reversed. In the TC the most of in-class time is spent on lecturing the content and active student participation is very limited. If this lesson was taught in a conventional way, it would be like this (see Table 2):

Table 2

A Typical Lesson in a TC

	Traditional Classroom (In-Class)
1st hour	Lecturing on the first method
2nd hour	Lecturing on the second method
3rd hour	Mini demo lessons in the methods

In the FC, on the other hand, the instructional content is delivered outside the classroom while in-class time is dedicated to activities that are normally seen as homework. Here the underlying premise is that students will have a chance to actively engage in student-centered activities when they come to the class prepared. Each week the instructor was fully prepared for both pre-class and in-class procedures. The researcher was available at any time to assist the instructor in preparation of materials, integration of technology, and anything about FC. According to the topic of the week which was written clearly and precisely on the syllabus of the course, the instructor assigned the students related chapters in their textbooks, prepared a presentation, uploaded some ready-made videos or shared the links of them, and recorded her voice. She also prepared an online quiz through Google Forms on Google Drive. Google Drive was actively used to upload all the materials of the course while Edmodo was actively used to communicate with students and for the announcements. In the case of the students, they were required to read the assigned chapters, watch the videos, listen to the audios, go over the presentation, take notes and jot down any questions that busied their mind, and take the online quiz. As long as they understood, they decided to how, when, and how much to cover the content, which helps them become more autonomous. The procedure described thus far is the pre-class part of the flipped classroom. Normally the instructor used to lecture in the class, but this time students were asked to cover

the content at home by themselves with the help of their teacher. Students, who were expected to come to the class prepared, worked in groups and exchanged ideas in the class. They discussed the assigned readings and videos and did the assigned tasks. They also participated actively and contributed to the group and class discussions. They learned collaboratively and asked group members and/or the instructor for the clarification of any points. They had a chance to apply their knowledge on mini in-class demonstrations, discussions, and activities. Such a student-centered learning environment enabled the instructor to act as a guide and facilitator instead of the only source of information in the classroom. She guided the students, asked questions to promote critical thinking, observed the students and helped them during the process, clarified any misconceptions, and provided immediate feedback. Even though the instructor's burden was a bit reduced in the classroom, she had more responsibilities outside the classroom contrary to the traditional one. She had to plan every minute and each step of the lesson and prepare all the pre-class and in-class materials beforehand. The procedure of each week was described below in detail, but the summary of the implementation was provided as well (see Table 3).

The first week of the implementation covered the Grammar-Translation Method (GTM) and the Direct Method (DM). The instructor prepared the materials (i.e. PowerPoint presentation and audio) and uploaded them to a Google Drive file (see Appendix G) and made an announcement regarding the upload of the pre-class materials and the links of the ready-made videos were shared on Edmodo. The online pre-class quizzes were created via Google Forms (see Appendix H) and their links were also shared on Edmodo (see Appendix I). The students already had their textbooks in which they could read the assigned readings. The pre-class phase of the class was followed in the same way each week; thus, it was not mentioned over and over in the descriptions of the following weeks below. In the classroom the instructor analyzed the example scenario of the GTM in the related chapter of the textbook with the students discussing. Then, the instructor delivered a demo lesson in Italian by using GTM. Both the instructor and the researcher had basic Italian which was especially chosen in order for students to get a clearer idea of the methods. Students were the active participants of the demo lesson, which enabled them to directly experience the method. With the guidance and further questions of

the instructor, students analyzed and criticized the demo lesson. They also discussed the advantages and disadvantages of the method. They had a chance to explain the unclear points to each other. Afterwards, the same procedure was applied for the DM. The example scenario was analyzed and discussed, which was followed by a demo lesson in Italian through the DM. Afterwards, students had a discussion about the comparison of the two methods covered. As the last activity of the lesson, a revision game about GTM and DM was played. Students made a circle and they passed a ball and a box full of questions to each other while music was playing. The ball was passed to the student on the left while the box to the student on the right. When the instructor paused the song, the student with the ball had to answer the question to be asked by the student with the box. The wrong answers were explained by the fellow classmates. The class was finished by answering the pre-class quiz questions which allowed the instructor to revise the lecture content.

The second week of the implementation started with a group work activity. Students had group discussions about four different methods: GTM, DM, Audio-lingual method (ALM), and Silent Way (SW). By sharing, talking, supporting each other, students created a poster on the comparison of these four methods. Then, each group presented their posters. During the presentations, they asked some questions to each other and some misunderstood or unclear points were clarified by fellow classmates and the instructor with the help of further discussions. Then, the instructor delivered an ALM demo lesson in Italian. After the direct exposure to the method, students discussed what worked, what did not work, and from which aspects of the method could be benefited. This session was followed by the video watching of a SW class. From time to time the video was paused and they analyzed and made some comments on the method. They had a further discussion as well. The class was ended with answering the pre-class quiz questions.

Contrary to the first two weeks, the third week started with the revision of the pre-class quiz questions upon the feedback of the students. This way the instructor could clarify the unclear or misunderstood points in the very beginning. Next, students were grouped according to the brands of their chocolate distributed by the instructor. The instructor distributed several course books to each group and their task as a group was to examine the course books at different levels and skills. They evaluated the exercises and activities, determined some methods emphasized.

Some common, distinctive, and useful features of these activities were discussed and students suggested some improvements. The ideas were shared with the rest of the class as well. The group activity was followed by a demo lesson of Total Physical Response (TPR) method in Italian. Students were actively involved in the demo lesson, and then they had a discussion on it. Afterward, a video on Natural Approach was showed and the students analyzed the video with the help of the instructor. The class finished with an online game: Kahoot which can be found at https://kahoot.com/. The game provided the students with a revision of the topics.

The fourth and the last week of the data collection process started with the revision of the pre-class quiz questions on Desuggestopedia once again. Later on, the instructor conducted a demo lesson in English accompanied by a guitar on Desuggestopedia method. Actively engaged in the method, the students had a discussion on it. This session was followed by the revision of the pre-class quiz on Community Language Learning (CLL). Next, the class watched summary videos of two methods and they had a demo lesson in CLL in German. They talked about the advantages and disadvantages of the method in detail. Finally, they had a revision game of all the methods they had covered. The students were divided into two groups. One student from each group came to the board and the instructor asked them a short answer or True/False question. The person who pushed the reception bell first could answer the question and got a point if the correct answer was given.

Table 3

Summary of In-class Implementation of FC

Time	In-class	Week
1st hour	Analysis of the example scenario on GTM in the book Demo lesson in GTM in Italian Discussion session	
2nd hour	Analysis of the example scenario on DM in the book Demo lesson in DM in Italian Discussion session	**1**
3rd hour	Revision game about GTM and DM Revision of pre-class quiz questions	
1st hour	Group discussion and poster preparation on GTM, DM, ALM, and SW	
2nd hour	Poster presentation of the groups Demo lesson in ALM in Italian and discussion session	**2**

3rd hour	Analysis and discussion of some videos on SW Revision of pre-class quiz questions	
1st hour	Revision of pre-class quiz questions Coursebook analysis (Group work)	
2nd hour	Discussion on the course book content Demo lesson in TPR in Italian Discussion session	**3**
3rd hour	Analysis and discussion of some videos on Natural Approach Online revision game: Kahoot	
1st hour	Revision of pre-class quiz questions on Desuggestopedia Demo lesson in Desuggestopedia in English Discussion session	
2nd hour	Revision of pre-class quiz questions on CLL Demo lesson in CLL in German Discussion session	**4**
3rd hour	Revision game of all the methods covered	

After the implementation, Perception of Flipped Learning Experience Questionnaire (see Appendix A) was distributed once again as a post-test scale in the following week. The aim was to identify PSELTs' perceptions of FC after the implementation and to see if there was any change in their perceptions before and after the implementation. The questionnaire was succeeded by Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey (see Appendix B) in order to obtain the opinions of the PSELTs on the pre-class learning experience and the materials.

Interviews were conducted with the participants selected by purposive sampling right after the participants' midterm scores were announced so as to get maximum variation as explained in the setting and participants section of this chapter. The participants were interviewed mainly about their opinions on the advantages and disadvantages of FC, the aspects they liked the most and the least, in-class activities, interaction, teacher and student roles, and the pre-class learning experience. Each interview lasted for approximately 20 minutes. The interviewees were taken to a different class one by one and all of them were interviewed out of class hours. They were assured that their identities would not be revealed and their opinions would not be shared with the instructor. The instructor of the course was also interviewed about similar issues and expected to reflect on her observations too. Interview questions can be found in Appendix D.

Data Analysis

Rationale for the Use of Non-parametric Tests. To determine whether the available data needs to be analyzed by parametric or non-parametric tests, normality tests were performed by looking into Kolmogorov-Smirnov test and Shapiro-Wilk statistics. The number of participants in this study is 29 (n=29). For smaller sample sizes between 3 and 50, Shapiro-Wilk test is suggested to be used to assess the normality of distribution since it is much more sensitive and the most powerful (Ahad, Yin, Othman, & Yaacob, 2011; Elliot & Woodward, 2007; Mendes & Pala, 2003; Öztuna, Elhan, & Tüccar, 2006; Razali & Wah, 2011; Shapiro & Wilk, 1965, 1972; Yazıcı & Yolacan, 2007). As it is seen from Table 4 indicated below, the Shapiro-Wilk test result revealed that the pre-test was normally distributed (p >.05) as it had a statistically nonsignificant result (p=0.072).

Table 4

Test of Normality for Pre-test Scale

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	*Sig.*	*Statistic*	*df*	*Sig.*
Pretest_TOTAL	,163	29	,046	,934	29	,072

a. Lilliefors Significance Correction

As for the post-test scale, the test of normality was performed once again. According to Shapiro-Wilk test, the Sig. value of the post-test scale was statistically significant (p < .05), indicating that this scale displayed a non-normal distribution (p= .007) (Table 5).

Table 5

Test of Normality for Post-test Scale

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	*Sig.*	*Statistic*	*df*	*Sig.*
Posttest_TOTAL	,116	29	,200*	,893	29	,007

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

A non-parametric analysis of the data was preferred since a normality assumption cannot be justified for the post-test scale and non-parametric techniques are "useful when you have very small samples and when your data do

not meet the stringent assumptions of the parametric techniques" (Pallant, 2011, p. 213).

Tests Employed. Data were analyzed both quantitatively and qualitatively. Quantitative data analysis was performed through SPSS Statistics 24.0 after the implementation of pre-test and post-test scales. In this study Cronbach's alpha coefficient for reliability was found as α =.91 for Perception of Flipped Learning Experience Questionnaire at the pre-test step. In the post-test stage, Cronbach's alpha coefficient for reliability was α=.92 for Perception of Flipped Learning Experience Questionnaire. The non-normal distribution of the data and the small sample size require the use of non-parametric techniques which "do not have such stringent requirements and do not make assumptions about the underlying population distribution" (Pallant, 2011, p. 213), and therefore non-parametric tests were decided to be used in this study.

For the first research question which aimed to identify PSELTs' perceptions of the FC, Perception of Flipped Learning Experience Questionnaire (see Appendix A) was used and measurements were done by descriptive statistics and calculating frequencies of each item.

To find an answer to the second question which aimed to find out if there were any changes in PSELTs' attitudes after experimenting the FC, Perception of Flipped Learning Experience Questionnaire was used once again. It was used as a pre-test scale before the implementation of FC (i.e. Time 1) and as a post-test scale after the implementation (i.e. Time 2). The Wilcoxon Signed Rank Test compares the data at Time 1 and Time 2. Therefore, the Wilcoxon was adopted to compare the scores before and after the intervention. According to Pallant (2011), the Wilcoxon Signed Rank Test is used for repeated measures, which means that the participants of the study are measured on two different situations or under two different circumstances.

The third research question which aimed to reveal PSELTs' attitudes toward the pre-class learning experience and materials in this course was investigated using Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey (see Appendix B) of which Cronbach's alpha coefficient for reliability was

found as α =.87 in this study. To analyze the data, descriptive statistics were applied and the frequencies of each item were calculated.

Lastly, the fourth research question which aimed to discover the instructor's perceptions of the FC model was investigated using qualitative content analysis. In addition to quantitative descriptive statistics, the qualitative content analysis was also used for finding the answers to the research questions 1, 2 and 3. The qualitative content analysis, which also allows quantifying the data (Gbrich, 2007), was based on Dörnyei (2007)'s latent content analysis where "the qualitative categories used in the content analysis are not predetermined but are derived inductively from the data analysed" (p.245). Similarly, Perakyla and Ruusuvuori (2011) mention not following a predefined protocol but reading the raw data over and over again to come up with main themes. Accordingly, the transcriptions of the interviews were reread many times and the transcribed data were initially coded to get the general sense and define key themes and categories. Coding refers to underlining and labeling some extracts of the transcriptions for the purpose of easy identification of themes and retrieval of extracts (Dörnyei, 2007), and codes are "tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study…. attached to 'chunks' of varying size-- words, phrases, sentences, or whole paragraphs, connected or unconnected to a specific setting" (Miles & Huberman, 1994, p. 56). Maxwell (2005) addresses the benefits of coding such as helping easy comparisons between the data and deduction of some theoretical concepts. Another benefit is sharper definitions as uttered by Miles and Huberman (1994).

The researcher and the peer coder read through the first interview's transcribed data independently and coded it separately. After coding, they met and examined the codes and sought an agreement based on these codes. Agreeing upon the codes to a large extent, they followed the same procedure for the rest of the data. Afterward, the codes started to be compared. For this study, the agreement upon the codes meant that the independent coders assigned the same or very similar word to the same text segment. After achieving an agreement to a great extent, they identified some themes and categories. Then, the codes were transferred to an Excel document and matched with the appropriate themes and categories independently by the coders. The frequency of recurring codes was

calculated and the extent to which an agreement between the independent coders was checked. According to Miles and Huberman (1994), check-coding offers a good reliability check. Intercoder reliability is the extent to which independent coders agree on the same codes (Campbell, Quincy, Osserman, & Pedersen, 2013; Lombard, Snyder-Duch, & Bracken, 2002). Therefore, it was aimed to establish at least a 90% percent agreement of coding as suggested by Miles and Huberman (1994). Neuendorf (2002) also asserts that "coefficients of .90 or greater would be acceptable to all, .80 or greater would be acceptable in most situations, and below that, there exists great disagreement" (p. 145). A kappa reliability statistic on the agreement was also calculated.

Chapter 4
Findings

Introduction

This part of the study will present the results of the research data and the analyses based on the research questions which will be restated below. Each analysis will be explained through the quantitative or qualitative data analysis methods used.

This study attempts to answer the research questions below:

1. What are PSELTs' perceptions of the FC?

2. Are there any changes in PSELTs' attitudes after experimenting the FC?

3. What are PSELT' attitudes toward the pre-class learning experience and materials in this course?

4. What are the instructor's perceptions of the FC model?

Quantitative Findings

PSELTs' Perceptions of the FC. In this part of the study, research questions are aimed to be answered. The first research question is "What are PSELTs' perceptions of the FC?" To be able to answer this question, it is necessary to analyze their perceptions before and after the intervention. For that purpose, the pre-test and the post-test findings were analyzed through descriptive statistics and their frequencies were calculated as well.

PSELTs' perceptions of the FC before the intervention.

Motivation. Five items of the questionnaire which are 2, 4, 7, 8, and 11 assessed participants' motivation before the implementation of FC.

Table 6

Descriptive Statistics of Pre-motivation Items

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
	f	%	f	%	f	%	f	%	f	%	M	SD
2. I enjoy the FC teaching approach more.	1	3.4	3	10.3	19	65.5	6	20.7	-	-	3.03	.68

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree			
4. I feel more motivated in a FC.	2	6.9	2	6.9	16	55.2	8	27.6	1	3.4	3.14	.88
7. I think the time and effort I spend in the FC is worthwhile.	-	-	3	10.3	11	37.9	11	37.9	4	13.8	3.55	.87
8. I prefer the FC to a lecture-based classroom.	2	6.9	4	13.8	12	41.4	7	24.1	4	13.8	3.24	1.09
11. I experience pleasure in the FC.	1	3.4	3	10.3	16	55.2	8	27.6	-	-	3.00	.93
Pre-motivation total	6	4.2	15	10.4	74	51.4	40	27.8	9	6.3		

When looked into the results of the motivation sub-scale of the questionnaire above, just few participants (20.7%; 6 of 29) agreed with the item 2 that stated: "I enjoy the flipped classroom teaching approach more". The great majority of those (65.5 %; 19 of 29) who responded to this item were neutral. There were again few participants (13.7%, 4 of 29) who thought that they would not enjoy the FC experience more. Similar responses were yielded for item 4 which stated: "I feel more motivated in a flipped classroom". Once again the neutral participants were the majority (55.2%, 16 of 29). However, the number of the participants who either agreed or strongly agreed were more (31%, 9 of 29) while the ones who either disagreed or strongly disagreed were less (13.8%, 4 of 29). Item 7 stated: "I think the time and effort I spend in the flipped classroom is worthwhile". The majority of the participants equally either were neutral (37.9%, 11 of 29) or agreed with the item (37.9%, 11 of 29). Four of them (13.8%) strongly agreed with the statement. On the other hand, there were only few who disagreed (10.3%, 3 of 29). The participants who were neutral toward the item 8: "I prefer the flipped classroom to a lecture-based classroom" (41.4%, 12 of 29) were slightly above the ones who either agreed or strongly agreed (37.9%, 11 of 29). The results indicated that 20.7% (6 of 29) of the participants did not support the idea. Lastly, the great number of the participants (55.2%, 16 of 29) were neutral toward item 11: "I experience pleasure in the flipped classroom". The number of the participants who agreed with the item (27.6%, 8 of 29) outnumbered the ones who either disagreed or strongly disagreed (13.7%, 4 of 29).

Effectiveness. Items 1, 3, 8, 10 examined the effectiveness of the FC model.

Table 7

Descriptive Statistics of Pre-effectiveness Items

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Descriptive

Items	f	%	f	%	f	%	f	%	f	%	M	SD
1. A FC is a better way of learning.	1	3.4	4	13.8	13	44.8	8	27.6	2	6.9	3.10	1.08
3. I think the FC is a more effective and efficient way to learn.	1	3.4	5	17.2	10	34.5	10	34.5	3	10.3	3.31	1.00
8. I learn more and better in the FC.	2	6.9	2	6.9	20	69.0	4	13.8	-	-	2.83	.89
10. I think the FC learning guides me toward better understanding of the course topics.	1	3.4	4	13.8	9	31.0	12	41.4	3	10.3	3.41	.98
Pre-effectiveness total	5	4.4	15	13.2	52	45.6	34	29.8	8	7.0		

As can be seen from the table above, 44.8 % of the participants (13 of 29) were neutral toward item 1 which stated: "A flipped classroom is a better way of learning". However, the number of the participants who either agreed or strongly agreed (34.5%, 10 of 29) were more than the ones who either disagreed or strongly disagreed (17.2%, 5 of 29). Item 3 stated: "I learn more and better in the flipped classroom". Interestingly, the participants who were either neutral (34.5%, 10 of 29) or agreed (34.5%, 10 of 29) had the same percentages. Besides, three of the participants (10.3%) strongly agreed with the statement. Only few participants (20.6%, 6 of 29) either disagreed or strongly disagreed. The participants overwhelmingly responded that they were neutral (69.0%, 20 of 29) toward the item 8: "I learn more and better in the flipped classroom". The number of the participants who were in the opposite opinion (13.8%, 4 of 29) were the same with the ones who agreed (13.8%, 4 of 29). Lastly, results indicate that a slightly over half of the participants (51.7 %, 15 of 29) thought that the flipped classroom learning would guide them toward a better understanding of the course topics by revealing either agreement or strong agreement with the item. While 31.05 of the participants of them (9 of 29) were neutral, the participants who were in disagreement had the lowest percentage17.2% (5 of 29).

Engagement. The items that addressed the engagement of participants in the FC were 5, 6, 12, and 13.

Table 8

Descriptive Statistics of Pre-engagement Items

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
Items	f	%	f	%	f	%	f	%	f	%	M	SD

Item	f	%	f	%	f	%	f	%	f	%	M	SD
5. I participate and engage myself more in learning in the FC.	1	3.4	3	10.3	18	62.1	5	17.2	2	6.9	3.14	.83
6. I become a more active learner in the FC.	1	3.4	4	13.8	12	41.4	10	34.5	2	6.9	3.28	.92
12. I devote myself more to the instructional/class activities in the FC.	1	3.4	2	6.9	15	51.7	10	34.5	1	3.4	3.28	.80
13. I spend more time and effort than usual on my FC learning activities.	-	-	5	17.2	16	55.2	6	20.7	2	6.9	3.17	.81
Pre-engagement total	3	2.6	14	12.1	61	52.6	31	26.7	7	6.0		

In Table 8, the analysis shows the results for item 5 "I participate and engage myself more in learning in the flipped classroom" with a large majority of the participants' neutral attitude (62.1%, 18 of 29). While 24.1% of the participants (7 of 29) held positive attitudes toward the item, the only small percentage of participants appeared to be of the opposite opinion (13.7%, 4 of 29). For the item 6 that stated "I become a more active learner in the flipped classroom", the Table 8 demonstrates that equal numbers of participants were either neutral (41.4%, 12 of 29) or in agreement or strong agreement with the statement (41.4%, 12 of 29). Just 17.2% of the participants (5 of 29) disagreed. Once again the participants who were neutral for the item 12 "I devote myself more to the instructional/class activities in the flipped classroom" were the majority (51.7%, 15 of 29). Neutral opinions were followed by the ones who either strongly agreed or agreed (37.9%, 11 of 29). The ones who disagreed were in the minority (10.3%, 3 of 29). Finally, the last item of the engagement sub-scale held mostly neutral views (55.2%, 16 of 29). While 27.6% (8 of 29) were of the positive opinions, 17.2% of them (5 o 29) held some negative thoughts.

Overall Satisfaction. This sub construct has only one item, item 14. It stated: "Generally, I am happy and satisfied with this flipped learning experience". It is concerned with the overall satisfaction with this new model of teaching the participants hope to have at the end of the intervention. As seen from Table 9, the majority of the participants (55.2%, 16 of 29) were neutral once again. The participants who either agreed or strongly agreed (27.6%, 8 of 29) were still more than the ones who were in disagreement (17.2%, 5 of 29).

Table 9

Descriptive statistics of Pre-overall Satisfaction Item

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
	f	%	f	%	f	%	f	%	f	%	M	SD
14. I enjoy the FC teaching approach more.	1	3.4	4	13.8	16	55.2	6	20.7	2	6.9	3.14	.88

PSELTs' perceptions of the FC after the intervention.

Motivation. There were five items which assessed participants' motivation after the implementation of FC. These items are 2, 4, 7, 9, and 11.

Table 10

Descriptive Statistics of Post-motivation Items

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
	f	%	f	%	f	%	f	%	f	%	M	SD
2. I enjoyed the FC teaching approach more.	-	-	1	3.4	-	-	11	37.9	17	58.6	4.52	.69
4. I feel more motivated in a FC.	-	-	2	6.9	2	6.9	11	37.9	14	48.3	4.28	.88
7. I thought the time and effort I spent in the FC was worthwhile.	-	-	1	3.4	6	20.7	14	48.3	8	27.6	4.00	.80
9. I prefer the FC to a lecture-based classroom.	-	-	1	3.4	5	17.2	12	41.4	11	37.9	4.14	.83
11. I experienced pleasure in the FC.	-	-	1	3.4	-	-	15	51.7	13	44.8	4.38	.68
Post-motivation total	0	0	6	4.1	13	9.0	63	43.4	63	43.4		

After the intervention, results from the motivation sub-scale in Table 10 indicate that the overall response to this item was very positive. The FC teaching approach was enjoyed more by almost all the participants (96.5 %; 28 of 29), except for one. The majority of the respondents either agreed or strongly agreed with the item 2: "I enjoyed the flipped classroom teaching approach more". Unlike item 2, item 4, which stated "I feel more motivated in a flipped classroom received mixed results from the participants". Although the vast majority of the participants (86.2%, 25 of 29) either agreed or strongly agreed two participants disagreed and two were neutral. For item 7 that stated, "I thought the time and effort I spent in the flipped classroom was worthwhile", three-fourths of the participants agreed with the item (75.9%, 22 of 29). While only one participant disagreed, six of them were neutral. There was no one who strongly disagreed. Item 9, "I prefer the flipped classroom to a lecture-based classroom", appeared to be agreed on by 79.3 % of the participants

(23 of 29). Only one held an opposite idea while five of them were neutral. Item 11, "I experienced pleasure in the flipped classroom", just like item 4 elicited the strongest response from the participants for this sub-construct. The majority of the participants (96.5 %, 28 of 29) either agreed or strongly agreed with the item while only one participant disagreed.

Effectiveness. Items 1, 3, 8, 10 examined the effectiveness of the FC model.

Table 11

Descriptive Statistics of Post-effectiveness Items

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
	f	%	f	%	f	%	f	%	f	%	M	SD
1. A FC is a better way of learning.	-	-	1	3.4	1	3.4	15	51.7	12	41.4	4.31	.71
3. I think the FC is a more effective and efficient way to learn.	-	-	1	3.4	3	10.3	13	44.8	12	41.4	4.24	.79
8. I learned more and better in the FC.	-	-	1	3.4	5	17.2	13	44.8	10	34.5	4.10	.82
10. I think the FC learning guided me toward better understanding of the course topics.	-	-	1	3.4	4	13.8	12	41.4	12	41.4	4.21	.82
Post-effectiveness total	0	0	4	3.4	13	11.2	53	45.7	46	39.7		

When looked at the results presented in Table 11, none of the participants strongly disagreed with any of the items under effectiveness sub-scale. Of the 29 participants who responded to this item, 27 (93.1%) reported that a flipped classroom was a better way of learning by showing an agreement with item 1; however, one participant disagreed and one was neutral. Similarly, in response to the item 3 stating "I think the flipped classroom is a more effective and efficient way to learn", most of those surveyed (86.2%, 25 of 29) indicated that they either agreed or strongly agreed. While only one person disagreed, 3 of them were neutral. Item 8 stated: "I learned more and better in the flipped classroom". 79.3 % of the participants (23 of 29) were of the opinion that they learned more and better in this new model of teaching. Only one claimed that s/he did not learn more and better in FC. Five of them were neutral on this issue. Item 10 was the last item of the effectiveness construct of the scale and it stated: "I think the flipped classroom learning guided me toward a better understanding of the course topics". 82.8 % of

the participants (24 of 29) either agreed or strongly agreed with the item. Only one participant disagreed while four of them were neutral.

Engagement. The items that addressed the engagement of participants in the FC were 5, 6, 12, and 13.

Table 12

Descriptive Statistics of Post-engagement Items

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
Items	f	%	f	%	f	%	f	%	f	%	M	SD
5. I participated and engaged myself more in learning in the FC.	-	-	2	6.9	3	10.3	11	37.9	13	44.8	4.21	.90
6. I became a more active learner in the FC.	-	-	2	6.9	4	13.8	10	34.5	13	44.8	4.17	.93
12. I devoted myself more to the instructional/class activities in the FC.	-	-	1	3.4	8	27.6	10	34.5	9	31.0	3.83	1.14
13. I spent more time and effort than usual on my FC learning activities.	1	3.4	2	6.9	6	20.7	13	44.8	7	24.1	3.79	1.01
Post-engagement_total	1	0.9	7	6.1	21	18.3	44	38.3	42	36.5		

As shown in Table 12, a high percentage of the participants (82.7 %, 24 of 29) either agreed or strongly agreed with item 5 stating "I participated and engaged myself more in learning in the flipped classroom". While two of them disagreed and three of them were neutral. Likewise, a vast majority of the participants (79.3 %, 23 of 29) were of the opinion that they became active learners thanks to FC (item 6) even though two of them were in disagreement with this idea. Four of them were neutral. Item 12 in this sub construct has the least majority. Only 65.5 % (19 of 29) of participants were of the opinion that they devoted themselves more to the instructional/class activities in the flipped classroom. Interestingly, only one person disagreed with this item. One person did not give any response to the item. Eight participants were neutral. In response to the item 13, a range of responses was elicited. Slightly over two-thirds of the participants (68.9%, 20 of 29) either agreed or strongly agreed with the item stating, "I spent more time and effort than usual on my flipped classroom learning activities", whereas two of them disagreed and one of them strongly disagreed. Six of them were neutral.

Overall Satisfaction. This sub construct has only one item, item 14. It stated: "Generally, I am happy and satisfied with this flipped learning experience". It is concerned with the overall satisfaction of the participants with this new model of teaching. The majority of the participants (93.1 %, 27 of 29) claimed that they were satisfied with the new approach while only one of them disagreed and one was neutral.

Table 13

Descriptive Statistics of Post-overall Satisfaction Item

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
Items	f	%	f	%	f	%	f	%	f	%	M	SD
14. Generally, I am happy and satisfied with this flipped learning experience.	-	-	1	3.4	1	3.4	11	37.9	16	55.2	4.45	.74

Changes in PSELTs' Attitudes. Research question 2: Are there any changes in PSELTs' attitudes after experimenting the FC?

To ascertain whether there are any changes in PSELTs' attitudes towards FC before and after the intervention, Perception of Flipped Learning Experience Questionnaire results were analyzed through a non-parametric Wilcoxon Signed Rank Test. As seen in Table 14, the median score on Perception of Flipped Learning Experience Questionnaire increased from pre-test scale before the intervention (Md = 45) to post-test scale after the intervention (Md = 58), which shows that participants held a more positive attitude after the implementation of FC. As shown below in Table 15, results of the Wilcoxon Signed Rank Test revealed that this was a statistically significant difference in participants' perceptions (Z = -4,706, p < ,001) with a large effect size (r = .61).

Table 14

Descriptive Statistics (Pre-test & Post-test)

						Percentiles		
	N	Mean	SD	Min	Max	25th	50th (Median)	75th
Pretest_TOTAL	29	44.62	8.87	19.00	61.00	40.50	45.00	49.50
Posttest_TOTAL	29	58.62	8.50	29.00	70.00	54.00	58.00	64.50

Table 15

The Results of the Wilcoxon Signed Rank Test (Pre-test & Post-test)

	Posttest_TOTAL Pretest_TOTAL
Z	-4,706ᵃ
Asymp. Sig. (2-tailed)	,000

a. Based on negative ranks

As presented in Table 16 below, the highest level of increase was ascertained in participants' motivation levels between before the intervention (Md = 16) and after the intervention (Md = 22). Effectiveness of FC follows the motivation of participants as the second highest level of increase (from Md = 13 to Md =17). The next highest level of increase belonged to the engagement of participants (from Md = 13 to Md =16). Overall satisfaction of participants turned out to be the lowest level of increase (from Md = 3 to Md =5). When looked into Table 17 below, results of the Wilcoxon Signed Rank Test displayed statistically significant differences in each sub construct of the Perception of Flipped Learning Experience Questionnaire: Post_motivation-pre_motivation, $Z = -4,660$, $p < ,001$, $r = .61$; Post_effectiveness- pre_effectiveness, $Z = -4,637$, $p < ,001$, $r = .60$; Post_engagement- pre_engagement, $Z= -3,864$, $p < ,001$, $r = .50$; post_overallsatisfaction- pre_overallsatisfaction, $Z = -4,294$, $p < ,001$, $r = .56$).

Table 16

Descriptive Statistics of Sub Constructs of Perception of Flipped Learning Experience Questionnaire

						Percentiles		
	N	Mean	SD	Min	Max	25th	50th (Median)	75th
Pre_motivation	29	15.97	3.60	6.00	22.00	15.00	16.00	18.50
Post_motivation	29	21.31	3.11	11.00	25.00	19.50	22.00	24.00
Pre_effectiveness	29	12.66	3.33	4.00	19.00	10.50	13.00	15.00
Post_effectiveness	29	16.86	2.75	8.00	20.00	15.50	17.00	19.00
Pre_engagement	29	12.86	2.23	8.00	17.00	12.00	13.00	14.50
Post_engagement	29	16.00	3.12	8.00	20.00	14.50	16.00	18.00
Pre_overallsatisfaction	29	3.14	.88	1.00	5.00	3.00	3.00	4.00
Post_overallsatisfaction	29	4.45	.74	2.00	5.00	4.00	5.00	5.00

Table 17

The Results of the Wilcoxon Signed Rank Test (Sub Constructs of Perception of

Flipped Learning Experience Questionnaire)

	Post_motivation-Pre_motivation	Post_effectiveness-Pre_effectiveness	Post_engagement-Pre_engagement	Post_overallsatisfaction-Pre_overallsatisfaction
Z	-4,660[a]	-4,637[a]	-3,864[a]	-4,294[a]
Asymp. Sig. (2-tailed)	,000	,000	,000	,000

a. Based on negative ranks.

PSELTs' Attitudes toward the Pre-class Learning Experience and Materials. Research question 3: What are PSELT' attitudes toward the pre-class learning experience and materials in this course?

To gather information about PSELTs' attitudes and perceptions about the pre-class learning experience and materials, Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey was used. Here pre-class videos refer to any pre-class learning materials other than assigned readings such as videos, audios, and PPTs. Participants are expected to give their opinions about the usefulness of these materials. Perceptions of the participants regarding the pre-class learning materials were examined through descriptive analysis.

Table 18

Descriptive Statistics of Participants Attitudes and Perceptions of Their Pre-class

Learning Experience Survey

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Descriptive	
Items	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*	Mean	SD
1. I like viewing pre-class videos better than reading text materials.	-	-	3	10.3	5	17.2	8	27.6	13	44.8	4.07	1.03
2. The videos helped me understand the topic knowledge better.	-	-	1	3.4	3	10.3	14	48.3	11	37.9	4.21	.77
3. The videos were helpful because I could do them on my own time.	-	-	1	3.4	1	3.4	17	58.6	10	34.5	4.24	.69

Item	SD n	SD %	D n	D %	N n	N %	A n	A %	SA n	SA %	Mean	SD
4. The videos were easy to learn from.	-	-	2	6.9	3	10.3	15	51.7	9	31.0	4.07	.84
5. The topics were well-explained in the videos.	-	-	3	10.3	6	20.7	14	48.3	6	20.7	3.79	.90
6. The videos were helpful for completing the quizzes.	-	-	1	3.4	7	24.1	16	55.2	5	17.2	3.86	.74
7. The quizzes helped me understand the knowledge covered in the videos.	1	3.4	2	6.9	5	17.2	11	37.9	10	34.5	3.93	1.07

As the results indicate in Table 18, none of the participants strongly disagreed with the items except for the last one. Item 1 stated: "I like viewing pre-class videos better than reading text materials". The majority of the participants (72.4%, 21 of 29) either agreed or strongly agreed with the statement. While three of the participants disagreed, five of them were neutral. Item 2 stated: "The videos helped me understand the topic knowledge better". Even though less majority (72.4%) liked viewing pre-class videos better than reading text materials as revealed by item 1, more majority of the participants (86.2 %, 25 of 29) accepted that they understood the content better thanks to the videos. Only one disagreed with this item, whereas three were neutral. The strongest response was obtained by Item 3 which stated: "The videos were helpful because I could do them on my own time". Of the 29 participants, 27 (93.1%) were of the opinion that covering the content of videos at any time helped the participants. Only two participants' thoughts differed from the rest. Item 4, which stated "the videos were easy to learn from"", appeared to be agreed on by 82.7 % of the participants (24 of 29). Two participants disagreed with the item and three were neutral. Item 5 had less positive responds and it stated: The topics were well-explained in the videos". 69 % participants (20 of 29) found the content of pre-class materials well-explained. Three of them did not find these materials' content well-explained, and six were neutral. In response to the item 6, which stated "The videos were helpful for completing the quizzes", most of those surveyed (79.3%, 21 of 29) the videos useful for quizzes. Only one participant was not in the same opinion. Seven of them stayed neutral. The last item elicited mixed results. It stated: "The quizzes helped me understand the knowledge covered in the videos". 72.4 % of the participants either agreed or strongly agreed with the

statement. While one participant strongly disagreed with this item, two of them disagreed. Five of them, on the other hand, remained neutral.

Qualitative Findings

On completion of the intervention, a post-test of scales was conducted. Following this, interviews were held with 12 PSELTs and the instructor. PSELTs interviewees were selected through purposive sampling method which is a non-probability sample. As described in detail in setting and participants section (see Chapter 3), the maximum variation (heterogeneity) sampling was found to be appropriate to determine the population to be interviewed. Therefore, the interviewees differed widely from each other depending on their exam results and metaphors they used to define the FC. The guided semi-structured interview included 9 questions for the participant students (see Appendix C) and 12 questions for the instructor (see Appendix D). The interviewees were mainly asked about their perceptions of the FC, its advantages and disadvantages, the most and the least favored aspects of the method, pre-class learning experience and materials, and in-class activities. They were also asked to compare the interaction, teacher and student roles in TC and FC. Each interview lasted for approximately 20 minutes. The interviewees were taken to a different class one by one and all of them were interviewed out of class hours. Anonymity was guaranteed as well. By employing qualitative modes of enquiry, this study attempts to help to explain and extend more on the quantitative outcome results. The analysis of qualitative data was carried out through Dörnyei (2007)'s latent content analysis where the qualitative categories were deducted from the transcribed data. The transcriptions of the interviews were read several times and coded by the independent coders, which was followed by the identification of larger representations of categories and themes. On completion of coding, check-coding was conducted. As suggested by Miles and Huberman (1994), the purpose was to reach at least 90% percent agreement of coding. Cohen's kappa was run to determine the level of agreement between the independent coders and an almost perfect agreement between the independent coders was found, $K = .988$, $p < .0005$ as seen from Table 19.

Table 19

The Results of Cohen's Kappa Statistics

		Value	Asymptotic Standard Error[a]	Approximate[b]	Approximate Significance
Measure of Agreement	*Kappa*	.988	.005	136.36	.000
N of Valid Cases		493			

a. Not assuming the null hypotheses.

b. Using the asymptotic standard error assuming the null hypothesis.

Primary six broad themes emerged from the qualitative analysis as presented in Table 20. These themes recurred throughout the dataset.

Table 20

The Primary Emergent Themes

Themes	Codes	*f*
Affective impacts	fun/enjoyable/not bored/not boring	36
	positive feelings	32
	motivation and eagerness	24
	fruitful/beneficial/useful/helpful	19
	low-stress/ feeling comfortable	14
	getting used to	3
	humanistic/ no authority/teacher support	3
	increased confidence	2
Content Learning	more permanent and effective learning	15
	novelty	7
	reinforcement	7
	unlimited repetition	6
	visualizing	4
	many/more resources	3
	constant access to materials	1
	access to materials anywhere	1
	ability to replay/rewind/pause/revise the materials	1
	increased knowledge	1
Impact on teaching and learning process	preparedness	16
	in-class activities	14
	learning by practicing/experiencing	14
	active participation/engagement	10
	learning by having fun	4
Collaboration	peer support/help	4
	learning from each other	3
	becoming a unity/team	3

	increased interaction	15
	Students discussing/talking/sharing ideas more	8
Social Impacts	better & stronger relationships	7
	socializing	7
	self-regulated learning	9
Independent Learning	individualized pace	7
	self-responsibility	7

In this study qualitative data provide additional information to the first research question that attempts to reveal PSELTs' general perceptions of FC, to the second research question which tries to identify any changes in their perceptions after the intervention, and finally to the third research question that illustrates their attitudes toward the pre-class learning experience and materials in this course. Furthermore, the perceptions of the instructor and the process she went through were attempted to be revealed by the qualitative data.

PSELTs' Perceptions of the FC. The first research question is, "What are PSELTs' perceptions of the FC?" Qualitative data aimed to provide deeper insights and further understanding of the quantitative findings. In terms of PSELTs' general perceptions of the FC, latent content analysis of the qualitative data turned up seven categories: (1) the impact of FC on PSELTs' emotions, (2) the most and the least liked aspects, (3) the advantages and disadvantages of FC, (4) interaction, student and teacher roles in TC and FC, (5) PSELTs' perceptions of TC, (6) PSELTs' perceptions of FC, and finally (7) PSELTs' perceptions of in-class materials. They are discussed below along with the excerpts from the interviewees' responses.

Table 21

The Impact of FC on PSELTs' Emotions

Categories	Codes	*f*
	motivation and eagerness	15
	positive feelings	11
	fun/enjoyable/not bored/not boring	6
Impact on Emotions	low-stress/ feeling comfortable	5
	socializing	1
	increased confidence	1
	stressed after a while	1

The impact of FC on PSELTs' emotions is one of the central categories. As seen from Table 21, the noticeable aspect of this category is the abundance of positive perceptions. Motivation and eagerness is the most frequently reported emotion (f=15) and it was uttered like in the following example:

Let me put it in this way: Normally I am a person who is bored with the lessons when I come to the school. I was used to be the one who got bored because of the content and monotony of the lessons. However, the moment when we started the flipped classroom, I felt that I was coming to the lessons more eagerly. More enthusiastic. (Student 5)

Flipped classroom is more motivating, which is an advantage for me because I was eager to come to the classes by thinking about different in-class activities. (Student 6)

I came to classes more eagerly and this model reduced my stress level. (Student 8)

One of the participants points at his motivation resulting in his efforts to attend the classes regularly:

It changed my perspective on the lesson to begin with. If this lesson had been taught through the textbook, I would most probably start not to come to the lessons. Until now I was absent from this lesson only once because of something that came up. Except for this lesson, I have higher levels of absenteeism in other lessons. (Student 6)

Motivation and eagerness is followed by and generally associated with positive feelings (f=11) just like in the following example:

In general it affected my emotions positively. I can say that I have come to the classes more eagerly. (Student 8)

In general I had positive feelings. I was very curious and always positive towards this model because I do not like conventional methods at all. (Student 3)

Having fun (f=6) is another code that is reported quite often:

When the teacher reads from the slides –because we have such teachers –, it is both tiring and unfruitful in terms of both the teacher and students.

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However, my thoughts changed thanks to the flipped classroom. You learn by having fun in flipped classroom. (Student 11)

I find it more fun in terms of learning. (Student 5)

I really had a lot of fun in flipped classroom. We were both active and energetic. I enjoyed a lot and found it very useful. (Student 11)

Fun is also associated with motivation by most of the interviewees:

It is more motivating. It encourages me to study because it is fun. My enthusiasm for classes increased. (Student 3)

Since I had fun in flipped classroom, I was more motivated and eager to participate more. (Student 11)

In terms of advantages, classes are fun and students come eagerly, which is very good for student because I remember sleeping in some classes. (Student 7)

Feeling comfortable (f=5) in a low-stress environment comes after the code 'having fun':

I felt very comfortable in the classroom environment especially when I was prepared. (Student 9)

A stress-free environment was created. (Student 1)

I thought that classes were more enjoyable and learning the content and taking the quizzes at home made me feel more comfortable. (Student 8)

Only one participant reported that she started to feel stressed after a while because of the quizzes and the topics getting more difficult and boring:

There is something you have to do. You have to read and take the quiz, which made me feel stressed after a while. I think quizzes started to be more difficult when the topics started to bore us. (Student 10)

Table 22

PSELTs' Perceptions of the Most Liked and the Least Liked Aspects of FC

Categories	Codes	*f*
	in-class activities	10
	learning by practicing/experiencing	7

	active participation/engagement	4
	novelty	4
	visualizing	4
	increased interaction	1
	more permanent & effective learning	1
	socializing	1
The most liked aspects	better & stronger relationships	1
	unlimited repetition	1
	preparedness	1
	learning by having fun	1
	many/ more resources	1
	learning from each other	1
	becoming a unity/team	1
	constant access to materials	1
	ability to replay/rewind/pause the materials	1
	increased knowledge	1
	quizzes	7
	delay in uploading pre-class materials	3
	pre-class work	1
The least liked aspects	audios	1
	the absence of teacher outside the classroom	1

When participants were asked about the aspects of FC they liked the most and the least, the responses in Table 22 were given. As for the aspects they liked the most, in-class activities (f=10), learning by practicing/experiencing (f=7), active participation/engagement (f=4), novelty (f=4), and visualizing (f=4) were frequently mentioned. Participants' opinions on this subject as follows:

I really liked the novelty and it was better to learn by experiencing. Sometimes we learned with the help of guitar and sometimes we gave examples over different languages. In-class activities were one of the things I liked most. (Student 1)

I liked the availability of many resources for the content learning and in-class activities the most. (Student 5)

In-class activities is a distinctive feature of flipped classroom. Other classes start to get boring after a while. When you have something different in one of your classes, it is more enjoyable and you become more eager towards the course. (Student 6)

I liked the in-class activities most because it is not this much permanent and you cannot visualize the content when you just read from the book. When practiced, it is more effective and permanent. (Student 7)

The aspect I liked most was that we went beyond the conventional teaching such as listening to the instructor passively by just sitting and talking only when allowed by the instructor. We experienced many different things and did many different activities. I realized that the students really need novelty because we have been listening to lectures passively since we were six or seven. (Student 1)

What I found nice was the participative learning environment. Teacher reinforced the topics through many different activities. (Student 10)

I liked the times when we were active most. The model both increases our knowledge and socializes us more. Interaction with our peers increase. (Student 12)

I liked the demo lessons most because learning by experiencing is the best, in my opinion. I found them very effective because I can visualize the things done and experienced in the class (Student 4)

I liked demo lessons and competitions most. I learned better and visualized the content through demo lessons. (Student 9)

I liked applied in-class activities most because we could visualize the content. While just reading, I was not be able to imagine how to apply a method. (Student 10)

Concerning the least liked aspects, pre-class quizzes (f=7) and delay in uploading pre-class materials (f=3) were uttered as follows:

I did not like quizzes. (Student 7)

I liked the quizzes the least. (Student 6)

I liked the quizzes the least. They were boring for me. (Student 12)

The quizzes were uploaded at the very last moment, which was the aspect I liked the least. (Student 9)

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Not accessing the quizzes on time was the aspect I liked the least. I was studying and wanted to take the quiz, but the quiz had not been uploaded yet, which was a problem. (Student 10)

Table 23

PSELTs' Perceptions of the Advantages and Disadvantages of FC

Categories	Codes	*f*
	preparedness	6
	learning by practicing/experiencing	4
	self-regulated learning	4
	fun/enjoyable/not boring/not bored	3
	motivation & eagerness	3
	more permanent & effective learning	3
	low-stress/feeling comfortable	2
	reinforcement	2
	positive feelings	1
Advantages	fruitful/useful/beneficial/helpful	1
	active participation/engagement	1
	novelty	1
	self-responsibility	1
	unlimited repetition	1
	learning by having fun	1
	many/more resources	1
	becoming a unity/team	1
	access to materials anywhere	1
	quizzes	3
	pre-class work	2
	technological problems	2
Disadvantages	weekly preparation	2
	no internet access/ poor internet connection	1
	delay in uploading pre-class materials	1

When the participants were asked about the advantages and disadvantages of the model, the responses in Table 23 were given. With regard to advantages, preparedness (f=6), learning by practicing/experiencing (f=4), self-regulated learning (f=4) were reported the most frequently. Participants' opinions on the advantages of the model as follows:

Getting prepared beforehand and reinforcing the subject through in-class activities are some advantages. Teacher provides the materials, which is accelerating learning and more fruitful. (Student 5)

First of all, coming to the class prepared was an advantage for me. You have to come to the class prepared. (Student 12)

It was a good experience because it was more fun in comparison to conventional methods. It was also more fruitful because nobody comes to the class prepared in TC. Teacher just lectures and we listen. We are just looking. When we do not understand, teacher cannot spare each student enough time. However, we come to the class having a grasp of knowledge as we have already studied at home. (Student 3)

The advantage is to experience the content you have covered. You come to the class with some ideas. (Student 4)

The advantage is to experience many practices and repetitions. (Student 3)

In flipped classroom you should be more active because you learn by yourself and have to do something and be active in collaborative works, which makes a big contribution to learning. (Student 3)

I felt taking my own responsibility from the very first day. In other words, I determined what to do by myself. I need to find some other materials to reinforce the subject, and so on. (Student 5)

In flipped classroom student are taking more responsibility. (Student 8)

The advantage of the model is to give students their own responsibility, both before and in the classroom. It enables students to participate in the lesson. (Student 9)

And what is more, I read the chapters while listening to the audios on bed by lying down, which was more of taking a rest. Besides, conventional way of listening to a lecture can be done at home while you are about something in the kitchen or while you are playing games. In other words, it offers the course in a wide spectrum of options, which is quite comforting. (Student 1)

With respect to disadvantages, quizzes (f=3), pre-class work (f=2), technological problems (f=2), weekly preparation (f=2) were frequently mentioned. Participants' opinions on quizzes can be found in Table 22 above. Other most frequent disadvantages reported are as follows:

Pre-class work might be troublesome as sometimes we do not have enough time because of other assignments. (Student 11)

If we are not technologically equipped, it might be a disadvantage. I could not listen to the audios because I did not have internet connection at home. (Student 9)

As for disadvantages, technological problems and not uploading the materials on time can be listed. (Student 10)

Constant preparation is a disadvantage for me. (Student 12)

I see weekly responsibilities as a disadvantage, but we should do it if our teachers do it. (Student 11)

Table 24

PSELTs' Comparison of TC and FC

Categories		Codes	*f*
Interaction	TC	teacher-centered	8
		weak/limited/no interaction	6
		student hesitation	4
		one-way interaction	3
		interaction=answering questions	2
	FC	increased interaction	14
		students discussing/talking/sharing ideas more	6
		student-centered	4
		better & stronger relationships	1
Student roles	TC	passive	16
		listener	11
		receiver	3
	FC	more active/energetic	7
		self-responsibility	5
		participants	3
		preparedness	2
		better & stronger relationships	1
	TC	lecturer	10
		dictator	6
		authority	6

		more loaded for teacher before class	11
Teacher roles		guide	6
		friendly/not much authority/fun	5
		director/advisor/encourager	3
		more passive	3
		helper	3
	FC	leader/leading	3
		provider	2
		facilitator	2
		monitor	2
		less duties in class	2
		must be fully prepared	2
		resource	1
		like a group member/participant	1

When the participants were asked to compare interaction, student and teacher roles in TC and FC, the responses in Table 24 were given. In terms of interaction, teacher-centered (f=8) and weak/limited/no interaction (f=6) were uttered for TC as follows:

Conventional teaching is completely teacher-centered. (Student 4)

Conventional teaching is mostly teacher-centered. (Student 11)

In a TC the interaction with the teacher is weak. Teacher just lectures. (Student 11)

In conventional teaching, interaction does not go beyond questions and answers. (Student 12)

In a TC student-student interaction is not preferred much. What is more, it is not allowed… if you talk to the person next to you, most probably you will get scolded...making only five sentences in a 40-minute lesson. (Student 2)

I suppose we just interact with each other when we ask for pencils or erasers. (Student 3)

On the other hand, increased interaction (f=14) and students discussing/ talking/ sharing ideas more (f=6) were reported for FC as follows:

Student-student interaction increased a lot because we were involved in collaborative works. (Student 3)

The whole lesson is dependent on student-student interaction. (Student 1)

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In flipped classroom we can interact with the teacher online and have more in-class interaction with her through the activities. (Student 5)

In flipped classroom students become the focus of the lesson while the teacher becomes more passive. Students can share their opinions more comfortably and freely. (Student 1)

As for student roles, passive (f=16) and listener (f=11) were used to refer to student roles in TC while more active/ energetic (f=7) and self-responsibility (f=5) were reported for FC. With reference to teacher roles, lecturer (f=10) was the most frequent response for TC while more loaded for teacher before class (f=11) and guide (f=6) were used for FC like in the following examples:

In a TC we are listeners and passive receivers. (Student 5)

The teacher and students roles are reversed. In a TC student roles are not active but passive while teacher is active and authority. In flipped classroom students are highly active while the teacher is very passive. (Student 7)

The students in a conventional teaching model are like cinema audiences. At cinema you just sit and watch and then leave. (Student 1)

Students are more active in flipped classroom because it gives more sense of responsibility as everybody is responsible for their own learning. (Student 4)

In flipped classroom you have to participate actively to show that you have understood, which is a big responsibility. In my opinion, it is inculcating the sense of responsibility. (Student 4)

A student is more of the teacher of himself. (Student 5)

In flipped classroom teacher adopts a more guiding role, which makes the students more active. (Student 1)

In conventional teaching, a student is always the receiver. Rarely students become active to answer the teacher's question. (Student 1)

In a TC, interaction is one-way. Teacher lectures and you listen. (Student 7)

In flipped classroom the burden of preparing pre-class materials such as lecturing, recording, preparing slides and quizzes on the teacher increases. It is more loaded and a big burden for the teacher. (Student 7)

In flipped classroom the teacher is the one who provides the materials and resources for the content and guides students. (Student 5)

In conventional teaching teacher is like a resource but in flipped classroom she is more of a guide. (Student 8)

In flipped classroom students become teachers when necessary. They may change the roles. (Student 12)

Participants were not directly asked about their general perceptions of FC, TC, and in-class materials. However, some common codes and categories related to these issues revealed from their comments and responses to questions during the interviews. Tables 25, 26, and 27 display three categories and the frequencies of codes used.

Table 25

PSELTs' Perceptions of the TC

Categories	Codes	f
	teacher lectures	3
	no need to get prepared	3
	students are passive	2
	students getting bored	2
Traditional Classroom	not permanent	2
	not much chance to repeat	2
	no interaction	2
	no practice	1

Participants mostly perceive TC as a learning environment where teacher lectures (f=3) and students do not need to get prepared (f=3) as follows:

In TC, most probably teacher just takes a look at the subject and lectures. (Student 2)

The content is just lectured but we cannot see practices. (Student 3)

Nobody comes to the class prepared in TC. (Student 3)

Table 26

PSELTs' Perceptions of the FC

Categories	Codes	f
	fun/enjoyable/not bored/not boring	9
	fruitful/beneficial/useful/helpful	7
	more permanent and effective learning	6
	preparedness	6
	motivation and eagerness	5
	positive feelings	4
	reinforcement	4
	peer support/help	4
	self-regulated learning	4
	humanistic/ no authority/T support	3
	unlimited repetition	3
Flipped Classroom	learning by practicing/experiencing	3
	better & stronger relationships	3
	low-stress/ feeling comfortable	2
	in-class activities	2
	learning by having fun	2
	active participation/engagement	2
	learning from each other	2
	socializing	2
	individualized pace	2
	becoming a unity/team	1
	students discussing/talking/sharing ideas more	1
	self-responsibility	1

With respect to FC, many positive characteristics were attributed by the participants as shown in Table 26 Being fun/enjoyable/not bored/not boring (f=9) and fruitful/beneficial/useful/helpful (f=7) were frequently mentioned like in the following examples:

It is also better, more fun, and more permanent to prepare for the lesson beforehand and doing the activities all together in the classroom. (Student 2)

Classes are more fun and more participation is enabled in flipped classroom. (Student 7)

In flipped classroom you learn by having fun in addition to reinforcing your relationships with your friends, which makes you more motivated and eager to learn. (Student 11)

Since I came to the classes prepared with all these things, it was more fruitful with the in-class repetitions. (Student 3)

Sometimes we managed and directed the lesson through discussions, which was more fruitful. (Student 7)

Table 27

PSELTs' Perceptions of the In-class Materials

Categories	Codes	f
	more permanent & effective learning	4
	fun/enjoyable/not bored/not boring	3
	socializing	3
In-class Materials	low-stress/ feeling comfortable	2
	in-class activities	2
	fruitful/useful/beneficial/helpful	1
	self-regulated learning	1
	students discussing/talking/sharing ideas more	1
	better & stronger relationships	1

Regarding in-class materials, participants were mostly of the opinion that in-class materials provided more permanent and effective (f=4) and enjoyable (f=3) learning environment and helped socializing (f=3) as follows:

We can revise the topics comfortably at home and we can actively participate in the discussions and experience the content in the classroom through in-class activities, which provides more permanent learning. (Student 8)

I was eager to come to the classes by thinking about different in-class activities. (Student 6)

In-class activities were nice and fun when compared to other classes. We knew that we would not get bored. I found them beneficial. (Student 7)

I found in-class activities very enjoyable because we had a different activity each week. (Student 10)

Changes in PSELTs' Attitudes. The second research question is, "Are there any changes in PSELTs' attitudes after experimenting the FC?" Qualitative data aim to provide a deeper understanding of quantitative outcomes of this question. When the participants were asked about their feelings before and after the intervention, the responses in Table 28 were obtained.

Table 28

PSELTs' Initial and Final Impressions of FC

Categories	Codes	*f*
Initial impressions	prejudiced/biased	5
	positive feelings	4
	hesitated	2
	uncertainty/not sure of its benefit	2
	thought it would be tiring	2
Final impressions	positive feelings	8
	fun/enjoyable/not bored/not boring	2
	fruitful/beneficial/useful/helpful	2
	active participation/engagement	2
	motivation & eagerness	1
	more permanent & effective learning	1
	low-stress/ feeling comfortable	1
	getting used to	1
	a bit troublesome	1

Even though both positive and negative impressions were uttered, negative ones outnumbered the positive impressions as can be seen in the table above. PSELTs' first impressions were mostly negative. Many statements of participants provided explicit evidence of their biases (f=5), hesitation (f=2), uncertain thoughts (f=2), and thoughts regarding wearisomeness (f=2) like in the following examples:

When I heard it for the first time, I felt much stressed because what was described was more of a burden than learning. (Student 1)

I had some biases towards the model before the implementation. (Student 4)

In the beginning I was prejudiced because I had never heard flipped classroom before. In fact, I was a bit hesitated. (Student 4)

In the beginning it was a bit troublesome. (Student 6)

In the beginning I was a bit hesitated and questioning the benefit of it. (Student 8)

In the beginning I had some biases about how to implement it. (Student 9)

In the beginning I thought it would be very tiring. (Student 12)

In the beginning I was not positive towards the model. (Student 11)

Okay, I said, it is good if it works, but it will not. It did not work last time, so I thought it would not work this time either but it worked. My expectations changed. (Student 2)

Many participants also reported their positive feelings as first (f=4) and/or final (f=8) impressions. Some of them had been always positive throughout the process as follows:

> *In general I had positive feelings. I was very curious and always positive towards this model because I do not like conventional methods at all. (Student 3)*

> *From the very beginning I was always positive towards this model. (Student 5)*

> *Throughout the process I always felt positive. In flipped classroom students are in collaboration instead of competition. They support each other. (Student 11)*

Some, on the other hand, developed positive feelings after experiencing the FC model as can be noticed in the following examples:

> *…but later on it appeared to be more enjoyable because it became a learning environment where a variety of different activities took place and the knowledge was increased by sharing rather than boring lectures. So, I can say that I did not get bored for the first time. (Student 1)*

> *Okay, I said, it is good if it works, but it will not. It did not work last time, so I thought it would not work this time either but it worked. My expectations changed.*

> *…but I liked it when I experienced it. It would be very motivating and useful in abstract topics and classes. (Student 4)*

> *…but later on when we started to learn more about flipped classroom, lessons were more enjoyable. We got used to this model more. (Student 6)*

> *…but now I find it better because I come to the class prepared. (Student 12)*

> *We felt stressed especially after the first quiz, but then in time we got used to it. It was both enjoyable and fruitful. (Student 9)*

> *However, after experiencing, I found it more beneficial and better compared to the TC. (Student 8)*

I think that I have had fun and this model should be applied in other courses too. (Student 4)

… but I had fun and wanted to participate in the lessons more. (Student 11)

Surprisingly, there was only one student whose first impressions were positive but they turned to be negative as stated:

In the beginning I really liked it, but it started to become a bit troublesome in time. As I stay in a dormitory where internet connection is poor, I could not check the pre-class materials. I was just reading. (Student 10)

PSELTs' Attitudes toward the Pre-class Learning Experience and Materials. The third research question is, *"What are PSELT' attitudes toward the pre-class learning experience and materials in this course?"* Qualitative data aims to help gain more understanding of quantitative results on this issue.

Table 29

The Frequency of Pre-class Materials Used by the PSELTs

Pre-class materials	*f*
PPT	11
Book	8
Audio	5
Videos	5

When participants were asked about the frequency of the pre-class materials they used, the results in Table 29 illustrated that most of the participants benefited from PowerPoint presentations (f=11) which are followed by book (f=8), audio (f=5) and ready-made videos (f=5). They express their preferences as follows:

PowerPoint slides are simpler and to the point. Our teacher refers to both audial and visual senses through the pre-class materials. For example, slides are better for people like me who do not like listening. (Student 4)

I think audios are beneficial and better since they go with the slides concurrently. (Student 2)

Participants were asked about their perceptions of pre-class learning experience and materials, and both positive thoughts and some problems were reported as can be seen in Table 30.

Table 30

PSELTs' Perceptions of Pre-class Learning Experience and Materials

Categories	Codes	*f*
Positive thoughts	at his own pace/individualized	5
	fruitful/useful/beneficial/helpful	3
	reinforcement	1
	unlimited repetition	1
	practical	1
	studying comfortably	1
	learning styles	1
Problems	no internet access/ poor internet connection	2
	pre-class work	1
	technological problems	1
	audios	1

Participants mentioned individualized pace (f=5) and usefulness (f=3) positively as follows:

I benefited from all the pre-class materials. While I was going over the slides, I was also listening to the audios. In a TC we just listen, but here we listen to the audios, go over the slides, and watch the videos, which provides a richer and deeper learning. (Student 5)

The aspects I liked most were in-class activities and being able to study whenever and as much as we want. For instance, in a TC, we could not repeat the topics because of limited time but now you can rewind the audio and videos and listen again. (Student 8)

I get bored quickly with the constant transfer of knowledge without any activities. Therefore, it much better to go over the textbook at home. We can decide how long and how much to study and what to do while studying. Sometimes it is better to study while listening to music. When we cover the lectures at a desired place and time and socialize in the class through interaction, learning becomes more effective and fun. (Student 2)

Generally I listened to the audio and went over the slides concurrently. While the teacher was lecturing, I was skipping to some other parts when I thought that I grasped the topic. In this way learning took shorter time and learning

the content instead of receiving passively was more enjoyable for me. (Student 1)

We may miss the classes because of some environmental, personal or some other reasons, so learning may be hindered by these reasons. However, it is better when we learn at home because we can direct learning in the way we want. I may come to the class sleeplessly or I might miss the class, but at home I can pause and start when I feel better. (Student 5)

It was enjoyable and motivating for me. Besides, you learn twice: before the class and in class. (Student 4)

We have realized that quizzes and studying before the classes helped us to learn. (Student 9)

Feeling that you have to read before coming to the class is an advantage for me. Reinforcing the topics through activities and being able to test ourselves through quizzes are some other advantages. (Student 10)

No internet access/poor internet connection (f=2), pre-class work (f=1), technological problems (f=1), and audios (f=1) were uttered as problems related to pre-class learning experience and materials like in the following examples:

In the beginning I was both reading and listening to the audios, but later on I just started to read because of technological problems. (Student 7)

As for audio, you do not see the teacher and it was monotonous after a while. No intonation changes in teacher's tone of voice. In the class she changes her tone of voice. Thus, I get bored unavoidably. (Student 6)

I could not listen to the audios because I did not have internet connection at home. (Student 9)

As I stay in a dormitory where internet connection is poor, I could not check the pre-class materials. I was just reading. (Student 10)

Slides were not much different than the books. Audios, on the other hand, are not like in-class lectures. (Student 10)

I did not listen to the audios because the teacher seemed to be talking just like in the classroom and covers the same things in the book. (Student 12)

Instructor's Perceptions of the FC Model. The fourth and the last research question is, *"What are the instructor's perceptions of the FC model?"* This question attempts to reveal the instructor's perceptions of the FC and the process she went through. For that purpose only qualitative data was adopted. The instructor was volunteer to apply this model in her classroom. Even though she heard it for the first time at a conference two years ago, she had never applied this method before. Before moving on to the details of FC, it is of high importance to depict a typical lesson of the instructor.

> *In general I prepare a PowerPoint presentation for the subject content. I begin the class with a revision of the previous week. The lesson proceeds with questions and answers. I definitely expect my students to come to the class prepared, but unfortunately this is not the case. Generally the interaction is one-way. I am the one who lectures. In some classes there might be some participative students. Except for them, the ones who have not read the chapters keep their silence. The ones who sit at the back do not participate much. It is more of lecturing. Of course I do pair and group activities but there is not much interaction. At the end I revise the content and finalize the lesson by asking if they have any questions.*

As seen from the extract above, the instructor expects her students to come to the class prepared; however, this desire of her appears to be impractical. One-way interaction, teacher as a lecturer, and lecturing are some common themes emerged as in student interviews. She was then asked to define FC. Her definition of FC is as follows:

> *Flipped classroom is a method which increases student autonomy, providing students with opportunities to gain self-study skills, and help them to learn from each other by increasing the interaction. I found it very effective. I especially think that it helps students to gain self-study skills.*

As seen from her definition, themes such as student autonomy, self-study skills, learning from each other, and increased interaction emerged. All these concepts are quite unlike the ones emerged in the definition of TC and do not focus on the teacher at all.

When the instructor was asked to compare TC and FC, the responses in Table 31 were given:

Table 31

The Instructor's Comparison of TC and FC

Traditional Classroom	*Flipped Classroom*
More teacher talking time	More student talking time
Teacher-centered	Student-centered
One-way interaction	More student-student interaction
Students coming to the class unprepared	Students coming to the class prepared
Teacher's responsibility is a lot during the class	Teacher's responsibility is a lot before the class

The instructor elaborates on a couple of issues in her comparison. The first one is interaction patterns. She remarks that the interaction is not always one-way in TC but also two-way. However, it does not go beyond question and answer form and between the teacher and the student when it is two-way, she states. Secondly, she draws attention to the preparedness of students as follows:

Students coming to class unprepared since they know that teacher is going to lecture anyway (and students do not have self-study skills. They are used to spoon-feeding. When the teacher does not lecture in the classroom, they consider her as a bad teacher. In a TC a student who has not studied does not lose anything because s/he comes to the lesson with the idea of that teacher is going to cover they subject anyway. However, in flipped classroom, a student feels incompetent. He feels pressure while everybody else is participating. Students have to come prepared. I have some students from the previous semesters who would not prepare for the lesson and participate in the lesson at all normally, but they come to the class prepared this term. I would not expect them to participate normally.

The instructor was also asked about the advantages and challenges of FC and the responses were given in Table 32:

Table 32

The Instructor's Perceptions of the Advantages and Challenges of FC

Advantages	Challenges

effective	teacher lecturing on her own
a chance to revise the content even if students miss the class	not being able to check students' understanding of the topic while lecturing
more interaction	
accessing information anytime they want	
improving students' self-study skills	
increased student participation	
promoting critical thinking	
more student motivation	

Regarding disadvantages, the instructor reports the difficulty of lecturing on her own during pre-class audios and not being able to check whether students understood the topic or not as follows:

In flipped classroom the teacher is lecturing on her own and cannot check if students get the idea or what they are thinking, which might be a disadvantage. In the beginning I had a lot of difficulty while recording my own voice. It was very difficult to talk to myself because there is an interaction with questions and answers in the classroom. It was interesting to ask the questions and answer them by myself.

However, she also refers to the advantages which outnumber the disadvantages. She has adverted to the effectiveness of FC in terms of students' changed study habits, more interaction, and student participation. She was surprised by the fact that their study habits changed because she would not expect university students at this age group to change, she reported. To her, the biggest advantage was that FC encouraged students to prepare for the class:

They experienced the disadvantage of not coming prepared, which was the biggest advantage.

The nature of FC requires active participation in discussions and activities. When the students do not prepare for the lesson beforehand, it might be demotivating for them. The instructor touches upon this issue as follows:

Students who do not study do not know the content and teacher does not cover the content but instead there is a discussion environment in the classroom. Therefore, they cannot participate in the discussion and get demotivated.

On the other hand, for the students who did their best for the preliminary preparation, FC environment was quite motivating as uttered by the instructor:

Some students got motivated and participated a lot when they were praised. They felt worthy. In a TC there is not a praise-worthy environment much.

In addition, the instructor refers to the constant availability of the materials as an advantage. She is of the opinion that FC is good for students who missed the class for some reasons because they can access the lectures and other materials and revise them at any time they want. In terms of student learning, the instructor mentions:

For students who are fully aware of their responsibility, learning is more permanent. However, for the ones who are not conscious of their responsibility, this is not the case.

The instructor conveys her thoughts on common Turkish educational context as:

…in Turkish context, the teacher is there only for lecturing. Students do not feel a need for studying. They think they can compensate the topic with the lectures or take notes of their friends.

However, her observations and experience in FC are entirely different from her previous thoughts:

Students were more motivated. Since they were prepared, they also helped each other. Higher achieving students helped lower achieving students more. They had opportunities to ask questions. All these lightened my burden. We could discuss and talk about the discussions questions I always wanted to do but assign as homework because of time limitation. It also promotes critical thinking, which makes learning permanent as well.

When the literature is examined, the length of videos/audios is suggested not to be too long. However, the audios prepared by the instructor was too long (i.e., 30 or 40 minutes). She was also asked the reason behind her preference and expressed her justification in these words:

In general audios were 30 or 40 minutes and I could not realize how fast time passed. Students might find this long, but I am of the opinion that I cover the

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same content in 3 hours in the class. I cannot reduce 150 minutes to only 10 or 15 minutes. I should cover the content sufficiently so that they will not have any questions in their minds. In Turkish context, I would like to emphasize here, students may feel lost because they all come from teacher-centered classrooms. And suddenly, you leave them alone. You expect them to read pages but cover the content only in 10 minutes. I feel that students would feel insufficient. There might be a perception like teacher doing nothing but expecting students to do everything.

Then she lays emphasis on a possible disadvantage:

When this model is not applied properly, some teachers who are liable to shirk their responsibilities might take an advantage of it.

Finally, the instructor was asked whether she would use this model in her future classes and she stated that she would definitely use it. She was also asked about any suggestions or advice she would give to other teachers who would apply this model for the first time and she reported:

Materials should be prepared beforehand. Necessary audios, presentations, and quizzes. They should be uploaded before and students should be provided enough time to study. Videos could be more effective rather than the audios. Students need to see their teacher's face, which is also a way of interaction. Students may feel more confident. The teacher should take some countermeasures for technological problems.

Chapter 5
Discussion

Introduction

       This chapter reflects upon the main findings of the study with regard to the research questions by discussing them in the light of previous research. The findings obtained from the analysis of the results are accordingly presented in titles for each research question such as PSELTs' perceptions of the FC, changing in PSELTs' attitudes, their attitudes toward the pre-class learning experience and materials, and finally instructor's perceptions of the FC model.

PSELTs' Perceptions of the FC.

       This study aimed to explore PSELTs' perceptions of FC after a four-week quasi-experimental study, and the findings support the prevailing literature. The results demonstrate mostly positive perceptions and satisfying learning experience as also observed in earlier studies (Adnan, 2017; Akgün & Atıcı, 2017; Al-Zahrani, 2015; Aşıksoy & Özdamlı, 2016; Chen et al., 2014; Ducrot & Sockalingam, 2015; Galway et al., 2014; Gaughan, 2014; Guy & Marquis, 2016; Kim et al., 2014; Kurt, 2017; Lage et al., 2000; Love et al., 2014; Mason et al., 2013; Musib, 2014; Özpınar et al., 2016; Özyurt & Özyurt, 2017; Roach, 2014; Sezer, 2017; Sherrow et al., 2016; Şengel, 2016; Turan & Göktaş, 2015).

       The quantitative findings provide convincing evidence indicating that most of the PSELTs were highly motivated by the FC model. PSELTs stated that they enjoyed FC teaching approach more and felt more motivated and experienced pleasure in the FC when compared to TC, by also expressing that they preferred FC to a lecture-based classroom. They also thought that the time and effort they spent in the FC was worthwhile. Similarly, qualitative findings indicate that the participants were mostly motivated when they were asked about their feelings about the model (see Table 21). These findings are consistent with results of the previous studies (Al-Zahrani, 2015; Aşıksoy & Özdamlı, 2016; Boyraz, 2014; Chen et al., 2014; Franciszkowicz, 2008; Galway et al., 2014; Gaughan, 2014; Graziano, 2017; Guy & Marquis, 2016; Kim et al., 2014; Kurt, 2017; Lage et al., 2000; Mason et al., 2013; Musib, 2014; Roach, 2014; Sezer, 2017; Sherrow et al., 2016; Turan &

Göktaş, 2018). Increase in motivation was found in different field courses: a course on spreadsheets and integration of technology (Davies et al., 2013), math and science courses (Merrill, 2015), elementary mathematics education course (Özpınar et al., 2016), and a workshop biology course (Udovic et al., 2002). A possible explanation for these results may be the basic features of FC. As it is well known from the literature, FC speaks the language of today's millennial learners who were born into technology (Bergmann & Sams, 2012), maximizes in-class time for more student-centered and active learning activities (Fulton, 2012; Hamdan et al., 2013), increases both student-student (Bergman & Sams, 2012) and student-teacher interaction (Gannod et al., 2008) through collaborative works, allows students to move at their own pace (Fulton, 2012; Horn, 2013; Roehl et al., 2013) and helps them to take their own responsibility for learning (Baker, 2000; Garrison & Kanuka, 2004; Orhan, 2007). PSELTs' high level of motivation might have resulted from these benefits of the model. Instead of listening to lectures by passively sitting in their seats for hours, students are at the center in the flipped learning environment: talking, discussing, moving, having fun, engaging in different activities, and practicing. They are not scolded because they are talking to their classmates. Instead, they are encouraged to actively participate in the activities that are carried out in the classroom environment.

With regard to its effectiveness, they considered FC a better way of learning and learned more and better in the FC. In addition, they thought that FC was a more effective and efficient way to learn and that the FC learning guided them toward a better understanding of the course topics. Qualitative findings provide evidence for more permanent and effective learning as well (see Table 26). These findings are aligned with the previous studies (Akgün & Atıcı, 2017; Copley, 2007; Davies et al., 2013; Göğebakan Yıldız et al., 2016; Görü Doğan, 2015; Kocabatmaz, 2016; Özpınar et al., 2016; Mazur, 1997; Turan, 2015; Turan & Göktaş, 2015; Zengin, 2017). As the qualitative findings revealed, the perceived efficiency of the model was mostly associated with the interactive and enjoyable classroom environment as well as learning by practicing the content. These associations are closely related to active learning engagement whose effectiveness has been clearly evidenced in the literature (Knight & Wood, 2005). Individualized pace might also explain the perceived effectiveness related to the model. Depending on their abilities, pace,

burden, and readiness, students render learning meaningful, which increases the level of effectiveness and productivity (Kocabatmaz, 2016). However, far too little attention has been paid to the effectiveness of FC and it is mostly based on the perceptions. Therefore, a need to directly study the effectiveness of the model exists (Burke & Fedorek, 2017; Filiz & Kurt, 2015; Gilboy et al., 2015; Johnson, 2013; Moos & Bonde, 2016; Steen-Utheim & Foldnes, 2018). FC involves different learning styles and preferences through the availability of a variety of materials (Houston & Lin, 2012; Lage et al., 2000; Mason et al., 2013; Toto & Nguen, 2009; Zappe et al., 2009). In terms of the permanency of learning, learning materials that address many different senses and learning styles could be the reason for more permanent learning (Alsancak Sırakaya, 2015). As theorized by Dale and illustrated through his cone of experience (1969), more information is retained when different senses are involved in the learning process. The opportunity for unlimited repetition might be a possible explanation for permanent learning as well, which was also found by Kocabatmaz (2016). Beyond the perceptions, Boyraz (2014) evidenced more permanent learning thanks to the FC model through statistics.

Regarding the engagement, PSELTs expressed that they participated and engaged themselves more in learning, became more active learners, devoted themselves more to the instructional/class activities in the FC, and spent more time and effort than usual on their FC learning activities. Active and increased participation and engagement were also revealed by the qualitative findings (see Table 26). These findings are consistent with those of Akgün and Atıcı (2017), Aşıksoy and Özdamlı (2016), Clark (2015), Çukurbaşı and Kıyıcı (2017), Ducrot and Sockalingam (2015), Elmaadaway (2017), Johnson (2013), Kurt (2017), Merrill (2015), Sezer (2017), Steen-Utheim and Foldnes (2018), Strohmyer (2016) and Şengel (2016). Increased and active engagement might be explained by the fact that FC is grounded in constructivism that promotes a student-centered learning environment where students construct their own meaning and knowledge by actively engaging in the content. This active engagement in the content is achieved through active learning activities such as discussions, games, labs, projects, and collaborative tasks. All these activities require students to think, work on problems, discuss the content and concepts, develop and share their ideas, and carry out projects together in the classroom. In contrast, in a lecture-based classroom,

students' active engagement cannot be expected since they just sit and listen to the lectures passively. Another possible explanation for active engagement is the preparedness of students as also discussed by Alsancak Sırakaya (2015). Students who studied the content very well beforehand actively participated in discussions and activities, as observed by the instructor. Tune, Sturek, and Basile (2013), Merrill (2015) and Vaughan (2014) found that students who did sufficient pre-class preparation posed more reflective and direct questions, too. Furthermore, Sever (2014) investigated students' opinions about FC model implemented in individual violin lessons and found that preliminary preparation provided a more effective and fruitful learning environment in addition to engaging in higher-order thinking skills.

As for the overall satisfaction, the quantitative findings indicated that almost all of the participants voiced that they were generally happy and satisfied with this flipped learning experience. When PSELTs were asked about their feelings toward the FC model, the qualitative findings yielded additional evidence of the positive experience of the students and their satisfaction (see Table 21). These results match those observed in earlier studies. Participants in this study were satisfied with the flipped learning experience as also noted by Adnan (2017), Akgün & Atıcı (2017), Al-Zahrani (2015), Chen et al. (2014, Davies et al. (2013), Gilboy et al. (2015), Johnson (2013), Kim et al. (2014), Mason et al., (2013), Ramnanan and Pound (2017), Sezer (2017), and Şengel (2016). Most of the participants uttered their satisfaction with the model, but some reported that they followed the lessons regularly thanks to the model because of knowing not to get bored in this course thanks to the in-class activities. This increased attendance was also evidenced by other studies (Chen et al., 2014; McLaughlin et al., 2014; Sherrow et al., 2016). Besides, they enjoyed the process as also revealed by Akgün & Atıcı (2017), Aşıksoy and Özdamlı (2016), Göğebakan Yıldız et al. (2016), Graziano (2017), Sezer (2017), Sherrow et al. (2016), Turan and Göktaş (2015). PSELTs might have had fun thanks to the novelty brought by different in-class activities in which they actively participated. They also felt comfortable and relaxed in the learning process as also indicated by Kurt (2017) and Sever (2014). They might have felt more comfortable because of the relaxed classroom environment where they developed better relationships with their instructor and classmates and were not afraid of making mistakes because the aim was not to test their knowledge but to help

construct their knowledge. Lastly, they also reported increased confidence as found by Adnan (2017), Kurt (2017), McLaughlin et al. (2014), Strohmyer (2016), Turan and Göktaş (2018). It seems possible that this increased confidence is due to pre-class preparation because preliminary preparation leads to increased confidence and accordingly more and comfortable participation in the class (Zainuddin & Halili, 2016).

With respect to the most liked aspects of FC, the qualitative findings revealed that in-class activities appeared to be the primary one among others. In-class activities were found to be highly valued by many other studies as well (Adnan, 2017; McLaughlin et al., 2014; Musib, 2014; Ramnanan & Pound, 2017; Ronchetti, 2010; Toto & Nyugen, 2009). Being able to be involved in many different activities and visualize the content (Zengin, 2017) through these activities were the reasons given by the PSELTs. In-class activities were followed by learning by experiencing. PSELTs reported that they really liked having the chance to practice the content through applied in-class activities, as also found by Kocabatmaz (2016) and Turan and Göktaş (2015). These findings are parallel those of Turan (2015) who found that in-class applied activities were the source of motivation. This might be resulting from the fact that the so-called in-class activities in a lecture-based classroom do not go beyond the questions and answers generally, which could make PSELTs show more interest in in-class activities in FC. The nature of FC requires in-class activities to be based on active learning (Abeysekara & Dawson, 2015; Bergmann & Sams, 2012) and collaboration. Through these activities, students construct their own meaning. They discuss and reflect on the content with the help of in-class activities. In this way, learning goes beyond memorization but becomes meaningful and more permanent, which was agreed by most of PSELTs (see Table 27). As presented in Table 27, their liking of in-class activities might have also resulted from the fact that they had fun during in-class activities, socialized and reduced their stress level thanks to them.

Some overlapping results were found under both the most liked aspects and advantages of FC model. Preparedness appears to be one of them. Among the reasons, PSELTs stated that FC fostered preliminary preparation and that PSELTs highly valued coming to the class prepared as pre-class preparation contributed to their learning positively. These results are consistent with those of other studies

(Akgün & Atıcı, 2017; Basal, 2015; Boyraz, 2014; Çukurbaşı & Kıyıcı, 2017; Göğebakan Yıldız et al., 2016; Görü Doğan, 2015; Kurt, 2017; McLaughlin et al., 2014; Özyurt & Özyurt, 2017; Şengel, 2016; Turan & Göktaş, 2015; Zengin, 2017). FC model encourages students to prepare for the class beforehand, otherwise they are not able to participate in the activities and discussions in the classroom. Moreover, not studying the content beforehand will most likely to result in not understanding what it is going on in the classroom. However, a possible explanation for the positive perception of preparedness is most probably due to having a good command of the subject that leads to increased confidence and engagement of students.

Self-regulated learning also appeared to be an advantage of the model and liked by the most of PSELTs. They perceived that their self-regulated learning habits and self-responsibilities developed. During the interviews, they clearly echoed that their self-regulated learning skills improved and that they took their own responsibility from the very beginning. This finding is aligned with the previous research (Adnan, 2017; Alsancak Sırakaya, 2015; Görü Doğan, 2015; Fraga & Harmon, 2014; Kim et al., 2014; Mason et al., 2013; Ramnanan & Pound, 2017; Strohmyer, 2016; Vaughan, 2014). The nature of FC model might be the reason for self-regulated learning since students have to manage their learning process of the content outside the classroom. Even though the instructor provides the materials, they have to decide what, which ones, how, when, how much, and where to study. They may prefer to study at home, in the bus, or even while walking. They can skip the parts depending on their understanding, too. According to their learning styles, they might prefer to listen to the audios, read the chapters, watch the ready-made videos or go over the presentation slides, or all of them.

Reinforcement of the content knowledge is another overlapping finding expressed by the PSELTs. The result is in line with that of Göğebakan Yıldız et al. (2016). This finding can be explained by the opportunity for unlimited repetition of the content materials. Enhanced and increased content knowledge was also uttered by PSELTs. The same advantage or favorable aspect of the model was also indicated by the earlier studies (Çukurbaşı & Kıyıcı, 2017; Galway et al., 2014; Gaughan, 2014). Possible explanations for enhanced content knowledge may be because of the fact that preparing for the content knowledge beforehand, repeating

as many times as they want, and revising it through applied in-class activities. Students learn the content at home, check their understanding through quizzes, go over the misunderstood parts, revise and practice the content in the class, and extend on the knowledge at home again. Enhanced content knowledge accordingly leads to the usefulness of the model, as perceived by PSELTs (see Table 26). The useful nature of FC was found in previous studies as well (Chen et al., 2014; Franciszkowicz, 2008; Kim et al., 2014; Lage et al, 2000; Musib, 2014; Turan & Göktaş, 2018).

As for the least liked aspects and disadvantages of FC, the first qualitative finding showed that most of the PSELTs expressed their dislike for quizzes. However, these findings of the current study do not support the previous research. Tune et al. (2013) demonstrated that most of the participants thought that the pre-class quizzes helped them to study more. In contrast, the ones who thought that pre-class quizzes helped them learn better and check their understanding were in the minority in this study. This finding can be explained by the fact that PSELTs are not used to be taught in this way (Karabulut-Ilgu, Cherrez & Jahren, 2017; Kocabatmaz, 2016; Turan, 2015). Students' resistance to a new model of learning and being used to lecturing and memorization have been discussed in the literature (Herreid & Schiller, 2013; Talbert, 2012). Secondly, delay in the upload of pre-class materials was stated by PSELTs as they also had other responsibilities. This delay might have resulted from the increased workload of the instructor (Gannod et al., 2008; Karabulut-Ilgu et al., 2017). Some participants listed pre-class preparation among the disadvantages of the model. Demanding more effort (Adnan, 2017; Al-Zahrani, 2015; Karabulut-Ilgu et al., 2017; Kocabatmaz, 2016; Lage et al., 2000; Musib, 2014; Papadopoulos et al., 2010) and time (Adnan, 2017; Göğebakan Yıldız, 2016; Kocabatmaz, 2016; Turan & Göktaş, 2015) could explain the case. One of the participants noted that he felt lost because of not having necessary self-regulation skills, which was also demonstrated by previous research (Fraga & Harmon, 2014; Strayer, 2007). These concerns of PSELTs might be originating from their passive learning habits, namely from the fact that they are not accustomed to the model. This explanation is agreed on by other studies as well (Chen et al., 2014; Çukurbaşı & Kıyıcı, 2017; Göğebakan Yıldız et al., 2016; Kocabatmaz, 2016; Özpınar et al., 2016; Talbert, 2012). FC takes students out of their comfort zone by requiring them

to cover the content on their own at home and come to the class prepared, which is in contrast to TC- a classroom environment based on a very teacher-centered learning environment where the teacher covers the content and students just listen passively. Student and teacher roles are completely reversed; therefore, such concerns of students should be considered normal. Another possible explanation might be the lack of interaction in the pre-class materials as it was thought to be so by Turan (2015). However, the findings of the current study do not support the previous research in terms of being unable to ask their questions immediately during preliminary preparation (Hunley, 2016) and not being able to get immediate feedback (Göğebakan Yıldız et al., 2016; Özpınar et al., 2016; Turan, 2015). This might be the result of the fact that in the very beginning of the term students had already been assured that they could ask their questions via e-mail or Edmodo any time.

The findings obtained from the comparison of TC and FC are consistent with the previous research. Regarding the interaction, the qualitative findings revealed that PSELTs found TC too teacher-centered. They also reported that there was no interaction or limited interaction that did not go beyond answering some questions. Besides, this limited interaction was one-way, which was generally between a teacher and a student. Student hesitation to ask for clarifications or questions was also stated by PSELTs. They elaborated on the nature of TC by giving examples from their own experience. Sometimes their interaction did not go beyond asking for pencils and erasers. For their hesitation, they expressed that teachers did not want them to stop the flow of the lesson because of the must to cover many subjects in a limited time. These characteristics of TC have been brought forth by many other studies as well (Bligh, 1998; Knight & Wood, 2005).

On the other hand, with regard to interaction in FC, the increased interaction was uttered very frequently (see Table 24). This result concurs with the other studies as well (Adnan, 2017; Akgün & Atıcı, 2017; Basal, 2015; Clark, 2015; Çukurbaşı & Kıyıcı, 2017; Ducrot & Sockalingam, 2015; Galway et al., 2014; Görü Doğan, 2015; Hunley, 2016; Johnson, 2013; Kocabatmaz, 2016; Özpınar et al., 2016; Özyurt & Özyurt, 2017; Roach, 2014; Sherrow et al., 2016; Strohmyer, 2016). FC fosters more collaborative activities (Adnan, 2017; Gannod et al., 2008; Görü Doğan, 2015; Kim et al., 2014; Lage et al., 2000; Love et al., 2014; McLaughlin et al., 2014; Merrill,

2015; Ronchetti, 2010; Sherrow et al., 2016; Strayer, 2012; Strohmyer, 2016, Toto & Nguen, 2009). As also associated by some of PSELTs, collaborative activities could explain the increased interaction in FC learning activities. More and increased collaboration with peers is one of the major findings of this study and this similar result was also reported in the studies of Görü Doğan (2015), Özyurt and Özyurt (2017), Strohmyer (2016). The more collaborative activities exist in a classroom, the more students have to interact with each other to be able to complete the tasks. PSELTs also observed that they were talking and sharing their ideas more, which was also discussed both by Aşıksoy and Özdamlı (2016) and by Şengel (2016). Similarly, Knight and Wood (2005) concluded that students had more opportunities to be involved in discussions and work in cooperation with each other in the learning environment where the interaction increased. Not surprisingly, PSELTs echoed FC creating a student-centered classroom as revealed by earlier studies (Basal, 2015; Hamdan et al., 2013; Kim et al., 2014; Merrill, 2015). Learner-centered environment inheres in the nature of FC (Baker, 2000; McLaughlin et al., 2014) and described under the four pillars of FC by FLN (2014). Finally, developing better and stronger relationships with the teacher and among peers were also uttered. It is aligned with previous research (Adnan, 2017; Hunley, 2016). At this point one possible explanation is collaborative learning environment. As stated by some of the participants, collaborative tasks allowed them to enhance social learning in the classroom and reinforce their relationships with their friends. They were not competing with each other but helping and learning from each other to complete the tasks given. Sometimes they were in the same group with some classmates to whom they had never talked, which helped them overcome their biases and feel more comfortable. Favorable collaborative classroom environment was demonstrated by other studies as well (Çukurbaşı & Kıyıcı, 2017; Göğebakan Yıldız et al., 2016; Kocabatmaz, 2016; Love et al., 2014). Likewise, the students in the study of Strayer (2012) favored the in-class cooperation and preferred more cooperation in the classroom.

With regards to the student and teacher roles, they both show significant changes in FC. PSELTs attributed the roles like passive listeners and passive receivers to the students in TC. On the contrary, they defined students in FC as active participants (see Table 24), which was also evidenced by Adnan (2017),

Ducrot and Sockalingam (2015), and Herreid and Schiller (2013). This can be explained by the fact that the student-centered learning environment with collaborative activities and tasks enables students to be more active learners (Sherrow et al., 2016).

As for the teacher roles, the roles used to describe teachers in a TC such as lecturer, dictator, and authority were changed into instructor roles like a guide, leader, facilitator, helper, and encourager in FC by the participants of this study. This change in the instructor roles was also observed by the study of Adnan (2017). It was suggested by King (1993) to adopt the role a "guide on the side" (p. 30) to fulfill the necessities of 21st century's current constructivist theory of learning. As also confirmed by this study, FC keeps up with the 21st century changes in educational practices. Even though the instructor was considered more passive in the classroom environment, the participants especially highlighted that she had much more responsibilities before the class. Increased workload of instructors was also found by Gannod et al. (2008) and related features such as time spent for preparing pre-class materials were noted by earlier studies (Mason et al., 2013; Siegle, 2014; Talbert, 2012).

Changes in PSELTs' Attitudes.

The changes in PSELTs' attitudes towards the FC model were investigated through both quantitative and qualitative methods. Both revealed that their attitudes and perceptions changed positively. In the present study, PSELTs' perceptions of FC were analyzed before (Md=45) and after the implementation (Md= 58), and this increase on the scores demonstrated that PSELTs held more positive attitudes after the implementation. They were more motivated, engaged and satisfied and found the model more effective after the implementation as presented in Table 16 (see Chapter 4).

During the interviews, PSELTs uttered that most of them were prejudiced, hesitated, not sure of its benefit and intimidated by the workload before experiencing the model; however, their negative thoughts turned into positive ones over the course of the study (see Table 28). They had positive feelings toward the model, had fun during the process, and found the model beneficial. Besides, they displayed active participation and became motivated. These findings observed in this study

mirror those of the previous studies (Adnan, 2017; Alsancak Sırakaya, 2015; Ceylaner, 2016; Çukurbaşı & Kıyıcı, 2017; Mason et al., 2013; Turan, 2015; Turan & Göktaş, 2015). It is most likely to be because of the fact that they are used to conventional models of teaching. Having to take responsibility for their own learning might have intimidated them. It should be noted that it is very normal to have such biases in the beginning. Herried and Schiller (2013), Mason et al. (2013), and Talbert (2012) all mentioned the students' initial resistance to the model gave place to the positive final impressions. Furthermore, PSELTs stated that this model should be applied in some other courses as well, as demonstrated by other studies (Alsancak Sırakaya, 2015; Ducrot & Sockalingam, 2015; Musib, 2014; Turan, 2015, Turan & Göktaş, 2015). However, they emphasized that this model was not suitable for each course, especially for young learners. A similar result was also revealed by some other studies (Hamdan et al., 2013; Hunley, 2016; O'Flaherty & Phillips, 2015; Roehl et al., 2013; Wong et al., 2014). Their suggestion could be explained through their satisfaction. Surprisingly, only one student developed her concerns in the opposite way around. She held positive feelings in the beginning, but they turned to be negative concerns over time because of the poor internet connection.

PSELTs' Attitudes toward the Pre-class Learning Experience and Materials.

The quantitative findings of the study found that most of PSELTs expressed their opinions in favor of pre-class learning experience and materials. They expressed that they favored viewing pre-class videos more than reading assigned chapters and that topics were well-explained in the videos. They also asserted that the videos were easy to learn from and useful because they could watch them in their own time. Besides, they held the opinion that the videos were helpful to better understand the content knowledge and to complete the quizzes while the quizzes helped them understand the topic knowledge covered in the videos.

Regarding the positive thoughts that emerged during interviews, it was found that PSELTs favored the flexibility of moving at their own pace the most. This result is aligned with that of previous studies (Adnan, 2017; Akgün & Atıcı, 2017; Basal, 2015; Davies et al., 2013; Ducrot & Sockalingam, 2015; Fraga & Harmon, 2014; Gilboy et al, 2015; Johnson, 2013; Kocabatmaz, 2016; Kurt, 2017; Turan and Göktaş, 2015). One possible explanation is that studying the content outside the

classroom allows the students to study whenever and anywhere they want, so they do not get bored thanks to the breaks they have. They can also skip the parts that they think they have understood instead of having to listen to boring lectures. Even if they miss the classes, they can compensate the classes by studying at home. When they feel sleepy in the classroom, there is no chance to pause the lesson. In contrast, students may pause the lesson and continue to study when they feel better. Unlimited repetition by replaying, rewinding, and pausing the pre-class materials (i.e. videos, audios, and PowerPoint slides) was also favored. The same result occurred in earlier studies as well (Akgün & Atıcı, 2017; Aşıksoy & Özdamlı, 2016; Basal, 2015; Kocabatmaz, 2016; Musib, 2014; Özpınar et al., 2016; Şengel, 2016; Turan, 2015; Turan and Göktaş, 2015; Şengel, 2016). Repeating the parts as many as they want depending on their understanding could explain their liking because they may hesitate to stop the flow of the lesson each time when they do not understand a part as the instructor also needs to cover the content in a limited time.

In terms of the problems they had related to pre-class materials, they mostly reported problems resulting from the poor internet connection. They had difficulty in accessing the pre-class materials because of no or poor internet connection, which was also found in the previous research (Boyraz, 2014; Görü Doğan, 2015; Kocabatmaz, 2016; Zengin, 2017). Not being able to access all the materials causes the content learning to be boring because students can benefit only from the textbook chapters. All the materials should be provided in several ways to the ones who do not have an internet connection. LaFee (2013) suggests burning the materials on a DVD or memory sticks. Even though students were reminded several times to tell any problems they faced during the implementation, the students never complained about poor internet connection during the process. Surprisingly, in contrast to earlier findings, none of the participants stated any problems related to the duration of the videos which was generally criticized because of taking a very long time. However, some students suggested having videos including teacher's face instead of audios because of being monotonous after a while. They complained about no intonation changes in the instructor's tone of voice resulting in getting bored. Not only face but also the whole body of the instructor in addition to voice is suggested to be shown by Özpınar et al. (2016) so as to make students feel

belonged. Johnson (2013), on the other hand, suggests that videos should be prepared in line with interactive education. Limited interactivity aspect in the videos was pointed out also by Yılmaz (2017). According to him, videos can be interlaced with questions embedded and immediate feedback. Their wish appears to be reasonable due to the fact that they may feel lost in the absence of the instructor. In the classroom environment there may be some mutual humor, even via non-verbal language; however, it must be difficult for the instructor to talk to herself and make some jokes.

Instructor's Perceptions of the FC Model.

To explore the instructor's perceptions of the FC model and the process she went through, it was benefited from only qualitative findings. Similar to PSELTs' perceptions, the instructor voiced that TC proceeds with questions and answers and complained about limited interaction because of unprepared students. She defines herself as a lecturer as well. On the other hand, she refers to student autonomy, students' developing self-study skills, and learning from peers, and effectiveness to describe FC. All these attributions are fairly divergent from those of TC and are quite far from the teacher-centeredness.

The instructor's detailed comparison of TC and FC was quite similar to that of PSELTs. Being teacher-centered, causing more teacher talking time, and giving a chance mostly for one-way interaction were among the common issues. Likewise, the instructor touched upon the workload of the teacher that took place during the lesson. The unpreparedness of students was another distinct feature of TC. As pointed out also by the instructor, this might be resulting from the fact that the instructor is going to lecture anyway. Students are already aware of this fact that they do not have to prepare for the lesson (see Table 25). Unparticipative nature of the lessons which does not make them feel incompetent or miss something significant might be another reason.

On the other hand, the instructor considered FC student-centered, fostering more student talking time, and allowing increased interaction in the classroom. These findings are consistent with the previous research (Gannod et al., 2008; Gaughan, 2014; Gough et al., 2017; Lage et al., 2000) Contrary to TC, she experienced that the workload of the instructor occurred mostly before the

classroom as also revealed by Gannod et al. (2008). Students coming to the classes prepared was found to be one of the achievements of FC by the instructor. This might be because of feeling incompetent when students cannot participate in the classroom discussions and activities if they are not prepared when everybody else is. They may also feel disconnected during the lesson since the content is not covered and they cannot catch up with the lesson.

With respect to the advantages of FC, the instructor found the model very effective since it helped PSELTs gain and develop self-study skills as also found by Lage et al. (2000), promoted increased interaction and more student participation as also demonstrated by Gannod et al. (2008), Gaughan (2014), and Lage et al. (2000), and furthered critical and higher order thinking skills. Engaging in higher order thinking skills are already listed among the benefits of the model (Bonwell & Eison, 1991; Chickering & Gamson, 1987; Roehl et al., 2013) and evidenced by Al-Zahrani (2015) and Strohmyer (2016). She also referred to increased student motivation, constant availability of materials, and learning the content even if they miss the class as the advantages of the model. In terms of the self-study skills, the instructor mentioned that she was surprised to see them gaining and developing self-study skills in their age because they are almost 20 or in their twenties. The instructor's astonishment might be arising from the difficulty of changing past learning habits. However, their ability to change their study habits and develop new ones might have occurred because of being fed up with the boring lectures and their craving for novelty as they uttered during the interviews. This craving for more innovation in the classroom was evidenced by the Strayer's (2012) study. Another explanation for this is the nature of FC that requires preparedness before coming to the classroom. If they depend on the instructor for the content learning in the classroom, they will feel incompetent but most probably get frustrated since they will not be able to participate in the discussions and collaborative tasks. This might have influenced this behavioral change.

Increased interaction and more student participation were observed by the instructor just like PSELTs. As the review of literature shows, one possible explanation is that FC creates opportunities for performing active learning activities in the classroom. They need to be done in cooperation with peers, which compels students to collaborate, discuss, share all together; accordingly, their interaction will

increase. In a TC environment, students do not go beyond responding to their instructor's questions or asking a question for clarification. In a learning environment where students engage in collaborative tasks and interact more with their fellow students by discussing, sharing, solving problems, analyzing the applied practices of content, commenting on them and completing some missing points or better understand some concepts with the support of each other, increased motivation is expected. Passively listening to lectures for three hours will cause boredom as anticipated. However, the instructor emphasized that motivation could be a double-edged sword. She mentioned her observations related to the students who knew their responsibilities very well and those who did not. The former group got motivated as they could participate in the discussions and took active roles in the classroom, whereas the latter one got demotivated as they could not take part in collaborative tasks and discussions. More permanent learning was experienced by the former group while this was not the case for the latter group, as reported by the instructor. In addition to motivation and self-responsibility, critical thinking was found to be effective in permanent learning by the instructor. Accessing materials online, anywhere, and anytime allows students to prepare for the lesson beforehand. When they do not understand some parts, they can pause, rewind and revise them without any limitations. They can study whenever and wherever they want, so this enables them to study when they feel better or awake and where they feel more comfortable and less stressed. Physical and mental readiness and unlimited repetition makes learning more effective. Through the in-class applied activities and discussions, students develop better understanding and learning becomes more permanent by experiencing and reflecting on the content knowledge and practices. They still have a chance to go over the subjects not quite understood at home as many times as they want. They could be more participative also because of having a more comfortable classroom environment. As PSELTs reported during interviews, they got to know their friends better and the instructor was not an authority in the classroom, so they developed better and stronger relationships. This might have helped them to participate in the lessons without any hesitation.

The instructor was very satisfied with the new atmosphere of the classroom, which might be explained by the fact that she found a chance to discuss the questions they used to assign as homework because of the time limitation. Teacher

satisfaction was also found by earlier studies (Gaughan, 2014; Gilboy et al., 2015; Lage et al., 2000).

With respect to disadvantages, the instructor voiced the difficulty of lecturing by herself while recording the audios and not being able to check student understanding. It might be explained through the absence of interaction and verbal and non-verbal message to show that students understood the topics. Another disadvantage was found to be the possibility of instructors shirking their responsibilities. FC suggests creating videos from 10 to 20 minutes, which might be exploited by creating videos not focusing on necessary details or just delivering basic knowledge.

The duration of the videos is suggested to be five to ten minutes by November and Mull (2012), not longer than 15 minutes by Ferreri and O'Connor (2013), Gaughan, (2014), Gilboy et al. (2015), and Siegle (2014), not more than 10 minutes by Musib (2014), 20 minutes by Zappe et al. (2009), 30 minutes by Toto and Nyugen (2009), and as 90 minutes or less by Wong et al. (2014). However, the duration of the videos prepared by the instructor ranged from 25 minutes to 40 minutes generally. Only one of them was about 16 minutes. When she was asked for the reason of long duration of videos, she referred to Turkish educational context where students are used to lectures. Normally she used to cover the same lesson in 150 minutes, and she believed that it was almost impossible to cut the length from 150 minutes to 10 or 15 minutes, which might make students feel lost. Besides, students may complain that the instructor is not teaching but making them learn by themselves (Knight & Wood, 2005). As for the suggestions, the instructor advises the upload of materials in advance and the preparation time left for the students should be enough. The possible explanation could be that students complained rightfully about the insufficient time for studying and taking the quizzes. Turan (2015) suggested that they should be uploaded at least for days or a week before the next class. The instructor also suggested recording videos rather than audios, which supports the finding of the studies by Özpınar et al. (2016) and Turan (2015). This might be originating from PSELTs' wish to see their instructor's face, mimics and gestures, so they might develop a better asynchronous interaction and a sense of belonging. Lastly, she touches upon some precautions that should be taken for technological problems. They could be burning the pre-class materials on a DVD or

memory sticks (LaFee, 2013). Besides, the computer lab can be allocated according to the appropriate time of the students to study the content and/or take the quiz.

Chapter 6
Conclusion and Suggestions

Introduction

This chapter provides a brief summary of the study, conclusion, and pedagogical and methodological implications with suggestions for further research.

Summary of the Study

This study set out to explore PSELTs' perceptions of FC; therefore, a detailed account of what they thought of the model was aimed to be portrayed. As it sought to provide detailed information on their perceptions, the study examined their previous thoughts before the implementation and final impressions after the implementation. Besides, PSELTs' attitudes toward the pre-class learning experience and materials were investigated. Furthermore, the study addressed the instructor's reflections and perceptions of the model. This study also attempted to shed some light on the developments in the teacher education field in the Turkish context by applying the model to set an example for PSTs, practitioners, teacher educators, researchers, administrators, and policymakers.

The study adopted a pre-experimental research design where the intervention was conducted with a single group of participants. To be specific, there was no control group. Among the types of pre-experimental research design, this study followed One-Group Pretest-Posttest Design. To look at the general opinions of PSELTs and identify the changes in their perceptions, Perception of Flipped Learning Experience Questionnaire which was developed by Chen Hsieh et al. (2017) was administered as a pre-test scale before the intervention and as a post-test scale after the intervention. The 5-point Likert scale instrument included 14 items constructed from four concepts: motivation, effectiveness, engagement, and overall satisfaction. Meanwhile, a four-week intervention of FC implementation took place between the pre-test and the post-test. To explore PSELTs' perceptions of pre-class learning experience and materials, Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey adapted by Long et al. (2016) from Kay and Kletskin's study (2012) was administered. The 5-point Likert scale included 7 items. The study benefited from a mixed methods research design. Among its

types, an embedded design was adopted, and interviews were used so as to extend more on the quantitative findings. They were conducted to help explore more on the research questions, whereas only the last research question concerned with the instructor's perceptions was explored only through qualitative data. The study was conducted in an ELT methodology course with 29 PSELTs studying in ELT program in the Department of FLE at Faculty of Education at a state university and chosen by convenience sampling. Meanwhile, interviews were conducted with the instructor and 12 PSELTs selected by the purposive sampling, specifically the maximum variation (heterogeneity) sampling. While the quantitative data were analyzed through SPSS Statistics 24.0, the analysis of the qualitative data was performed through Dörnyei (2007)'s latent content analysis.

Main findings according to research questions are presented below:

1. The first research question aimed to explore PSELTs' perceptions of FC and describe them in detail. The results revealed mostly positive perceptions and satisfying learning experience. As regards the positive perceptions, a significant increase was found in motivation, participation, engagement, attendance, interaction, effectiveness and usefulness of the model, as well as in the confidence of the students. Besides, more permanent learning, active engagement, socializing, a student-centered learning environment, development of self-regulated learning skills and taking responsibility for their own learning, and reinforcement of the content knowledge were also demonstrated. In addition, in-class activities, learning by practicing, and fostering preparedness appeared to be PSELTs' favorable aspects of the model. On the other hand, regarding the negative perceptions and problems, quizzes were found to be disliked by most of the participants. Delay in the upload of pre-class materials was another negative perception. Lastly, pre-class preparation was not favored by some participants.

2. The aim of the second research question was to explore any potential changes in the perceptions of PSELTs after the implementation of the model, and if any changes happened, to understand the nature of these changes. Both the quantitative and the qualitative results showed that PSELTs held more positive attitudes toward the FC model after the implementation. They became more motivated, more engaged and more satisfied, and found the model more effective

compared to TC. Their initial negative impressions turned into positive ones, and their prejudices in the beginning and initial resistance were eliminated.

3. The third research question attempted to investigate PSELT's attitudes toward the pre-class learning experience and materials in this course. Regarding the positive thoughts, PSELTs mostly favored the pre-class learning experience and materials. They liked the flexibility of moving at their own pace the most. Unlimited repetition with the opportunity of rewinding, replaying, and pausing also appeared to be highly valued. In terms of the problems, having no or poor internet connection was the biggest problem PSELTs faced. Preference for videos instead of audios was also reported.

4. The final question sought to provide detailed information on the instructor's reflections and perceptions of the model, and the results indicated that the instructor was satisfied with the model. Student-centeredness, increased interaction, more active students, more student talking time, the effectiveness of the model, fostering critical and higher order thinking skills, increased student motivation, and self-study skills gain were revealed by the instructor as the positive aspects of the model. She referred to the constant availability of materials and learning the content even if they miss the class as the advantages of the model. With respect to the disadvantages, the instructor voiced the difficulty of lecturing by herself during the audios and not being able to check student understanding.

Conclusion

This study on FC with PSELTs is just timely as the research on the flipped learning in teacher education is scarce. In a globalized world where the barriers are removed and everything is in interaction and in a state of change, the education has also started to change. The call for tailoring education according to the changing needs requires the integration of technology and radical transformations from traditional approaches and methods to more constructivist, individualized, and active learning pedagogies. FC responds to such a pedagogical shift as a leading educational approach in higher education.

The results emerged in this study confirm previously reported findings and indicated that PSELTs in Turkish educational context favored FC learning experience. PSELTs' experience with FC revealed insights related to the affective

and social impacts of FC, its impacts on content learning, teaching and learning process, collaboration, and independent learning. Regarding the affective impacts, students enjoyed their flipped learning experience and held positive feelings towards it. Their motivation, engagement, and participation increased in addition to feeling comfortable and more confident. Thanks to collaborative tasks, they discussed and shared more, and the interaction in the classroom accordingly increased and they socialized and developed better relationships. They supported each other and learned from their peers. The necessity to learn the content by preparing before the class helped the PSELTs gain self-regulated learning skills and take the responsibility for their own learning. Moving at their individualized pace and opportunity for unlimited repetition enabled learning to become more effective and enhanced as in-class applied activities made learning more permanent. A majority of the perceptions toward the pre-class learning experience and materials was positive. Despite these gains, some problems have occurred during the implementation of FC. For instance, PSELTs faced some problems mostly because of the poor internet connection. The results also showed that the delay in the upload of materials demotivated some PSELTs. Some, on the other hand, were dispirited by the pre-class workload. However, the ones who consider applying the model should not be discouraged by these concerns because positive aspects outnumbered the negative ones. These problems can be eliminated by taking necessary precautions. As indicated by the results of this study, PSELTs' initial biases and negative thoughts can be changed and it seems to be worth trying when looked at the positive findings of the study. Similarly, the instructor's perceptions also provided a quite positive account of FC model. In contrast, TC was depicted to be very teacher-centered with no or weak interaction and boring without any applied activities. It can be concluded that FC deserves to be given a chance as it has a promising potential to make learning more effective and even because of positive student perceptions and liking.

Pedagogical Implications

The present study proposes some pedagogical implications which can be beneficial for practitioners, teacher educators, researchers, administrators, and PSTs in the field of education and especially teacher education. To start with, this

study might inform them of the design of this instructional method and set an example delivery in PST education. The present study is one of the preliminary works for future studies because it researched how students perceive an instructional method, FC, as emphasized by Gilboy et al. (2015). Besides, it provides valuable insights into the limited body of research on FC model in PST education, and it is one of the rare studies that offers a detailed analysis of the FC model in PST education in the Turkish context.

The changing nature of the teaching profession as a result of the 21st century and the modern teacher profile suggested by MoNE require teachers to create a student-centered learning environment, increase learning gains, foster self-regulated learning skills and enable students to actively participate in the lessons. The results of this study revealed that FC model attained all the above-mentioned aims. As students in this study benefited from more learner gains and developed positive perceptions toward the model, more students can be given this opportunity by their teachers.

Furthermore, Knight and Wood (2005) remark that students are not the only ones who do not want to leave their comfort zones but also the teachers are insistent on staying within their comfort zone. As a result, adjustment to changes might be difficult not only for students but also for the teachers. However, teachers are considered to be role models for their students, and therefore they should be willing to embrace the change (Allen & Tanner, 2005) as learner gains are greater when students are actively engaged in the process of learning. The modern teacher profile also proposes that teachers should closely follow the recent educational and technological developments and continuously update themselves. Thus, FC provides a chance not to be missed as it is a hot topic in technology-enhanced education and encourages teachers to improve themselves in terms of technology use.

Another major pedagogical implication of this study is for teacher educators. The findings of this study displayed that PSELTs would apply this model in their future classrooms. Moreover, some of them expressed their gratitude to the instructor since she allowed them to experience it. They echoed that they had the confidence to apply it; otherwise, they would never dare to try it. Teacher educators

are suggested to apply the model in their own courses because it would be useful for PSTs and they would gain first-hand experience (Bolat, 2016).

Hao and Lee (2016) investigated teacher educators' concerns about the implementation of FC and the results demonstrated serious concerns regarding technology use and self-efficacy. Younger teacher educators might be good at technology use, but teacher educators who can be defined as digital immigrants might not be that much competent in technology use. Therefore, it is crucial to train teacher educators as well so as to inform them of the model and increase the effective use of the model.

Another highly crucial implication would be the faculty collaboration and technical and technological infrastructure. With the support of faculty, further and better implementations could be conducted. Besides, faculties should equip the learning environment with necessary technical and technological infrastructures. Classrooms should have computers, smart boards, and constant internet connection. In addition, computer labs should have enough capacity and constant access with necessary equipment. The students who do not have internet connection should have a place to study the content materials without any problems.

Lastly, Boyraz (2014) points out that the reason of FC emerging in Chemistry course might have resulted from the continuous change and innovation in sciences, and suggests that social sciences should also adopt such an attitude because most of the in-class time is spent by teaching theoretical concepts rather than practical activities and instructional practices. As a result, passive teachers are raised. Thus, more studies on FC in social sciences should be conducted.

Methodological Implications

The present study explored student perceptions which are regarded highly crucial because student feedback is quite effective to assess the effectiveness of a model on classroom education. While planning further implementations of any instructional method, practitioners and administrators refer to student accounts (Steen-Utheim & Foldnes, 2018). Therefore, further studies investigating student perceptions are necessary.

This study benefited from both quantitative and qualitative method to better understand the research problem. While quantitative data served as the primary source, qualitative data expanded more on the quantitative findings. However, as Karabulut-Ilgu et al. (2017), Abeysekera and Dawson (2014), and Steen-Utheim and Foldnes (2018) discussed, investigation and assessment of the model are generally limited to quantitative methods. Thus, there is a growing need for qualitative research on FC to better understand the model and gain deeper and valuable insights into it.

Suggestions for Further Studies

In the light of findings and based on the limitations of the study, some suggestions that may be of great help in the further investigation of the model are presented below:

- The present study can be replicated with a greater sample size within a longer period of time so as to obtain more generalizable results.

- More qualitative studies on the investigation of the model should be conducted.

- Further research on students' academic performance is needed.

- Further work needs to include a control group and the findings obtained from the control and the experimental groups should be compared.

- Longitudinal investigations into student experiences are strongly recommended.

- Future research should concentrate on the assessment types applied in the model as teaching innovatively but assessing conventionally is very common.

- The results revealed that some PSELTs thought that FC is not suitable for all the age groups. More research is required to examine the applicability of the model with young learners, for example.

- More studies should investigate the use of FC model in crowded classrooms.

- Likewise, they thought that the model may not be suitable for all the courses at university. It is recommended that further research could be conducted to see if the model works in different courses in ELT department.

- Further experimental investigations can be carried out in different PST education programs in Faculties of Education.

- More studies on teacher perceptions of FC model should be conducted.

- Several further studies should be conducted to assess the effectiveness of the model in the Turkish context.

- Finally, a future study investigating FC model at broader levels such as a program, a discipline, in a department, in faculties, or even at universities like MEF University, would be worthwhile.

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APPENDIX-A: Perception of Flipped Learning Experience Questionnaire

Please tick (✓) all that apply to you.

Gender: Female………… Male………….

I have taken a flipped course before. Yes…………No…………

If yes, in which course?....................

       when?......................................

Please circle the answer which best reflects your overall thoughts about each statement. There is no right or wrong answers.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	A flipped classroom is a better way of learning.					
2	I enjoyed the flipped classroom teaching approach more.					
3	I think the flipped classroom is a more effective and efficient way to learn.					
4	I feel more motivated in a flipped classroom.					
5	I participated and engaged myself more in learning in the flipped classroom.					
6	I became a more active learner in the flipped classroom.					
7	I thought the time and effort I spent in the flipped classroom was worthwhile.					
8	I learned more and better in the flipped classroom.					
9	I prefer the flipped classroom to a lecture-based classroom.					
10	I think the flipped classroom learning guided me toward better understanding of the course topics.					
11	I experienced pleasure in the flipped classroom.					
12	I devoted myself more to the instructional/class activities in the flipped classroom.					
13	I spent more time and effort than usual on my flipped classroom learning activities.					
14	Generally, I am happy and satisfied with this flipped learning experience.					

APPENDIX-B: Participants Attitudes and Perceptions of Their Pre-class Learning Experience Survey

Please circle the answer which best reflects your overall thoughts about each statement. There is no right or wrong answers.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I like viewing pre-class videos better than reading text materials.					
2	The videos helped me understand the topic knowledge better.					
3	The videos were helpful because I could do them on my own time.					
4	The videos were easy to learn from.					
5	The topics were well-explained in the videos.					
6	The videos were helpful for completing the quizzes.					
7	The quizzes helped me understand the knowledge covered in the videos.					

APPENDIX-C: Interview Questions for Participant Students

1. What did you feel about your Flipped classroom experience?

   ➢ What did you like most in Flipped Classroom? Why?

   ➢ What did you like least in FC? Why?

   ➢ Describe a situation in the FC where you felt you were in charge of your own learning.

   ➢ What are the advantages of the Flipped Classroom?

   ➢ What are the disadvantages of the Flipped Classroom?

   ➢ Do you wish that other courses as well would be flipped in the future?

2. Were there any problems you encountered during FC? What are they?

3. How has FC model influenced your emotions?

4. Can you compare interaction in the traditional classroom and FC?

   ➢ Can you compare the student roles in the traditional classroom and FC?

   ➢ Can you compare the teacher role in the traditional classroom and FC?

5. Can you tell me what you did before coming to the class? (Reading the chapter, going over the PPT slides, listening to the audio? Or all of them?)

6. Can I learn your feelings about watching videos before the class?

7. Is there any difference between your thoughts in the beginning and now? If there is, what kind of differences?

8. What improvements would you recommend to improve learning in FC?

9. Is there anything you would like to add?

APPENDIX-D: Interview Questions for the Instructor

Background Questions:

1. How long have you been teaching?

2. What is a typical day like in your classrooms where you have not implemented FC?

Definitions/Views of Flipping the Classroom:

3. How do you define a flipped approach to teaching?

4. Have you implemented this model before? (If yes, how did you first learn about this model? What influences led you to this model?)

5. Can you compare the traditional classroom and the flipped classroom?

6. What specific tools and resources do you use in this model? How do you use them?

7. What do you think about the FC?

   ➢ What do you think about the student's motivation in FC?

   ➢ What do you think about the student's engagement in FC?

   ➢ What do you think about the student's learning in FC?

   ➢ Have you experienced any challenges while implementing FC model? If yes, what are they?

   ➢ Have you experienced any advantages while implementing FC model? If yes, what are they?

8. What indicators do you look for to measure students' learning?

9. Will you continue to use this model in the future?

10. Would you recommend the use of FC model for other teachers? Why or why not?

11. What would be your advice to a teacher who has just learned about this model?

12. Are there anything you would like to add or discuss?

APPENDIX-E: Consent Form for the Instructor

Dear instructor,

As a graduate student in the Department of Foreign Languages Education at Hacettepe University, I am conducting a research as a part of a Master's Degree in English Language Teaching Program, and I am writing to invite you to participate in my study. The necessary permission for my study was granted by Hacettepe University Ethics Commission. The purpose of this study is to explore pre-service ELT teachers' perceptions of the flipped classroom. Voluntary participation in this study is essential. If you choose to participate, you will be asked to implement a flipped classroom model in your classroom and administer pre and posttests to your students. If you volunteer to implement a flipped classroom, I will be helping you prepare all resources to flip your classroom. With your permission, I will be observing your classes for 4 weeks and I would like to have an interview with you which is estimated to take 20 minutes and audio-record this interview. I assure that the recording of the interview will be used only for scientific purposes, and deleted after the transcription. Upon your request, the recordings will be deleted or submitted to you at any time. Taking part in this study is completely voluntary and you may choose to stop participating at any time. In this case, the recordings and the interview data will not be used in the study. Your participation will be completely confidential, and no personal and identifying information will be required. Your name will not be attached to any of the data you provide.

If you have any questions concerning the research study, please e-mail me at gizemakcor@gmail.com

Thank you!

"I understand that my participation in this study is completely voluntary and that I am free to decline to participate, without consequence, at any time prior to or at any point during the activity. I understand that any information I provide will be kept confidential, used only for the purposes of the study, and will not be used in any way that can identify me. I also understand that there are no risks involved in participating in this study, beyond those risks experienced in everyday life. By signing below and returning this form, I hereby give my consent to participate in this study."

Participant instructor's:
Name and Surname:
Adress:
Phone number:
e-mail:
Date:
Signature:

Principal Researcher:
Prof. Dr. İsmail Hakkı Erten
HÜ İngiliz Dil Eğitimi A.B.D
iherten@hacettepe.edu.tr
03127805518
Signature:

Researcher:
Gizem Akçor
SAÜ Yabancı Diller Eğitimi Bölümü
gizemakcor@gmail.com
02642953627
Signature:

APPENDIX-F: Consent Form for the Participant Students

Dear participant,

You are being asked to take part in a research by me who is conducting this research as a part of a Master's Degree in English Language Teaching Program supervised by Prof. Dr. İsmail Hakkı ERTEN in the Department of Foreign Languages Education at Hacettepe University. The necessary permission for my study was granted by Hacettepe University Ethics Commission. The purpose of this study is to explore pre-service ELT teachers' perceptions of the flipped classroom. Voluntary participation in this study is essential. If you agree to participate in this study, you will be asked to answer some open-ended questions, fill in a few questionnaires, and take part in an interview which is estimated to take 20 minutes. With your permission, I would like to audio-record the interview, and I assure that the recording of the interview will be used only for scientific purposes, and deleted after the transcription. Upon your request, the recordings will be deleted or submitted to you at any time. Taking part in this study is completely voluntary and you may choose to stop participating at any time. In this case, the recordings and the interview data will not be used in the study. <u>Your participation will remain strictly confidential.</u> Your name will not be attached to any of the data you provide. **I hope you will be willing to participate because your responses are important and a valued part of the study.** If you have any questions concerning the research study or wonder about the results of the study, please e-mail me at gizemakcor@gmail.com

Thank you!
Sincerely,
"I understand that my participation in this study is completely voluntary and that I am free to decline to participate, without consequence, at any time prior to or at any point during the study. I understand that any information I provide will be kept confidential, used only for the purposes of the study, and will not be used in any way that can identify me. I also understand that there are no risks involved in participating in this activity, beyond those risks experienced in everyday life. By signing below and returning this form, I hereby give my consent to participate in this study."

Participant student's:
Name and Surname:
Adress:
Phone number:
e-mail:
Date:
Signature:

Principal Researcher:
Prof. Dr. İsmail Hakkı Erten
HÜ İngiliz Dil Eğitimi A.B.D
iherten@hacettepe.edu.tr
03127805518
Signature:
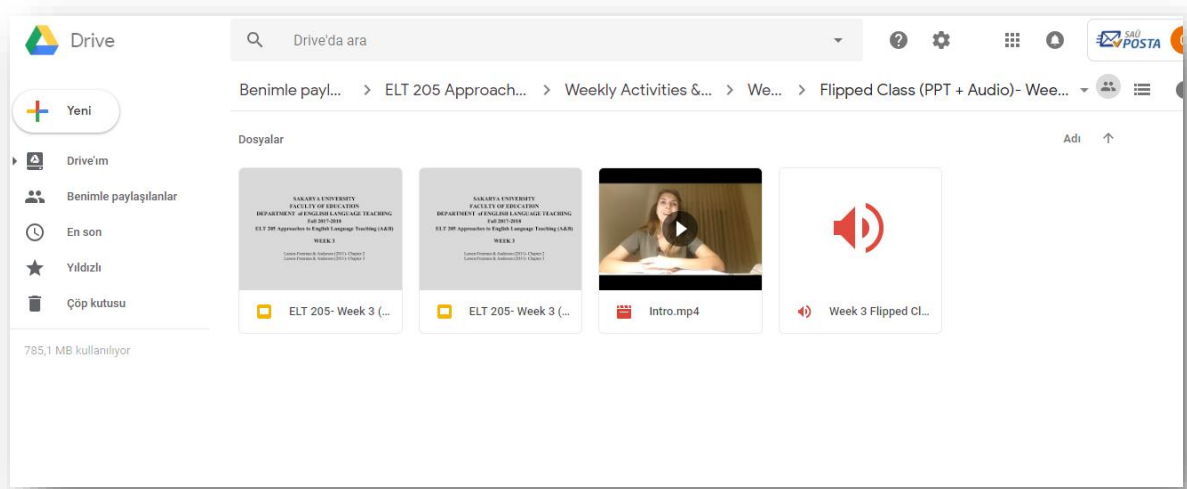
Researcher:
Gizem Akçor
SAÜ Yabancı Diller Eğitimi Bölümü
gizemakcor@gmail.com
02642953627
Signature:

APPENDIX-G: Pre-class Materials Uploaded to Google Drive

APPENDIX-H: Pre-class Quiz

APPENDIX-I: The Links of Pre-class Quizzes Shared on Edmodo

APPENDIX-J: Ethics Committee Approval

T.C.
HACETTEPE ÜNİVERSİTESİ
Rektörlük

Sayı : 35853172/ 433 - 876

2 3 Şubat 2018

EĞİTİM BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi: 19.01.2018 tarih ve 159 sayılı yazınız.

Enstitünüz Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı tezli yüksek lisans programı öğrencilerinden **Gizem AKÇOR**'un   **Prof. Dr. İsmail Hakkı ERTEN** danışmanlığında yürüttüğü **"Hizmet Öncesi İngilizce Öğretmenlerinin Ters-Yüz Sınıf Modeli Hakkında Görüşleri/Exploring the Perceptions of Pre-Service English Language Teachers of Flipped Classroom"** başlıklı tez çalışması Üniversitemiz Senatosu Etik Komisyonunun **06 Şubat 2018** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini rica ederim.

Prof. Dr. Rahime M. NOHUTCU
Rektör a.
Rektör Yardımcısı

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APPENDIX-K: Declaration of Ethical Conduct

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I hereby declare that...

- I have prepared this thesis in accordance with the thesis writing guidelines of the Graduate School of Educational Sciences of Hacettepe University;

- all information and documents in the thesis/dissertation have been obtained in accordance with academic regulations;

- all audio visual and written information and results have been presented in compliance with scientific and ethical standards;

- in case of using other people's work, related studies have been cited in accordance with scientific and ethical standards;

- all cited studies have been fully and decently referenced and included in the list of References;

- I did not do any distortion and/or manipulation on the data set,

- and **NO** part of this work was presented as a part of any other thesis study at this or any other university.

25/05/2018

Gizem Akçor

APPENDIX-L: Thesis Originality Report

03/06/2018

HACETTEPE UNIVERSITY

Graduate School of Educational Sciences

To the Department of Foreign Language Education

Thesis Title: Exploring the Perceptions of Pre-service English Language Teachers of Flipped Classroom

The whole thesis that includes the *title page, introduction, main chapters, conclusions and bibliography section* is checked by using **Turnitin** plagiarism detection software take into the consideration requested filtering options. According to the originality report obtained data are as below.

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Filtering options applied:
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I declare that I have carefully read Hacettepe University Graduate School of Educational Sciences Guidelines for Obtaining and Using Thesis Originality Reports; that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

Name Lastname:	Gizem AKÇOR	
Student No.:	N13224288	
Department:	Foreign Language Education	
Program:	English Language Teaching	
Status:	☒ Masters ☐ Ph.D. ☐ Integrated Ph.D.	

Signature

ADVISOR APPROVAL

APPROVED
Prof. Dr. İsmail Hakkı Erten

03/06/2018

HACETTEPE ÜNİVERSİTESİ

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Öğrenci No.:	N13224288
Ana Bilim Dalı:	Yabancı Diller Eğitimi
Programı:	İngiliz Dili Eğitimi
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İmza

DANIŞMAN ONAYI

UYGUNDUR.

Prof. Dr. İsmail Hakkı ERTEN

APPENDIX-M: Yayımlama ve Fikrî Mülkiyet Hakları Beyanı

Enstitü tarafından onaylanan lisansüstü tezimin tamamını veya herhangi bir kısmını, basılı (kâğıt) ve elektronik formatta arşivleme ve aşağıda verilen koşullarla kullanıma açma iznini Hacettepe Üniversitesine verdiğimi bildiririm. Bu izinle Üniversite'ye verilen kullanım hakları dışındaki bütün fikrî mülkiyet haklarım bende kalacak, tezimin tamamının veya bir bölümünün gelecekteki çalışmalarda (makale, kitap, lisans ve patent vb.) kullanım hakları bana ait olacaktır.

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(Bu seçenekle teziniz arama motorlarında indekslenebilecek, daha sonra tezinizin erişim statüsünün değiştirilmesini talep etseniz ve kütüphane bu talebinizi yerine getirse bile, teziniz arama motorlarının ön belleklerinde kalmaya devam edebilecektir)

☒ **Tezimin/Raporumun 25/05/2020 tarihine kadar erişime açılmasını ve fotokopi alınmasını (İç Kapak, Özet, İçindekiler ve Kaynakça hariç) istemiyorum.**
(Bu sürenin sonunda uzatma için başvuruda bulunmadığım takdirde, tezimin/raporumun tamamı her yerden erişime açılabilir, kaynak gösterilmek şartıyla bir kısmı veya tamamının fotokopisi alınabilir).

☐ **Tezimin/Raporumun .... tarihine kadar erişime açılmasını istemiyorum ancak kaynak gösterilmek şartıyla bir kısmı veya tamamının fotokopisinin alınmasını onaylıyorum.**

| ☐ | **Serbest** | **Seçenek/Yazarın** | **Seçimi:** |

....
....
....

25/05/2018

Gizem AKÇOR