INTEGRATING A MOOC-BASED FLIPPED CLASSROOM MODEL INTO THE ELT PROGRAM: PRE-SERVICE ENGLISH LANGUAGE TEACHERS' EXPERIENCE AND PERCEPTIONS

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INTEGRATING A MOOC-BASED FLIPPED CLASSROOM MODEL INTO THE ELT PROGRAM: PRE-SERVICE ENGLISH LANGUAGE TEACHERS' EXPERIENCE AND PERCEPTIONS

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ABSTRACT

INTEGRATING A MOOC-BASED FLIPPED CLASSROOM MODEL INTO THE ELT PROGRAM:
PRE-SERVICE ENGLISH LANGUAGE TEACHERS' EXPERIENCE AND PERCEPTIONS

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The widespread use of the Internet and the rapid advancement in information and communication technology have brought considerable changes in education and have necessitated the introduction of modern pedagogical methods, which could promote collaborative learning and provide continuous access to knowledge before and after class time. The purpose of this study was to investigate the effect of the Flipped Classroom (FC) model, an innovative teaching mode of blended learning, on pre-service English language teachers' academic achievement. It also attempted to examine their attitudes towards the model based on their Massive Open Online Course (MOOC) and FC experiences on the basis of connectivism learning theory. Lastly, it aimed to explore their overall views on integrating a MOOC-based FC model into the ELT program. The study adopted a mixed methods research design, benefiting from quantitative and qualitative data collection methods. Sixty-one pre-service English language teachers from two classes in ELT department at a state university in Turkey were assigned as the experimental and control groups. Data were gathered from a pre- and post-test, an attitude questionnaire, and two

open-response questionnaires. The results revealed that the Flipped Classroom model does not have a significant effect on students' academic achievement. Despite this, however, the students have a positive attitude towards the MOOC-based Flipped Classroom model. The results also indicated that they were cautiously optimistic in their outlook towards the idea of integrating a MOOC-based Flipped Classroom model into the ELT program. The study provides practical implications and valuable information for practitioners and the literature.

Keywords: Flipped Classroom, Blended Learning, Pre-service English Language Teachers, MOOC, Connectivism

ÖZ

KİTLESEL AÇIK ÇEVRİMİÇİ DERS'E (KAÇD) DAYALI TERS YÜZ SINIF MODELİNİN İNGİLİZCE ÖĞRETMENLİĞİ BÖLÜMÜNDE KULLANIMI: HİZMET ÖNCESİ İNGİLİZCE ÖĞRETMENLERİNİN DENEYİM VE GÖRÜŞLERİ

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İnternetin yaygın kullanımı ve bilgi ve iletişim teknolojisindeki hızlı ilerleme eğitimde önemli değişikliklere neden olmuş, işbirliğine dayalı öğrenmeyi teşvik edebilecek ve ders öncesi ve sonrası bilgiye sürekli erişimi sağlayabilecek modern pedagojik yöntemlerin kullanılmasını gerektirmiştir. Bu çalışmanın amacı; harmanlanmış öğrenmenin yenilikçe bir öğretim biçimi olan Ters Yüz sınıf modelinin, hizmet öncesi İngilizce öğretmenlerinin akademik başarısı üzerindeki etkisini ve katılımcıların model hakkındaki algılarını incelemektir. Çalışma, ayrıca öğrencilerin bağlantıcı öğrenme kuramına dayanan Kitlesel Açık Çevrimiçi Ders (KAÇD) temelli Ters Yüz sınıf deneyimleri hakkındaki görüşlerini incelemeyi hedeflemektedir. Son olarak, araştırma katılımcıların KAÇD'ye dayalı Ters Yüz sınıf modelinin İngilizce öğretmenliği bölümünde kullanımı hakkındaki genel görüşlerini incelemeyi hedeflemiştir. Bu amaçlar doğrultusunda, araştırma karma yöntem yaklaşımını benimsemiş ve hem nicel hem de nitel veri toplama yöntemlerinden faydalanmıştır. Türkiye'de bir devlet üniversitesinin Yabancı Diller Eğitimi Bölümünün iki sınıfından altmış dört hizmet öncesi İngilizce öğretmeni deney grubu ve kontrol grubu olarak atanmıştır. Veriler; ön test ve son testlerden, bir algı anketinden ve iki açık uçlu anketten toplanmıştır. Sonuçlar Ters Yüz sınıf modelinin öğrencilerin akademik başarısı

üzerinde pozitif ya da negatif bir etki yapmadığını, ancak buna rağmen öğrencilerin KAÇD'ye dayalı Ters Yüz sınıf modeline karşı olumlu tutumlar geliştirdiğini göstermiştir. Sonuçlar ayrıca, katılımcıların KAÇD'ye dayalı Ters Yüz sınıf modelinin İngilizce öğretmenliği bölümünde kullanımı fikrine temkinli bir iyimserlikle yaklaştıklarını göstermiştir. Çalışma, uygulayıcılar ve alanyazın için pratik sonuçlar ve değerli bilgiler sunmaktadır.

Anahtar kelimeler: Ters-Yüz Sınıf Modeli, Harmanlanmış Öğrenme, Hizmet Öncesi İngilizce Öğretmen Adayları, KAÇD, Bağlantıcılık

To My Family

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LIST OF ABBREVIATIONS

FC	Flipped Classroom
TC	Traditional Classroom
MOOC	Massive Open Online Course
ELT	English Language Teaching
CoHE	Council of Higher Education

Chapter 1

Introduction

This study aims to explore pre-service English language teachers' perceptions about Massive Open Online Courses (MOOCs) and Flipped Classroom (FC) model and their views on integrating a MOOC-based FC model into the English Language Teaching (ELT) program. This chapter starts by outlining the theoretical framework used in the study. This is followed by the statement of the problem. It then proceeds to explain the purpose of the study and research questions. Next, the significance of the study is presented. Finally, it ends with the definition of terms commonly used in the study.

1.1 Theoretical Framework

Proposing his theory of connectivism as a net-based learning phenomenon enabling learning with technological and social networks, Siemens (2005) developed it claiming that learning should be linked up in networks in order to facilitate the interconnectivity of social networks, thus bringing up together a wide range of target groups with the active involvement of the social partners. Defining these social partners as a network of connections between entities, and calling these entities nodes, which he referred to as groups, systems, individuals, communities, and social networks, Siemens (2005) spoke of the connectivism theory as a direct descendant of behaviourism, cognitivism, and constructivism. However, seeking evidence in favour of his theory, Siemens (2005) criticised the existing traditions for being "limited due to their intrapersonal view of learning, their failure to address the learning that is located within technology and organizations, and their lack of contribution to the value judgments that need to be made in knowledge-rich environments" (Goldie, 2016, p. 1064).

Pointing to the interactions taking place between networks of people and things and the distribution of learning processes, which require active participation of learners, Siemens (2005) outlined the principles of connectivism as follows:

- Learning and knowledge rests in diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known.
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
- Decision-making is itself a learning process (p. 5).

Emerging as a new theory for network learning, based on networks of various types, varying in size from small local networks to extensive systems of globally interconnected domains, connectivism asserts that knowledge is dispersed between these locations and learning occurs through experiences and actions of individuals, social groups and connections which are formed by interaction between these networks (Downes, 2008). Consisting of two or more nodes engaged in building up and sharing resources, multi-platform networks are marked by Downes (2012) by the following characteristics:

- Diversity – the widest possible spectrum of points of view.
- Autonomy of participants.
- Openness – mechanisms which allow perspectives to be entered into the system.
- Connectivity – connections between its nodes.

Proposing that knowledge is activated through interaction between networks, connectivism asserts that learning occurs with the participants making practical use of connections through interaction during network activity (Siemens, 2005). Likewise, as information is constantly updated and because learning is a cyclical process involving interchange and processing of information, network connection, further development of knowledge, and social inclusion, Goldie (2016) noted that "learners need to be able to access new information, evaluate its relevance and make decisions on the basis of the information acquired" (p. 1066).

With their progressive pedagogical aspects that put into practice the basic principles of connectivism theory, MOOCs enable individuals to become active learners by facilitating relationships and networks of people through the efficient use of shared resources, opened files, and connected users, who can shape and build their learning (Cormier, 2008). Some specific features of MOOCs such as accessibility, affordability, openness and convenience, from Yaşar's (2020) perspective, "makes it possible for a person's message to make its way around the globe to eventually end up back to the same person after being responded and commented by innumerable participants across borders" (p. 9).

Similarly, with its pre-prepared, out of class lectures and in-class sessions, which respectively combines elements of behaviouristic (mainly teacher-centred contents) and constructivist (student-centred instruction) learning theories, the FC model, which is defined as "a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (Flipped Learning Network, 2014), is consistent with connectivist principles as it also utilizes online network learning by integrating a MOOC in a face-to-face traditional classroom instruction, thus promoting the fullest possible social integration and interpersonal communication through the interactivity of the MOOC.

Combining elements of online and face-to-face learning by incorporating a MOOC in a traditionally taught course, the MOOC-based FC instructional model in the current study shares the principles of connectivist theory as learning and content delivery extend beyond the boundaries of the classroom with multiple ways of learning such as globally connected online communities on the MOOC, social networks on the Web, face-to-face traditional classroom instruction, online and offline interaction with peers and instructors. As a consequence, substantially enriched with online learning resources and active global online community, the MOOC-based FC approach promotes an effective combination of in-class, online and hybrid delivery formats and enhances learner interaction and cooperation by allowing students to become active learners in ways that are consistent with connectivist principles.

1.2 Statement of the Problem

The widespread use and availability of the Internet, the greater variability in web technologies and the incredible increase in the use of computers have brought various considerable changes in education. Similarly, the rapid advancement in information and communication technology has necessitated the introduction of new learning technologies and modern pedagogical methods, which could promote collaborative learning and provide continuous access to knowledge even before and after class time.

Considering the fact that traditional models are replaced by more efficient and active pedagogies of teaching (Prashar, 2015) and drawing attention to the fact that technology revolutionizes education in both traditional and online environments (Baldwin, 1998), "researchers and educational practitioners are increasingly arguing that integrating MOOCs and flipped classroom practices based on shared online videos can facilitate the creation of learner-centred learning environments" (Li, Zhang, Bonk, & Guo, 2015, p. 4). Although the introduction of an FC model to the higher education landscape might seem to bring with it a new attitude to changes in traditional ways of learning (Bormann, 2014), teachers and educators are often committed to pursue conventional approaches, using traditional ways of teaching (Firmin & Genesi, 2013). According to Gencer, Gurbulak, and Adiguzel (2014), the reason for the FC model's being underrated among teachers is their lack of knowledge about the use and benefits of the model. However, it has been proposed that the use of MOOCs and FC model, with its learner-centred instructional approach, would bring about more efficient learning and facilitate access to learning resources as well as improving the overall learning outcomes (Hughes, 2012). In this regard, it goes without saying that traditional classroom (TC) instruction must be extended to meet these new opportunities. In addition, teachers' awareness regarding the FC model should be raised and the potential benefits of the MOOCs and FC practices should be assessed by teachers, teacher trainers, and other professionals. Therefore, supplementing traditional taught classes or replacing some in-class components with high-quality online content and interactive e-learning modules has become a critical issue.

Hence, extending students' learning environment by combining face-to-face classroom training with out-of-class learning activities, through which knowledge transmission is presented outside of class time to achieve greater learning success, poses

a serious problem for instructors. Likewise, establishing an online global community enriched with collaborative learning opportunities, designing courses that are based on active learning principles and motivating learners to engage in more learner-centred activities are a few other challenges that an ideal teacher has to face in the digital information age, in which knowledge and learning are not bound by the classroom or external borders of the countries.

As a consequence, this study attempts to provide instructors, educators, policy makers, teacher trainers, other professionals and, most importantly, pre-service English language teachers with a MOOC-based FC model with the aim of setting an example for them to decide if this form of learning delivery can help them respond to the challenges and problems mentioned above and if it might be seen as an optimal alternative to classical face-to-face lectures. However, the primary aim of this study is to examine pre-service English language teachers' perceptions about integrating a MOOC-based FC model into the ELT program after participating and actively getting involved in a MOOC-integrated FC course.

1.3 Purpose of the Study

Given the scarcity of literature on MOOC and FC models in the literature, especially in Turkish higher education context, first, this study aims to find out the effect of FC model on pre-service English language teachers' academic achievement by comparing the achieved test results of the students in Flipped vs Traditional classrooms to ascertain whether the model could contribute to the academic achievement of the learners or if it has a positive or a negative effect on students' academic achievement. Second, it intends to examine what the pre-service English language teachers' perceptions are on FC approach and if it can provide them with some additional qualifications in their professional development. Third, the study attempts to discover the differences between the perceptions of the pre-service English language teachers based on their MOOC and FC experiences to gain an insight into the factors that determine success and failure in FC practices. Finally, the core aim and main objective of this research is to explore pre-service English language teachers' overall views on integrating a MOOC-based FC model into the ELT program to see, from their perspective, if this model can be recommended as an alternative to traditional model of teaching, especially for higher education institutions.

1.4 Research Questions

To investigate pre-service English language teachers' perceptions about integrating a MOOC-based FC model into the ELT program, the present study aims to address the following research questions:

1. Is there a significant difference between the experimental group and the control group in terms of their academic performance after the implementation of the MOOC-based FC model?
2. What are pre-service English language teachers' perceptions of FC model?
3. What are pre-service English language teachers' attitudes towards MOOC-based FC model based on their MOOC and FC experiences?
4. What are pre-service English language teachers' perceptions of integrating a MOOC-based FC model into the ELT program?

1.5 Significance of the Study

It is beyond question that innovative pedagogical methods and present day technologies have changed the nature of teaching profession. Similarly, the role of a teacher in the 21st century has shifted from that of a dispenser of knowledge to an organiser of learning, who guides students through educational content in any subject and help them find alternative ways to reach various sources of knowledge and making the most of this knowledge. Hence, every teacher should be informed about the effective leverage factors of technology-enhanced education and be ready to employ new teaching methodologies and different learning models to customize their teaching to the individual needs of their students, thus tailoring the learning experience of their students by taking into account the latest technological advances in the field of education. With reference to its potential use of digital technology, FC model could provide a good alternative for the modern teacher of the 21st century by ensuring the availability of online learning content such as video lectures or reading texts and combining it with the benefits of face-to-face classroom instruction (Simon, 2019).

Likewise, as a result of growing Internet use at home or at any other location and with the ever wider use of computers and digital content in schools, colleges and universities, it is an undeniable fact that the Internet is a highly valuable medium for education and for

access to knowledge. Therefore, school curricula should be adapted to match changing learner needs by fully exploiting the potential of the Internet for instructional purposes. As knowledge is no longer transmitted only from teacher to student, new technologies require teachers to break down the traditional walls of teaching by making real use of digital technology. At this point, through their active global online community and highly collaborative environment, which foster active participation and social interaction, MOOCs could hold considerable potential for mutual learning with a range of opportunities that are based on principles of student-centred learning and the connectivist learning theory (Song, Song, & Wei, 2015).

Additionally, with their potential to serve as a bridge between students, in-service teachers, teacher trainers, schools and families, pre-service teachers could set a good example for the modern teacher profile by empowering individuals to fill the digital divide between generations and applying educational technology tools. Accordingly, in support of the training of pre-service teachers that are about to begin their teaching career, investment in the use of new technology could constitute a meaningful supplement to traditional face-to-face teaching. Therefore, as a complement to traditional face-to-face instruction, FC model could be considered useful for the training of future teachers, especially those who are studying in language teaching programs. Likewise, as incorporating a MOOC in a classroom taught course could facilitate interaction among learners and ensure that every participant could use the learning content at any time as desired, using a MOOC could improve the overall learning outcomes of the pre-service teachers and provide future language educators with much richer learning experiences.

Actually, it has been advocated for many years that teacher trainers should set a good example for pre-service teachers by implementing effective teaching techniques and participatory learning methods so that pre-service teachers can apply these techniques in the future for their own students (Hao & Lee, 2016). To this end, FC was considered to be a good model for investment in the education and training of the pre-service teachers in order to raise the level of their basic training, including the use of new technology, and thus ensuring that they have the necessary resources and pedagogical skills to prepare their future students for their future careers (Vaughan, 2014). In fact, there have been a few studies so far that have focused on the applicability and benefits of the FC model in teacher

training, but most of them have concentrated on the fields of STEM (science, technology, engineering, mathematics) (Goubeaud & Yan, 2004). And even fewer studies, have been conducted regarding the FC in the Turkish context (Kurt, 2017). More recently, however, Akçor (2018) gave a detailed description of pre-service English language teachers' perceptions of the FC model. However, there is a gap in the literature regarding pre-service English language teachers' perceptions of a MOOC-based FC model.

Although a MOOC-based FC model have often been advocated in theory, it has consistently been disregarded in practice, so the main significance of this study lies in its implementation of a MOOC-based FC model in an ELT program for pre-service English language teachers for the first time in a Turkish context, and possibly in the literature. Therefore, the importance and originality of this study is that it explores pre-service English language teachers' perceptions of a MOOC-based FC model and its effects on their academic achievement. In addition, this study provides an exciting opportunity to advance our knowledge of MOOC-based FC model in teacher education, especially in the field of ELT. The current study also seems to be significant as it is likely to offer valuable insights into pre-service English language teachers' overall views on integrating a MOOC-based FC model into the ELT program. Finally, the significance of this study can also be revealed through detailed description of the pre-service English language teachers' perceptions of MOOC-based FC model, which could provide valuable opportunities and information for researchers, practitioners, pre-service teachers, in-service teachers, educators, teacher trainers, policy makers, administrators and other professionals by setting a clear example for them to decide if this instructional model could be a practical alternative to classical face-to-face lectures. Taking the findings of this study into account, some of these stakeholders might consider integrating a MOOC-based FC model into their traditional classroom settings or creating a blended course that incorporates a MOOC into their existing face-to-face programs.

1.6 Definitions

MOOC (Massive Open Online Course): "The term originated in the US in 2008 to describe free, easily accessible, completely online courses" (FutureLearn, 2019, para 1).

ELT (English Language Teaching): "The English Language Teaching Department aims particularly to educate students with the contemporary knowledge, practical skills and attitudes required for English teachers" (METU, 2020, para. 1).

Pre-service teachers: "Pre-service teachers are those who are in a teacher-education program in order to pursue teaching credentials in public schools or private sectors domestically or internationally" (Lee, 2019, p. 59).

In-service Teachers: "Professional teachers who are currently teaching" (Bloom & Dole, 2014, p.675).

Education Stakeholders: "Education stakeholders refer to those who may engage in any education-related activities. Students, teachers, parents, school administrators, education policymakers, and scholars in education are examples" (Lee, 2019, p. 59).

Blended (also called Hybrid) Learning: "Online activity is mixed with classroom meetings, replacing a significant percentage, but not all required face-to-face instructional activities" (Mayadas, Miller, & Sener, 2015, para. 9).

Active Learning: "Active learning is a method of learning which promotes students to be actively or experientially engaged in the learning process, stressing on students' participation" (Han, Lim, & Jung, 2019, p. 41).

Online Course: "All course activity is done online; there are no required face-to-face sessions within the course and no requirements for on-campus activity" (Mayadas, Miller, & Sener, 2015, para. 12).

Classroom Course: "Course activity is organized around scheduled class meetings" (Mayadas, Miller, & Sener, 2015, para. 7).

Traditional Classroom: "A classroom which does not cater for innovation and creativity because its main resource is a teacher" (Mphahlele, 2020, p.3).

Flipped Classroom: "A flipped classroom is a type of blended learning where students are introduced to content at home and practice working through it at school" (The Definition of The Flipped Classroom, 2020, para. 2).

Chapter 2

Literature Review

In this chapter, first, the theoretical foundations of the MOOC-based FC model is presented. Second, some theoretical background knowledge about active learning is given, in order to make a simple connection between the concepts of active learning and flipped learning. Third, blended learning is discussed in detail, followed by a full explanation of FC approach. Fourth, a systematic review of MOOCs is presented. Finally, some leading studies carried out on FC in general, specifically with pre-service teachers and related to MOOC-Integrated FC models are reviewed.

2.1 Theoretical Foundations of MOOC-based Flipped Classroom Model

With the rise of the Internet as a global means of communication and its effects on education, Siemens (2005) proposed a new learning theory 'connectivism' which views learning as a network phenomenon. Formulating a new pedagogical paradigm as a guide for the digital age thanks to the rapid developments in Internet technology, he distinguished his new theory of connectivism from that of behaviourism, cognitivism and constructivism, stating that in the early days of these theories, technology as we know it nowadays was not something to be taken for granted (Siemens, 2005). Today, however, technology presents ways of organizing methods, modes and the content of education (Veselá, 2013). Emphasizing the potential of the Internet technology, which facilitates access to information and provides individuals with an immense wealth of knowledge as well as social networks, Siemens (2005) exposed the limitations of past theories, noting that "these theories do not address learning that occurs outside of people and they fail to describe how learning happens within organizations" (p. 2).

Considering the main principles of MOOCs, they can be based upon the ideas of connectivism in that they focus on globally connected online communities and huge networks of resources and individuals who have unrestricted access to learning contents (Downes, 2008). "The application of MOOC makes students learn what they want with no boundaries of time, space, cost, age and background" (Wong, Tee, & Lim, 2015, p.

383). Taking into account the concept of blended learning, a new model for organizing educational programs especially in higher educational institutions and a phenomenon combining face-to-face teaching with E-learning practices, many researchers and educators around the world have started to provide guidelines for instructors to integrate MOOC content into the traditional face-to-face classroom teaching (de Jong et al., 2020). Similarly, advocating that FC practices that are based on principles of learner-centred learning and online video presentations would improve the overall learning outcomes, educational practitioners are arguing that FC model allows learners to be more active in their learning, thus let them engage in active learning (Strayer, 2012). Being 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-centred learning environment" (Akçor, 2018, p. 18).

Combining the FC model, which promotes a learner-centred learning environment and active learning processes with digitally-enhanced MOOCs, which extends learning beyond the walls of conventional classrooms, the MOOC-based FC model merge the major elements of online and face-to-face learning (Jitpaisarnwattana, Reinders, & Darasawang, 2019). The MOOC-based FC model is, therefore, grounded in connectivism, as according to the theory "learning in the digital age is mostly dependent on the connection of learners with various sources of knowledge from the Internet and the interaction with others in communities or social networks" (Yin, 2016, p.20).

2.2 Active Learning

Research studies show that most of the problems encountered by students are due to their adopting a passive role during traditional lectures (Nelson, 2008). Therefore, there has been a broad consensus among scientific circles that there is a desperate need to promote active learning in lectures (Allen & Tanner, 2005). Although it is not easy to define the concept of active learning exactly, the basic fact is that learning is more effective when learners become deeply engaged in the learning process and take more responsibility for their own learning (Turpen & Finkelstein, 2009). It essentially occurs "when an instructor stops lecturing and students work on a question or task designed to help them understand a concept" (Andrews, Leonard, Colgrove, and Kalinowski, 2011, p.

394).

Often contrasted to the traditional classroom, where a passive reception of information happens from lecturers, active learning is based on students' continual engagement and direct involvement in the learning process (Prince, 2004). Namely, in active learning, students' role changes from that of a passive viewer to an active participant (Bonwell & Eison, 1991). Active learning can also refer to taking an active part in classroom instructions through thinking critically, solving problems by questioning and asking, discussing and finding out by acting cooperatively and working collaboratively (Knight & Wood, 2005).

There is a growing body of research suggesting that learning can be made much more effective in an active learning environment, where learning and dialogue are valued more highly than lecture and knowledge, in contrast to the traditional lecturing, which is mainly based on direct instruction (Prince, 2004). For example, Bonwell & Eison (1991) revealed that as well as raising student achievement, active learning yields measurable results in improving student attitudes toward learning.

Felder, Woods, Stice, and Rugarcia (2000) also cited evidence from the literature on active learning, indicating that it leads to a fruitful exchange of ideas between lecturers and learners in addition to motivating students to become critically reflective, thus developing their critical thinking skills.

Similarly, there have been so many studies and research papers confirming that active learning increases student learning when compared to lecture-based TC instruction (Wright, 1996; Knight & Wood, 2005; Nehm & Reilly, 2007; Haak, HilleRisLambers, Pitre, & Freeman, 2011). Likewise, there is also a substantial body of research establishing that students engaged in active learning will learn more easily and more effectively than those taught with traditional teacher-fronted explanatory instruction (Hake, 1998; Deslauriers, Schelew, & Wieman, 2011). Hence, taking into account all the studies mentioned above, active learning should be in the interest of all teachers, learners and decision-makers. It should be provided for persons of all ages, and it should also be fostered with a view to encouraging active participation in classroom learning.

2.3 Blended Learning

Commonly defined as a phenomenon that mixes online and face-to-face (offline) instruction, blended learning provides learners with new learning experiences that combine classroom teaching with e-learning practices, expanding new learning environments that place emphasis on both learner-material and human-human interactions (Graham, 2006). From this distributed learning perspective, blended or hybrid approaches to teaching offer a wide range of study options through various learning contexts such as computer-mediated instructional elements and digital learning content as well as the traditional classroom instruction (Hill, 2012).

Specially chosen for its improved pedagogy, increased access and flexibility, and increased cost-effectiveness, blended learning can successfully incorporate face-to-face and computer-mediated elements, if designed well (Graham, Allen, & Ure, 2005). As opposed to some higher education institutions, where only transmissive models of instruction are implemented, or as is the case in some training settings, where most teaching and learning practices solely rely on distance education, blended learning focuses on interactive, peer-to-peer, and learner-centred strategies, based on a more extensive use of effective pedagogical methods that integrate all elements of information technology into classroom education (Smelser, 2002).

Having been revealed as a more effective way of learning than either only face-to-face or fully online instruction, blended learning strikes a delicate balance between these distributed learning environments thanks to the coordination it provides through the easy access, flexible online learning options and traditional face-to-face classroom instruction (Means, Toyama, Murphy, Bakia, & Jones, 2010). As Graham (2006) noted, “many learners want the convenience offered by a distributed environment yet do not want to sacrifice the social interaction and human touch they are used to in face-to-face classroom” (p. 8).

Similarly, with their diverse course content and multiple instructional methods such as traditional face-to-face, live synchronous and self-paced asynchronous online learning environments, blended approaches also offer cost-effective and ample instructional opportunities to globally dispersed audience, accommodating a delightful combination of various teaching methods and different learning styles (Stone & Perumean-Chaney; Bonk

& Graham, 2012). Hence, as Bralić and Divjak (2018) put it, "a right blend should take best of offline and online learning to create a system that enable students to achieve learning goals in the best possible way" (p. 48).

For instance, in one form of flipped classroom (also known as inverted classroom), which is one of the common types of blended learning, students have first access to learning resources at home via online video lectures supplied by their instructor, then they master and digest the lecture content through content-related classroom discussions in an active learning environment, properly managed by their instructor (Lage, Platt, & Treglia, 2000). Similarly, MOOCs, the main goal of which is "to provide open access to self-learning via high quality of education which supports the process of learning and knowledge creation via social interactions and to advance study on learning" (Wong, Tee, & Lim, 2015, p. 382), offer a convenient option for blended learning. Instead of producing publications and videos on subjects relating to their course content, creating pages and releasing them on the Internet, instructors can reinforce classroom learning by integrating ready-built MOOCs that include varied teaching methods and carefully selected instructional resources in their traditional classroom settings (Koller, 2012; Mangan, 2012). As a recent approach of teaching, the MOOC-based FC model offers "new opportunities for people to learn and share information across the World Wide Web and among themselves" (Jitpaisarnwattana, Reinders, & Darasawang, 2019, p. 22). The MOOC-based FC model will be explained in detail in the following sections. The next section, however, provides more detailed information about the concept of flipped learning.

2.4 Flipped Learning

2.4.1 Definition of flipped learning. First developed in 2007 by two high school chemistry teachers, Jonathan Bergmann and Aaron Sams, to compensate for classes missed by students who attended athletic competitions, flipped learning has since been attracting the attention of a wide range of research studies (Farrah & Qawasmeh, 2018). It is defined by Merrill (2015) as "a pedagogical model in which classwork and homework are reversed" (p. 16).

Flipped learning, which relies on the expertise of practice-oriented instructors with a wide range of learning media and highly visualized contents, has altered the order of teaching by assigning preparatory work as online homework, rather than taking valuable class time, with the aim of establishing a climate for active learning (Amiryousefi, 2019). "The simplest form of a flipped classroom involves replacing traditional in-class lectures with video tutorials that students are expected to watch prior to class" (Wong, Tee, & Lim, 2015, p. 383).

Being one type of blended learning, flipped learning draws on interactive learning methods (Xinying, 2017). In addition to classroom teaching, wherein students directly engage in discussions and participate in joint projects, FC approach offers students a high degree of e-learning materials outside the classroom and gives them opportunities for intensive and interactive practice, enabling them to learn at their own pace and possibly with their preferred learning style (Berrett, 2012). In traditional classes, however, students solely and exclusively rely on classroom training sessions and teachers for the provision and production of teaching and learning materials as well as the development, organization, and running of the course delivery and student support (Amiryousefi, 2019).

In TC model students receive the theoretical knowledge from the teacher in a classroom setting, which constitutes the sole context for instruction, and they are responsible for completing their homework assigned by their teachers at home without qualified supervision, whereas in FC model homework is an essential part of school job with a high degree of active participation inside the classroom, involving direct transfer of knowledge between the instructor and students (Abdel-Fattah, 2017). This means that in FC instructional model, "students listen or watch the lecture at home but do homework in the classroom" (Wong, Tee, & Lim, 2015, p. 383). The definition of FC having been made, now it is the time to dig into the methodology of flipped learning.

2.4.2 Methodology of flipped learning. According to Flipped Learning Network (2014), student autonomy, collective and cooperative learning, interaction among students and teachers, problem solving, learning skills and acquisition of knowledge lay the methodological foundations of FC, which is based on the four Pillars of the word F-L-I-P™. The four pillars are as follows:

F- Flexible environment: The methodology of FC is based, firstly, on the flexible learning environment that establishes a dynamic learning to the benefit of students' participation, attentiveness and comprehension. The mobility of teachers and students is supported and the adaptive learning space is arranged, based on the needs of students. Teachers are particularly attentive to the progress, interests and motivation of their students, and they are willing to offer them the options to choose between different alternatives for learning.

L- Learning culture: This is perhaps the most prominent aspect of FC, wherein teachers motivate learners to engage in independent learning instead of teacher-centred instructions. Student-centred learning strategies, multi-method and interactional activities are the hallmark of the learning methodology in FC. Teachers' new role is to create a learning culture, which constitutes rich learning experiences and enables the development of social skills as well as facilitating access to learning opportunities.

I- Intentional content: Teachers have to decide upon the best learning strategy and the most effective teaching method that can be used in the classroom. In addition, they have to determine the most appropriate kind of materials for the students to reinforce and maximize their learning at home, which will help them prepare and discuss the content in the classroom. Furthermore, they need to adopt methods of active learning based on the level and needs of their students. They also need to prepare content-related comprehension checking questions for each topic and decide what questions they should ask to improve the comprehension of the content for each topic.

P- Professional educator: Being a professional FC teacher requires a much more elaborate effort and analytical skills than a traditional method of teaching. It necessitates a much more complicated teaching process in which a teacher has to be familiar with all matters inside and out of class, keeps an eye on everything, and facilitates the learning process. Likewise, professional educators are open to criticism and accept it in a self-reflective and critical manner while at the same time empowering their students to make sense of their learning and promoting a culture of autonomous and reflective practice. They tend to be less visible and prefer light control in classrooms but can play crucial roles in bringing chaotic situations under control. They are the essential components in maintaining the quality of flipped learning model.

The methodology of FC has been fully explained, but to gain a clearer view of FC, further analysis should be performed. Although very briefly mentioned, FC vs TC teaching models need to be further discussed in the following section so that a more systematic and comparative analysis can be made between the two models.

2.4.3 Characteristics of flipped classroom vs traditional classroom. The differences between Flipped vs Traditional classroom models can briefly be described as follows:

First, traditional classrooms are usually based on teacher-centred group instruction, where knowledge flows only in one direction from teacher to learner and the teacher stands in front of the class explaining a term or asking a question, then waits for an answer afterwards to proceed to the next question, while in flipped classrooms the role of a teacher changes from information giver to that of a facilitator who designs a student-centred environment that encourages students to be more active in their learning and uses class time for more engaging activities (Cheng-lin & Jian-wei, 2016). Unlike the TC model, which depends on didactic lecturing, the FC model, which promotes personalized learning and inclusive education, supports learners in developing greater learner autonomy and provide each student with the opportunity to learn at his or her own pace (Bijlani, Chatterjee, & Anand, 2013).

Second, TC methods are mostly bound to specific times and locations, whereas FC practices have no restrictions regarding space and time, allowing students to learn in a variety of different contexts other than the classroom and in different time frames (Zainuddin & Perera, 2019). For example, students can start their learning activities at home by obtaining learning materials released by their teachers before class, and thus mastering the course content, relying on their individual learning pathways (Abeysekera & Dawson, 2015).

Third, in traditional method of teaching, theoretical knowledge is transmitted from teacher to student in a way that students assume no responsibility for their learning process, whereas flipped teaching model gives students increased control on and responsibility as well as partnership for their learning (Zownorega, 2013). This is generally accomplished “by presenting materials and concepts to students and letting them

work on the materials and concepts individually or collaboratively" (Amiryousefi, 2019, p. 148).

Finally, differing significantly from the established forms of teaching and learning in traditional method of teaching, flipped classroom approach aims to provide students with direct access to and use of digital resources and environment to facilitate the acquisition of knowledge and benefit from the tremendous possibilities of the Internet (Richter & McPherson, 2012). E-learning environment and digital learning resources promote effective implementation of flipped learning. "With the knowledge instruction in face–to face form replaced, an elaborate design for the video as well as other learning materials that teachers provide and a proper presentation is necessary so that students can feel in a way that they are face to face with their teachers" (Cheng-lin & Jian-wei, 2016, p. 28). A detailed comparison of the two models is listed in Table 1 below.

Table 1

A Comparative Analysis between Traditional Learning and Flipped Learning

Comparative points	**Traditional learning**	**Flipped learning**
a. Environment	1. Inside the classroom, lectures are the only means 2. Outside the classroom, Practice exercises & problem solving	1. Inside the classroom, Practice exercises & problem solving 2. outside the classroom, Video / PowerPoint lectures closed-ended quizzes & practice exercises
b. Teacher's role	Represents the authority, source of information, deliver his lecture and answer students' questions.	Prepares his material at home. He is supervisor, developer, researcher, guide and helper.
c. Students' roles	Inside the classroom only and go for his own outside the class.	1. They do higher level analysis/ critical thinking 2. guided support, providing examples – links between content and real world
d. Teaching tools	Classroom setting; boards, projector, marks, etc.	1. Storages; dropbox, mediafire, etc., for sending video files and presentations 2. Social media programs; WhatsApp, Facebook, etc., for discussions 3. Mail; Gmail, Yahoo, for receiving home assignments.

Source: Abdel-Fattah (2017).

2.4.4 MOOC and flipped classroom practice. Recently, MOOCs have been utilised as a new option for flipped course designs (Jitpaisarnwattana, Reinders, & Darasawang, 2019). Instead of being produced by the instructor, online course contents such as video lectures can be provided by a MOOC, thus classroom training sessions could be supplemented by an already existing MOOC (Bruff, Fisher, McEwen, & Smith, 2013). As students' involvement in online activities is facilitated through a MOOC, they can engage in collaborative learning by exchanging their learning experiences even outside the classroom, thus establishing close connections between in-classroom and off-classroom activities (Yaşar, 2020).

Although they are still under development, MOOC-based FC models can assist teachers in providing their students with appropriate teaching and learning materials such as lecture videos, delivery notes, assignments, discussion forums, online resources, online tasks, automatically graded quizzes all of which are already available on MOOCs (Bruff et al., 2013). In this study, pre-service English language teachers' perceptions of a MOOC-integrated FC model are explored, so it would be helpful to provide more information on MOOCs in the following section.

2.5 Massive Open Online Courses (MOOCs)

MOOC is the acronym that stands for Massive Open Online Course. Manager of Web Communication and Innovations, at the University of Prince Edward Island in Canada, Dave Cormier was the first person to coin the name MOOC, taking a huge step towards a new phase in the history of distance education in August 2008, for a large online class "Connectivism and Connective Knowledge" offered to approximately 2.300 students for free by George Siemens and Stephen Downes (Mcauley, Stewart, Siemens, & Cormier, 2010). Despite ongoing debate over its precise meaning since its first launch in 2008, MOOC is considered to be a modern evolution of distance learning (Lin & Cantoni, 2017). At the heart of the concept of a MOOC lies its ease of use, convenience, and impressive flexibility, which defy all physical limitations of the traditional classroom setting (Murray, 2014). Appreciation of diversity and multiculturalism, a high degree of autonomy, and an improved level of interaction achieved through stronger connection between people and course content are only a few of the main characteristics of a MOOC

compared to conventional classroom teaching (Mackness, Mak, & Williams, 2010). However great number of students and huge growth in participation limit active tutor involvement and cause difficulty in course management, necessitating self, peer, or computer assessment (Aharony & Bar-Ilan, 2016). In addition, a high dropout rate among students, standing at an average of around 90%, and only about 5% to 15% of participants' completion of the course are some of the drawbacks associated with MOOCs (Daradoumis et al., 2013).

However, in the opinion of Khalil and Ebner (2013), despite infrequent and limited direct interaction with the instructor, "MOOCs provide an online version of complete courses, with video instruction, online quizzes, and forums to encourage student participation" (p. 630). Khalil and Ebner goes on to say that thanks to their online, free, open access, and interactive design, which makes collective and full participation possible, "MOOCs offer students the chance to take courses from celebrated specialist experts, without any required course prerequisites" (Khalil & Ebner, 2013, p. 630). Having been attracted to using these unconventional web-based courses at their higher education institutions, many research centres have either developed their own MOOC platforms or used an existing one, thus enabling their professional and specialised lecturers design and offer high-quality courses adapted to the specific needs of the mass (Sanchez-Gordon & Luján-Mora, 2014). FutureLearn, Coursera, edX, Udacity, Khan Academy are among the best MOOC platforms, which eliminate barriers to equal, affordable, and in most cases free access to education.

Based on their design, content, and implementation, Siemens (2013) distinguishes between connectivist (cMOOCs) and eXtended (xMOOCs), making the best and most current taxonomy of MOOC models despite their constant change. Being the first MOOC platform to be developed, cMOOCs focus on collaborative learning in a social network, where learning happens with the students making practical use of the content through active participation and group interaction, thus engaging in technology-mediated collaborative work (Aharony & Bar-Ilan, 2016).

In a cMOOC environment, learning is placed before knowledge, and participants' constructive dialogue is more important than lectures, which is achieved by collegial exchange and interaction with other learners (McLoughlin & Magnoni, 2017). By

contrast, xMOOCs, the most popular type of MOOCs, adopt a more traditional teaching approach based on direct instruction, which is accompanied by curriculum design and a high level of technological and organizational competence (Baggaley, 2013). These teaching-learning cycles of xMOOCs discredit the validity of high student social network, obliged peer cooperation, and high level of learner interaction which is essential for cMOOCS, thereby leading to enormous power and responsibility on the part of the instructors and course developers (Sanchez-Gordon & Luján-Mora, 2014). As McLoughlin and Magnoni (2017) put it, xMOOCS "are more 'behaviourist' in nature and put an emphasis on content rather than connections" (p. 62). Referred to by some as commercial MOOCs, xMOOCs are therefore mostly provided by commercial or semi-commercial platforms, like FutureLearn, edX, Udacity, and Coursera, which invest in high level of technological and organizational research and development (Clark, 2013). Another major difference between cMOOCs and xMOOCs is their developers. While a team of trained professionals design, develop, and conduct a cMOOC, "in an xMOOC usually there is one or more higher education institutions behind it, and, in some cases, a for-profit company (Sanchez-Gordon & Luján-Mora, 2014, p. 1452).

Based on Siemens' (2005) connectivism, MOOCs promote active learning strategies and facilitate continual learning. Similarly, the findings of many research papers have made it clear that active learning strategies enhance learner's participation and motivation for learning in the flipped classroom model, which includes traditional classroom environment and online networks (Yilmaz, 2017). As this study examines students' perceptions on MOOC-based FC instructional model on the basis of connectivist principles, the theoretical foundations of the study is based upon the basic principles of connectivism learning theory. At this point, studies that have been carried out on FC model and MOOC-Integrated FC model will be presented.

2.6 Studies on Flipped Classroom Model

Various studies have confirmed that the learning performance of students in the flipped learning environment appears to be significantly higher than that of students in in a traditional classroom environment (Hung, 2015; McLaughlin et al., 2014; Deslauriers & Wieman, 2011; Day & Foley, 2006). Similarly, Zappe et al. (2009) found that the majority

of the undergraduate students perceived the FC based courses as having a highly positive impact on their learning, yet they would prefer only half of the courses to be flipped and the other half be offered in a traditional manner. Results from other research groups also suggest that traditional methods still need to be used as all topics cannot be covered with a flip-class approach (Ramlogan, Raman, & Sweet, 2014; Johnson & Renner, 2012; Snowden, 2012).

There are, however, studies suggesting that there is no significant difference in student achievement between flipped and non-flipped classes. (Mason, Shuman, & Cook, 2013; Johnson & Renner, 2012). Another study, conducted by Strayer (2012) at a U.S. university, compared the performance of the students in FC and TC. The results revealed that there was no significant difference in their performance, even though the students in FC became more open to cooperative learning. Likewise, in their study Cakici and oflaz (2012) indicated that cooperative learning resulted from FC can boost the confidence and high self-esteem of the students. Similarly, in their study with 108 tertiary level students in a Business Administration course, Findlay-Thompson and Mombourquette (2014) revealed that there was no differences in the success rate of the students in FC and TC. However, satisfactory responses have been received from the students in FC regarding the increased opportunities to ask questions during in-class activities.

Likewise, a high level of satisfaction with FC approach has been reported by respondents in various research studies (Al-Zahrani, 2015; Gaughan, 2014; Musib, 2014; Roach, 2014). Several studies found high levels of instructor satisfaction as well (Gilboy, Heinerichs, & Pazzaglia, 2015; Lage, Platt, & Treglia, 2000).

Another study conducted by Davies, Dean, & Ball (2013) examined satisfaction of students who were enrolled in a course on integration of technology. The findings of the research indicated that the students were satisfied with the FC model, and they were even wanted other courses to be flipped. However, Mason et al. (2013) and Snowden (2012) evaluated the satisfaction of their students regarding the FC environment and TC model, and they found out that there is no significant difference between student satisfaction and perception in TC and FC experience. A remarkable result of the studies, however, was that although the responsibility they had to take for pre-class preparation annoyed them, they acknowledged that pre-class preparation gave rise to more learning gains.

The study carried out by Galway et al. (2014), which aimed to investigate public health students' attitudes toward FC instruction, indicated that the majority of the students expressed more positive attitudes towards FC than the traditional one. However, some students were frustrated as they could not take part in discussions and classroom activities possibly due to their passive learning habits.

The study by Guy and Marquis (2016) investigated the perceptions of students in FC and TC environments. The results revealed that the students in the FC group held more positive attitudes and seemed more enthusiastic about the learning environment. Jaster (2013), on the other hand, in his study where he investigated the perceptions of students joining the flipped college algebra course highlighted that students had more positive attitudes towards TC than they had towards FC. Similarly, contrary to most of the research, another study conducted by Burke and Fedorek (2017) revealed that participants in FC demonstrated lower critical and analytical skills when compared to the ones in TC. A study by Strayer (2012) also showed that introductory statistics course students taught by FC model were not as satisfied as the ones that had a traditional mode of instruction.

Diverse studies have shown that FC practices facilitate positive peer-to-peer interaction and student-teacher interaction as wells as improving participation skills (Sun & Wu, 2016; Yu & Wang, 2016). Other studies have revealed that FC can enhance active learning (Hung, 2015; Zappe et al., 2009). Some studies also affirm that a combination of face-to-face and online learning encourage self-learning and foster autonomy (George-Walker & Keeffe, 2010). Other studies have clearly shown that students like FC approach as it places great value on their independence and it gives them the chance to coordinate their interests and requirements with their individual timetables (Gilboy et al, 2015; Davies et al., 2013).

Many studies revealed that flip-class setting empowers learners with critical thinking and improve their problem solving skills (Kim et al., 2014; Zainuddin & Attaran, 2016). Zainuddin & Perera (2019) also found in their study on EFL learners that students felt motivated by the flip-class approach as a consequence of external factors such as increasing opportunities to practise the language, and thus improving their communication skills. The study conducted by Long, Logan, & Waught (2014) also found evidence suggesting that pre-class learning experience enhances the learning process by stimulating

motivation and raising the interest of the individuals for learning. However, Wilson (2013) contended that some individuals found the FC practices to result in an unfair burden on students, thus putting further pressure on them.

The study conducted by Merrill (2015) yielded similar results. The results showed that apart from the individual out-of-class activities, the acquisition of in-class transferable skills supported collaborative activities thanks to the open learning environment in the FC model. The findings also revealed that student-centred learning increased student satisfaction. Many studies have also found that FC model embraces a more student-centred approach as well as establishing an atmosphere for active learning (Ramnanan & Pound, 2017; Ziegelmeier & Topaz, 2015; McLaughlin et al., 2014; Toto & Nyugen, 2009). However, some studies indicated that FC approach requires far more effort than some students have been prepared to put into achieving their learning goals (Al-Zahrani, 2015; Papadopoulos, Santiago-Román, & Portela, 2010).

Sherrow, Lang, and Corbett (2016) also found in their study where they explored the impact of FC model on a business communication course that there was an increase in school attendance and in the performance of students thanks to the increased interaction with peers, engaging collaborative tasks, and extended in-class time for practice. A number of studies have also confirmed that FC environment promotes participation and active engagement amongst students (Steen-Utheim & Foldnes, 2018; Elmaadaway, 2018). Having investigated the relationship between the FC approach and learning styles, a number of studies in the literature indicated that FC has more advantages for different learning styles of students than TC, and those studies also revealed that FC instructional practices develop a greater awareness of different learning and teaching styles both at home and in the classroom (Strohmyer, 2016; Houston & Lin, 2012; Toto & Nyugen, 2009; Zappe et al., 2009).

A series of studies have reported on increased motivation among learners of FC model (Merrill, 2015; Franciszkowicz, 2008). More recently, exploring the relationship between flipped learning and student motivation, Turan and Göktaş (2018) found that FC brings about an additional increase in motivation and desire to perform better in terms of student outcomes. Keengwe & Hussein (2014) found that the FC instructional practices used in EFL classrooms promote reflective learning techniques, provide students with

opportunities to increase their self-confidence, increase their motivation towards language learning, and reinforce their autonomous learning. However, some studies warn that pre-class preparation might be frustrating for some students, and so motivating them to watch videos and gather detailed information through pre-class materials, arousing their interest, and familiarizing them with this new learning experience will require a greater responsibility and higher degree of dedication on the part of teachers as they are directly responsible for students' educational achievements (Herreid et al., 2014; Musib, 2014).

Likewise, despite stating many advantages of flipped-class instruction, He et al. (2016) revealed that as they were used to TC, some students took offense at the change of the instructional model. He et al. (2016) concluded that highly-motivated and academically well-prepared learners are more welcoming and responsive concerning flipped instruction than the ones with low motivation, poor self-discipline and weak academic skills. Therefore, after a detailed analysis and systematic review of the relevant literature, O'Flaherty and Phillips (2015) concluded that FC may not accommodate all learning styles and may not be appropriate for all learner types.

The findings of Bergmann & Sams' (2014) study also indicated that students who had FC instructional model felt more confident to engage in classroom activities as they were engaged in online activities and occupied themselves with topics that would be discussed before attending class. Deci & Ryan (2004) also highlighted that flipped classes enhance students' engagement and activities in classroom as they are intrinsically motivated mostly due to their prior preparation before coming to class. Dill (2012) also indicated that flipped learning significantly increases the levels of student engagement with knowledge and ideas and between peers. However, Burke and Fedorek (2017) found in their study where they compared the engagement of the participants in FC, TC, and online classroom that students in FC exhibited lower scores on student engagement than those in TC and online classroom.

Although only scant research is currently available on the effectiveness of FC approach, this little research yielded mixed results as regards its efficacy (Steen-Utheim & Foldnes, 2018; Moos & Bonde, 2016; Gilboy et al., 2015). Still there are some studies suggesting that FC approach is effective. For instance, the findings of Alsowat's study (2016) revealed that flipped model is effective in increasing students' engagement and

satisfaction. Other studies also found that flipped instruction was effective and had positive impact on students' writing performance (Engin, 2014; Farah, 2014). Karimi & Hamzavi (2017) investigated the effectiveness of FC instructional approach on reading comprehension of ability of 50 EFL learners within age range of 19 to 25 in a private language institute in Isfahan. The results indicated that students found the flipped model to be effective in improving their reading comprehension.

2.7 Studies on Flipped Classroom Model with Pre-service Teachers

It should be noted that only limited studies with pre-service teachers and even more limited ones with pre-service English language teachers have been conducted so far on their perceptions of FC. The few studies can be summarised as follows:

More recently, Akçor (2018) examined in her Master's thesis the perceptions of pre-service teachers of FC approach in a Turkish context. The study was carried out with 29 pre-service teachers studying in ELT program at Sakarya University. She concluded that the FC model has a promising potential to make the teaching and learning process more effective. She also indicated that there was clear evidence of increased learning gains in her study. She also revealed that pre-service English language teachers' in her study demonstrated a significant increase in motivation and engagement as well as participation and interaction once they experiences the FC model.

In her quasi-experimental study in a pre-service English teacher education program, where the effectiveness of an FC at a classroom management course was measured against a traditionally taught class, Kurt (2017) found that compared to the students in TC, the students in FC demonstrated better learning outcomes and a higher level of self-efficacy beliefs. The pre-service teachers' perceptions of the FC were also found to be positive.

Similarly, Adnan (2017) found, in her study at a Turkish state university with pre-service English language teachers', that the perceptions of the participants has been rather positive in terms of learning experiences. In some other studies with pre-service teachers, however, participants were found to be biased against FC at first, although this prejudice was removed once the participants were engaged in FC practices (Çukurbaşı & Kıyıcı, 2017; Mason et al., 2013). Some other studies reported this biased attitude of participants might be based on students' not being used to the FC approach (Özpinar, Yenmez, Gökçe,

2016; Talbert, 2012).

Kocabatmaz (2016) indicated that the participants, in her study with pre-service English language teachers, held positive views on FC as it gave them the opportunity to learn from different resources, foster cooperative learning, and allow the content to be accessible from anywhere and anytime. It also facilitated student-to-student and student-to-teacher interaction. Lack of motivation for pre-class preparation, insufficient Internet access or poor Internet connection were among the problems reported to have been encountered by the participants.

In another study on the perceptions of prospective ELT teachers about FC instruction, Basal (2015) reported positive attitudes towards FC practice. Participants stated that they found it to be beneficial as it enhances participation and enables them to learn at their own pace as well as motivating them to prepare for the next class. Al-Zahrani (2015) also studied the effect of FC on pre-service teachers participating in an e-learning course. The participants reported positive impact of FC on their creativity and higher-order thinking skills. Similarly, Vaughan (2014) explored the impact of flipped instruction on pre-service teachers in an introductory teaching course. The findings suggest an increased sense of responsibility on the part of students together with increased awareness of instructional strategies.

Graziano (2017) examined the experiences of pre-service teachers who experienced the FC practice. He also aimed to explore their tendencies toward implementing FC in their own classes after they participated in FC. Results indicated that the majority of the pre-service teachers thought of flipping their own classes in the future (66.6 %). Similarly, in another study conducted by Göğebakan Yıldız, Kıyıcı, & Altıntaş (2016) with pre-service science teachers, flipped lessons were found to be interactive and fun, and collaborative practices were reported to be among the most favoured practices of FC model. However, some participants shared their concerns about the importance of active participation of teachers as well, stating that they should take active role in raising the motivation of less ambitious students.

In another study, whereby Fraga & Harmon (2014) examined pre-service teachers' perceptions of FC and its effects on their achievement, no significant difference was found in the academic achievement of students taught through flipped or traditional instruction.

Despite this, most of the participants of FC stated that their learning was supported by FC mostly due to the increased in-class participation and extracurricular activities at home. Few of them, on the other hand, expressed their dislike of FC model due to its immediate implementation without prior preparation.

All in all, it can be concluded that FC has been explored by various studies to examine the perceptions of students from different perspectives with the aim of assessing the impact of FC approach on participants to contribute to their learning process and ensuring greater comparability between FC and TC models in different countries. Research on MOOC and flipped classroom model will be presented below in the light of recent scientific studies.

2.8 Studies on MOOC-Integrated Flipped Classroom Model

A series of studies on the various aspects of MOOC-integrated flipped classroom courses have been conducted to evaluate the benefits and challenges of incorporating MOOCs in traditionally taught courses. Emerging as an alternative option to the many blended learning programs, the MOOC blend has been the focus of a few studies and scientific debates recently. Some examples of such studies are highlighted below.

Bruff et al. (2013) experimented on a blended course design, integrating a Coursera Machine Learning MOOC (hosted by Stanford University) into a graduate level course on machine learning. The blended course design, combining online elements with classroom lectures, was experienced by students from Vanderbilt University. Qualitative analysis was performed and student experiences were evaluated based on the data gathered from focus group discussions. Overall, student response to the MOOC blend was positive, describing the MOOC as useful thanks to its flexibility and accessibility, which enhance rapid and self-paced learning, especially through its bite size videos. They also appreciated the various features of the MOOC platform, which make it possible for them to customize the way they viewed lecture videos according to their needs and interests, which they found to be a much better and more efficient way of learning. Although students described posting questions and actively participating in discussion forums on the MOOC as useful for learning, they preferred to ask questions and discuss the course content with their peers and instructors during the face-to-face class sessions, citing time constraints as the main reason for their lack of enthusiasm about online discussion forums. All in all, although the

students appreciated the instructional design offered through the MOOC and valued the FC model as they rated the blended approach with a higher satisfaction score than the traditional taught course, they acknowledged that it takes a lot of motivation and determination to stay focused and keep on track to achieve your learning goals.

Griffiths et al. (2015) conducted a study to explore the use of MOOCs in campus-based courses, comparing learners who took MOOCs with those who had traditional face-to-face courses only. The results revealed that although no significant statistical difference was found between final scores, students attending the blended-learning program achieved a far higher perceived value of classroom instruction compared to the TC participants. The results also indicated that the MOOC users appreciated the time they had with instructors and made use of the value added to the classroom environment. They reported higher levels of satisfaction and felt that they had achieved better learning outcomes thanks to the new mode of instruction. The results also indicated extra benefits associated with use of MOOCs, such as exposure to different types of teaching styles and advanced social and critical analysis skills.

Another study, piloting a MOOC blend concept, at San José State University (SJSU) was conducted by Ghadiri et al. (2013). The MOOC platform was provided by edX, which hosted "Circuits and Electronics" course. 87 SJSU on-campus students listened to the speeches and watched video presentations individually on the MOOC. Then, during class time they met with specialists in the field to exchange their ideas and discuss different aspects of the concepts on a broad basis. The results revealed a high success rate with 90% of the participants passing the final exam, as compared with 55% in the TC of the past year, clearly reflecting a high degree of academic achievement. Despite these positive results, however, there were still some open issues, including lack of interaction between learners and the video content, in addition to the insufficient integration between the MOOC platform and the Learning Management System (LMS) of the campus.

Based on their research findings, Yousef et al. (2015) noted several limitations of MOOCs, including "following a teacher-centred and centralized learning model, the lack of effective assessment and feedback, the lack of interactivity between learners and the video content, the diversity of MOOC participants, and the absence of face-to-face interaction" (p. 90). However, based on the findings of their research study, the purpose

of which was to design, conduct, and evaluate a MOOC-integrated FC course on "Teaching Methodologies" at Fayoum University in Egypt, there is broad consensus among participants that integrating MOOCs in traditionally taught courses can overcome the limitations of MOOCs listed above.

Song, Song, & Wei (2015) conducted a study, using a MOOC-based flipped classroom model for college English teaching in China. They aimed to employ MOOC technology into existing foreign language curriculum, thereby enhancing interaction between instructors and students. The results of the study demonstrated that the FC based in a MOOC improves students' problem-solving skills, innovative thinking skills, independent study, and team cooperation. Another result of the study, however, was that an effective and rigorous monitoring method should be implemented and actively pursued by instructors to ensure course success.

Israel (2015) reviewed models of blended MOOCs in traditional face-to-face environment, aiming to find out their effectiveness on learning outcomes. The results indicated that the success rates of the students in blended MOOCs in traditional classrooms were about equal or slightly above the average success rates of the learners having only traditional face-to-face instruction. The study also concluded that MOOCs have the potential to provide users with high quality e-content such as video lectures, tutorials, audios, quizzes, practical work assignments, project work, and private study. Among the challenges noted by the researcher, however, was the difficulty in synchronizing MOOCs with in-class traditional courses and adapting them to form an integral part of the on-campus LMS.

Xinying (2017) carried out a research study, involving 800 students at Shenzhen University. Students were taking Level-A college English Reading and Writing course. Participants' perceptions of MOOC embedded FC teaching model was explored based on analysis of the survey results after one year experiment. The results provided convincing evidence in favour of the flipped model. The findings indicated that the participants highly valued the MOOC embedded flipped approach, believing that they were making good progress towards improving their general level of English. The results also revealed this new teaching model is a good blend of web-based and face-to-face teaching, which promotes collaborative learning skills and student-centred learning environments as well

as extending learning outside normal class hours.

Orsini-Jones, Conde Gafaro, & Altamimi (2017) carried out a study at Coventry University, where the FutureLearn MOOC *Understanding Language: Learning and Teaching* was integrated into the curriculum of the Master of Arts (MA) in ELT program. Having been developed by the University of Southampton in collaboration with the British Council, the MOOC topics appeared to match those on the MA in ELT module "Theories and Methods of Language Learning and Teaching" offered at Coventry University. Out of the 18 students who were enrolled in the program, 12 self-selected participants agreed to participate in the project. An enhanced blend was made up of a mixture of face-to-face workshops in the classroom with classmates, virtual learning environment – Moodle – with peers on the module, and a MOOC with thousands of participants across the globe, offering tremendous opportunities for students, whose beliefs about the MOOC-blend on the MA in ELT was closely analysed. The results revealed a noticeable shift in participants' beliefs on online learning, suggesting on the whole a positive view on the MOOC blend experience. The participants indicated that the MOOC was an effective open educational addition to the Moodle, stressing that they liked the convenience in the access to extra materials provided by the MOOC. Speaking of the blended aspect of the study, most of the students recommended that MOOCs should be made more broadly accessible and they should be integrated into more modules. With regard to negative aspects, on the other hand, the participants reported the large number of postings after each topic, making it difficult for them to navigate MOOC discussions.

More recently, in a similar study within the same program, Phi (2018) examined how the beliefs of an MA in ELT student at Coventry University and his identity as an autonomous teacher were affected by a blended MOOC approach. Based on the student's own experience of practicing the FutureLearn MOOC, which was accompanied by classroom learning at Coventry University, the auto-ethnographic report concentrates on the views of the student throughout his MA study. The findings revealed that the MOOC blend changed his perception of online and blended learning, transforming his scepticism into a firm belief that a MOOC blend can promote autonomy. The participant also noted that blending MOOCs into existing curricula can enhance autonomous pedagogical teaching approaches.

Consequently, all these cited studies contribute to our understanding of how could the use of MOOCs and FC model bring considerable changes in education systems. They also prove that supplementing FC model with high-quality MOOC content should be on the agenda of all educators and practitioners. This goes to show that there is an urgent need to conduct studies that could set as examples for all stakeholders to decide if a MOOC-based FC model could be a useful alternative to classical face-to-face lectures. However, before profound changes or radical reorganisations can be implemented, all stakeholders should be provided with some data regarding the effect of the MOOC-based FC model on the academic achievement of the learners, their perceptions on the model, and their overall attitudes towards the integration of the model into their existing face-to-face programs, which is within the scope of the present study.

Chapter 3

Methodology

This chapter presents the methodology and gives information about the research design followed in this study. In addition, it describes the setting, the participants, the sampling method, and explains the data collection instruments used in this study. It also provides an overview of data analysis procedures, including quantitative and qualitative data and the summary of the treatment.

3.1 Research Design

The research method adopted for this study is mixed-method research design, combining both quantitative and qualitative data collection procedures. Mixed method is an ideal research design to explore and assess various aspects of an issue in more depth (Creswell & Clark, 2011). Defined by Johnson and Onwuegbuzie (2004, p. 17) as a method "where the researcher mixes or combines quantitative and qualitative research techniques" in a single study, mixed method is also used to achieve triangulation, another term used for mixing quantitative and qualitative methods. Triangulation is also referred to as "a strategy for increasing the validity and evaluation of research findings" (Mathison, 1988, p.13). Hence, in order to ensure the reliability of the findings and in consideration of the accuracy of the data, mixed-methods research design was adopted in this study. In this regard, the data were collected, using a quasi-experimental research design, with pre-test and post-test experimental design, a perception of flipped learning experience questionnaire, and two open-response questionnaires. However, it is important to note that as participants are required to be assigned to experimental and control groups, random sampling is difficult to be performed in quasi-experimental research method.

In order to explore the effect of flipped classroom model on the academic achievement of the participants, the experimental group received flipped classroom model treatment, whereas the control group was taught by conventional methods. To collect quantitative data, an achievement test developed by Cambridge Assessment English

(2019) was administered to both groups, the experimental and the control group, as pre-test and post-test. Another quantitative data collection procedure was applied to experimental group only, to assess participants' perceptions on FC model after experiencing a four-week MOOC-integrated FC model. For this second quantitative data collection procedure, a perception of flipped learning experience questionnaire developed by Chen Hsieh, Wu, & Marek (2017) was conducted. As for the qualitative part of the research, two open response questionnaires were used to gather data from participants in the experimental group to explore their perceptions on FC model and examine their attitudes towards MOOC-based FC model, and what opinion they are of, in general, about integrating a MOOC-based flipped classroom model into the ELT program.

Based on the above mentioned principles, the first aim of the study was to make a quantitative review of learners' achieved test results in order to make a comparison of the Flipped vs Traditional Classroom Models, thus having a direct insight into the educational outcomes of both groups. Second, the study intended to examine learners' perceptions of FC model. Last, the study aimed to discover perspectives of the learners on the MOOC-based FC model upon experiencing one, and their overall views on integrating a MOOC-based FC model into the ELT program.

3.2 Setting and Participants

3.2.1 Setting. This study was carried out at a state university in Turkey. The study was conducted with 61 pre-service English language teachers' at Faculty of Education in 2019-2020 academic year. These fourth-year candidate teachers were studying in ELT program, which is responsible for training teachers of English in the Department of Foreign Languages Education (FLE). The medium of instruction being English, students have to meet certain English proficiency standards put by the Council of Higher Education (CoHE). Namely, before being qualified for having education in ELT department, they need to either present a valid International English Proficiency exam score like TOEFL IBT, or get a score of 70 from the proficiency exam administered by the School of Foreign Languages at the same university. Students who cannot provide either score, have to register at the English Preparatory Program carried out by the School of Foreign Languages. They can study at this school for a maximum of four semesters until they meet

certain standards and prove they are qualified for studying in ELT department. Students who fail to succeed in the proficiency exam by the end of the allowed time are expelled from the institution.

The ELT programs in Turkey are responsible for educating future qualified English language teachers. The program aims to provide candidate teachers with professional competence, essential field and theoretical knowledge as well as practical skills, and equip them with a sufficient background in the area of teaching methodology. The ELT program also aims to familiarize students with new information and communication technologies, and help them adapt to the latest developments in the area of technology-based learning methodology.

As part of its technologic services, the university offers a comprehensive range of technological equipment and free wireless internet connection for students and academic staff. The availability of internet connectivity all over the campus and the fact that students could have access to internet when necessary fit the general principles of the connectivism theory, and it was very crucial for this study as MOOC-based FC model covers not only in-class but also out-of-class activities.

The context of the study covers fourth-year pre-service English language teachers at a state university taking the compulsory *Learning Technologies in ELT I* course. Two classes were selected from the context. One was the experiment, and the other was the control group. The control group had a traditional classroom setting, while the experimental one was instructed in an FC model. Together with their conventional face-to-face course, the participants of the experimental group also participated in an online course which was given online on FutureLearn MOOC Platform. The type of MOOC blend implemented in this study is what Sandeen (2013) refers to as 'MOOC 3.0' or a 'distributed flip' model, wherein the content of a MOOC is not developed by the education institution itself, but rather is provided by an external network of suppliers and becomes an integral part of the core curriculum. The name of the course which was offered online on FutureLearn was *Teaching English Online*.

The content of the online course, which comprises four chapters of the course book, was in line with the traditional face-to-face course content. The FutureLearn MOOC *Teaching English Online* was integrated into the compulsory *Learning Technologies in*

ELT I course curriculum for the experimental group. A MOOC-based FC teaching model was implemented during the course period. The online course required 5 hours of study weekly. Learners were required to actively participate in collaborative tasks, get involved in online exercises and learning activities, and share their course work and reflections on weekly basis on the Open Moodle Platform of the university during each week over the four-week duration of the MOOC platform. As part of the FC approach, students were required to study the course content for 3 hours individually on the FutureLearn MOOC. The remaining 2 hours course content was covered in a traditionally face-to-face class format. The face to face lecture was based on active, collaborative and complementary tasks. The course on the MOOC platform was delivered by two professional online English teachers, while the complementary face-to-face course was offered by the researcher of this study. The participants were tested at the end of the four-week / 20-hour course, and their scores had a rate of 40 per cent on their final score.

3.2.2 Participants. The current study was carried out with pre-service English language teachers who were taking the *Learning Technologies in ELT I* course. Their ages ranged from 22 to 25. Initially, there were 73 students who made up the sampling of the study. However, some of the participants failed to participate in some of the data collection elements. Those who did not take part in the pre- and post-tests were excluded from the study. As a result, the experimental group was made up of 27 participants (16 female and 11 male), while the control group consisted of 34 participants (21 female and 13 male). Thus, the final number of the participants for both groups was 61 students. Although the students in both groups were all familiar with the Internet technology and can be considered as technology-aware individuals, none of them have actually reported taking a MOOC course before.

The sampling strategy used for the current study is convenience sampling. Defined by Johnson and Christensen (2012) as a process of drawing a sample from a population, which is the set of all elements, sampling has two main strategies. They are random sampling and non-random sampling. In non-random sampling, “every member does not have an equal chance of being included in the sample and some members will be definitely excluded and others definitely included” (Cohen, Manion, & Morrison, 2000, p. 99). Being one of five non-random sampling strategies, convenience sampling was used for

the current study. The others are quota, dimensional, purposive, and snowball sampling (Cohen et al., 2000). In his explanation for convenience sampling, Dörnyei (2007) asserts that "criterion of sample selection is the convenience of the researcher: members of the target population are selected for the purpose of the study if they meet certain practical criteria, such as geographical proximity, availability at a certain time, easy accessibility, or the willingness to volunteer" (p. 99). Therefore, due to factors such as accessibility, availability, proximity, readiness, and willingness, the researcher chose two classes from his own institution with similar backgrounds and motivation as the samples for this research. For that reason, the sampling strategy adopted for this study is convenience sampling.

With its two sections at the ELT department, the *Learning Technologies in ELT I* course, was chosen for the experiment. The *Learning Technologies in ELT I* course was a compulsory course for senior students at the university. As one of the aims of the study was to investigate the effectiveness of FC approach and compare it with a traditionally instructed class, two classes with similar educational backgrounds were chosen, using non-random sampling procedures for this study. The experimental group was instructed with an FC model, while the control group had a traditional instructional setting. All participants in the experimental group were required to enrol in a four-week online course, offered free on FutureLearn MOOC Platform, thus engaging with a face-to-face teaching model blended with an online course. The *Teaching English Online* course was developed by Cambridge Assessment English (FutureLearn, 2019).

For the quantitative part of the study, pre- and post-tests were given to the experimental and control groups. The pre-test was administered before the intervention, and the post-test, which was identical to the pre-test, was conducted after the intervention. The intervention lasted four weeks. Moreover, the participants in the experimental group were also assigned to fill out a perception of flipped learning experience questionnaire. It aimed to investigate participants' perceptions about FC model.

As regards the qualitative data collection, two open-response questionnaires were conducted with the participants in the experimental group. The first one was carried out right after the experiment, while the second one took place after the analyses of the first open-response questionnaire were done, which was one week after the experiment was

completed. The first one was carried out with all the participants in the experimental group. However, the second open-response questionnaire was conducted using purposive sampling, as it promotes deliberate selection of the participants from whom, according to Patton (2002), "one can learn a great deal about issues of central importance to the purpose of the research" (p. 46). Patton (2015) goes on to say 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). To achieve great variation, maximum variation (heterogeneity) sampling strategy was used to identify participants for the second open response questionnaire. In this regard, selection for the second open response questionnaire focused on individuals with varied interests, tendencies, genders, success rates, etc. First, the participants were selected from high and low achievers. Next, they were selected according to their positive or negative opinions on FC model. Third, their gender was also used as an important factor to reach maximum variation in formation of the second open response questionnaire sampling. Post-test results and participants' opinions on FC model, collected in the first open-response questionnaire, were used to determine the participants of the second open-response questionnaire. Their post-test scores ranged from 59 to 100 (out of 100-point). The final number of the participants in the qualitative sampling was 7 (4 female and 3 male). Table 2 shows the details about the data collection instruments, participants, and sampling used in the study. Table 3 also shows details about the sampling criteria of the qualitative data collection procedure.

Table 2

Overview of the Participants and Data Collection Instruments

Data Collection Tools	Number of participants	
	Experimental	Control
Pre- & Post-Tests	27	34
Perception Questionnaire	26	-
1st Open Response Questionnaire	24	-
2nd Open Response Questionnaire	7	-

Table 3

Overview of the Qualitative Data Sampling(2nd Open-Response Questionnaire)

Participants	Gender	Pre-test Scores	Post-test Scores	Opinion on FC Model
P1	F	87	100	Positive
P2	M	74	96	Positive
P3	M	81	96	Negative
P4	F	65	96	Positive
P5	F	59	68	Negative
P6	F	62	68	Positive
P7	M	43	59	Positive

3.3 The FutureLearn MOOC

Teaching materials of the first four chapters of the face-to-face *Learning Technologies in ELT I* course had similar topics to that of the FutureLearn MOOC *Teaching English Online,* which was integrated into the course curriculum for the experimental group. Figure 1 presents the schedule of the MOOC. As the topics in the FutureLearn MOOC were equivalent to those of the face-to-face course, a MOOC- based FC teaching model was implemented for the first four chapters of the face-to-face course, which lasted 4 weeks. Table 4 displays the topics in the MOOC (FutureLearn, 2019). Students in the experimental group could make a thorough preparation in coursework, using the videos, articles, and tasks on the MOOC, which helped them further comprehend the lesson in face-to-face class. Thus, MOOC participants could choose the way and

time of their studies at their own pace. Another important aspect of the FutureLearn MOOC was that it enabled the engagement of the learners with the international online community, so learners could benefit from the arising opportunities through their constant interaction with individuals in the online environment by exchanging ideas, practicing new skills, communicating different examples, and sharing knowledge with them.

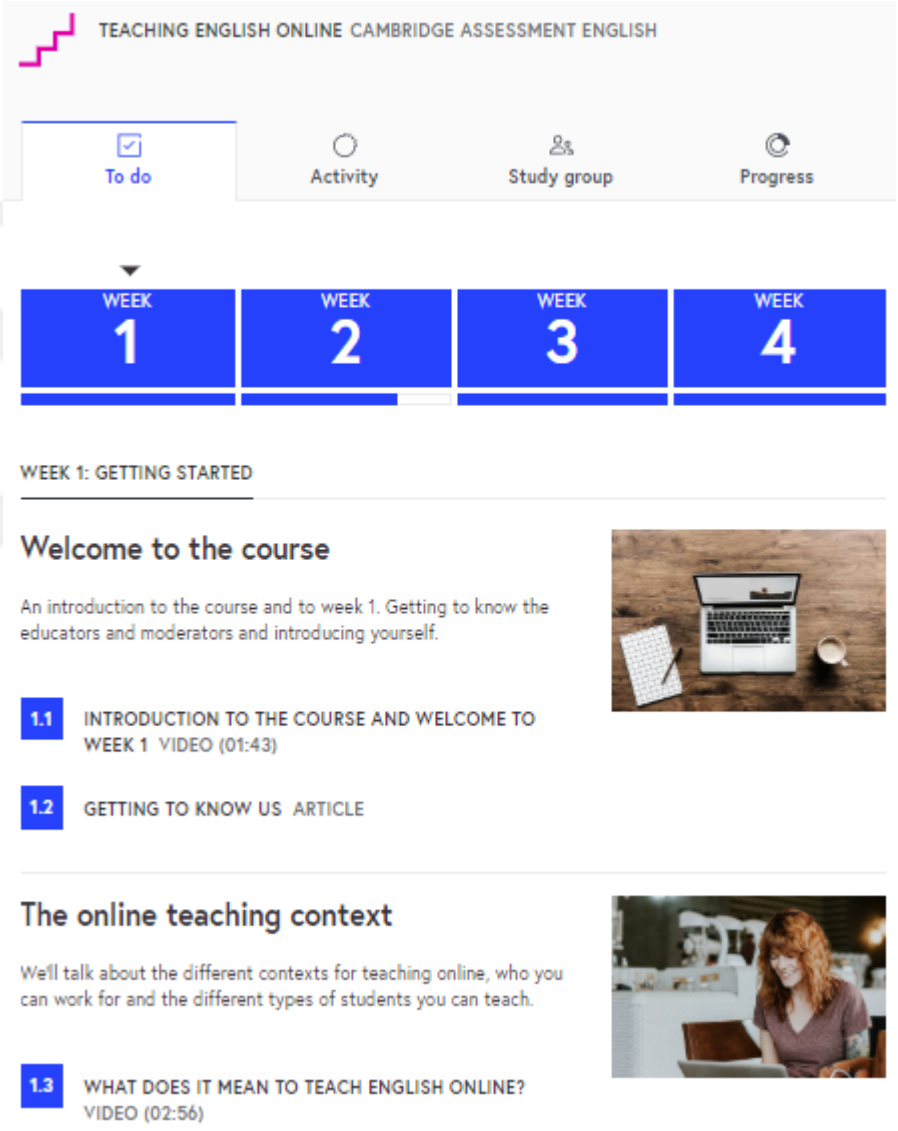

Figure 1. Schedule of teaching English Online FutureLearn MOOC (FutureLearn, 2019).

Table 4

Topics of Teaching English Online FutureLearn MOOC

	Week 1		Week 2
1.1.	Introduction to the Course and Welcome To Week 1 - Video (01:43)	2.1.	Welcome to Week 2 - Video (00:50)
1.2.	Getting to Know Us - Article	2.2.	Teaching Skills Online vs Teaching Skills Face-To-Face - Article
1.3.	What Does It Mean to Teach English Online? - Video (02:56)	2.3.	How Do Online Reading Lessons Differ from Face-To-Face Reading Lessons? - Video (03:32)
1.4.	Why Become an Online Teacher? - Discussion	2.4.	Reading in a Lesson or for Homework - Article
1.5.	Working for a Company or Working for Yourself - Quiz	2.5.	Displaying and Sharing Reading Materials - Video (01:49)
1.6.	What Equipment Do You Need? - Video (02:36)	2.6.	Outline for an Online Reading Lesson - Assignment
1.7.	Getting to Know Your Platform - Video (03:43)	2.7.	Review Another Learner's Assignment - Assignment Review
1.8.	Exploiting Features of a Platform - Video (05:35)	2.8.	Reflect on Your Feedback Assignment - Reflection
1.9.	Researching Different Platforms - Article	2.9.	Useful Online Reading Resources - Article
1.10.	Other Digital Tools and Resources - Video (03:06)	2.10.	Teaching Listening Skills in Online Lessons - Video (02:45)
1.11.	Materials and Activities for Online Lessons - Video (02:44)	2.11.	A Listening Lesson - Video (05:50)
		2.12.	Listening Activities for Online Lessons - Article
1.12.	An Overview of Key Skills - Video (03:31)	2.13.	Useful Online Listening Resources - Video (00:45)
1.13.	Developing Rapport and Motivating Learners - Video (02:22)	2.14.	Ask Us Your Questions - Article
		2.15.	Video Review of Week 2 - Video (14:17)
1.14.	Tips for New Online Teachers of English - Video (04:06)	2.16.	What's On Next Week? - Video (00:48)
1.15.	Ask Us Your Questions - Article	2.17.	Test What You Learned - Test
1.16.	Video Review of Week 1 - Video (13:05)		
1.17.	What's on Next Week? - Video (00:59)		
1.18.	Test What You've Learned - Test		

Table 4 (cont.d)

	Week 3		Week 4
3.1.	Welcome to Week 3 Video (00:57)	4.1.	Welcome to Week 4 - Video (00:58)
3.2.	Key Things to Remember When Teaching a Speaking Lesson - Video (03:28)	4.2.	Online Language Lessons - Video (05:32)
		4.3.	Setting Context - Video (02:54)
3.3.	A One-to-One Online Speaking Lesson - Video (05:42)	4.4.	Useful Online Tools for Setting Context - Article
3.4.	A Group Online Speaking Lesson - Video (08:22)	4.5.	Flipping Your Online Classroom - Video (01:19)
3.5.	Developing Group Cohesion - Article	4.6.	Practicing Language in Online Lessons - Quiz
3.6.	Dealing With Error Correction in Online Speaking Lessons - Video (03:26)	4.7.	Useful Online Tools for Grammar and Vocabulary Lessons - Article
3.7.	Real-Time Error Correction – You Try It! - Video (01:48)	4.8.	Attracting Students to Your Online Teaching Business - Video (04:11)
3.8.	Developing Speaking Skills Outside a Lesson - Article		
3.9.	Diagnosing Pronunciation Problems - Video (01:06)	4.9.	Running Your Online Teaching Business - Video (04:52)
3.10.	Helping Students to Improve Their Pronunciation - Video (02:35)	4.10.	Testing New Students - Article
		4.11.	Privacy, Security and Copyright - Article
3.11.	Useful Online Tools for Developing Pronunciation - Article	4.12.	An Overview of Professional Development - Video (03:30)
		4.13.	Self-Reflection Activities for Online Teachers - Article
3.12.	Teaching Writing Skills in Online Lessons - Video (01:55)	4.14.	Joining an Online Community of Teachers - Video (02:16)
3.13.	An Online Writing Lesson - Video (06:20)	4.15.	Ask Us Your Questions - Article
3.14.	Giving Feedback on Written Work in a Digital Environment - Video (04:44)	4.16.	End-of-Course Video and Further Reading - Video (13:10)
		4.17.	Good Luck! - Article
3.15.	Useful Digital Tools for Developing Writing Skills - Article	4.18.	Test What You Learned - Test
3.16.	Ask Us Your Questions - Article		
3.17.	Video Review of Week 3 - Video (12:46)		
3.18.	What's on Next Week? - Video (00:38)		
3.19.	Test What You Learned in Week 3 - Test		

The motto of the FutureLearn MOOC was "Learn how to transfer your teaching skills to an online context and start teaching English online." Those who were eligible were granted Certificate of Achievement by the University of Cambridge at the end of the course. The participants were able to find out about the skills, knowledge, digital tools and resources they need to design and deliver effective online English lessons. Figure 2 illustrates some of the features of an online teaching platform that is essential for online teaching. They were expected to gain insights from online teachers, trainers and learners and share ideas with other course participants.

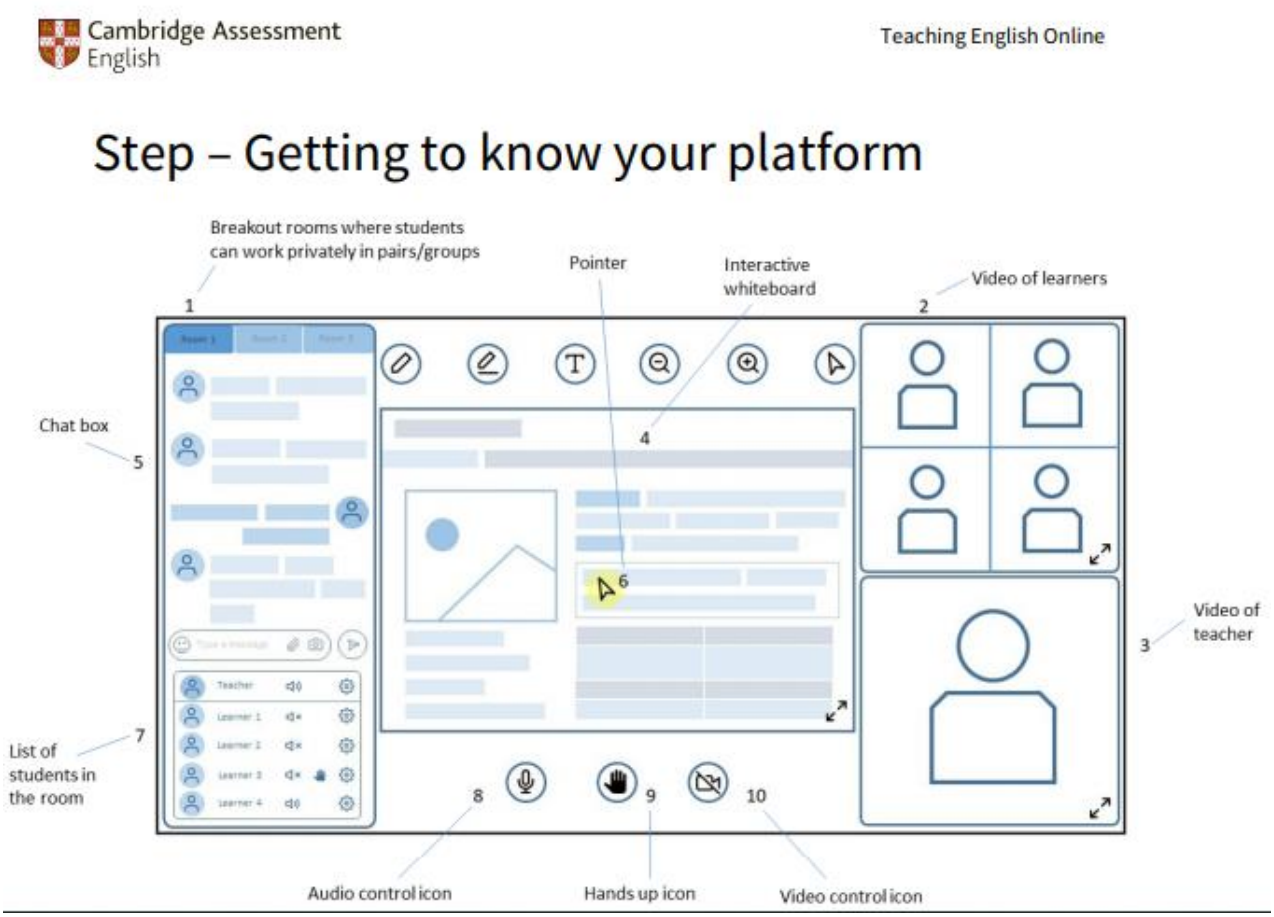

Figure 2. An Online Teaching Platform (FutureLearn, 2019).

The MOOC was used as a free, out-of-class, online learning platform, wherein students could share course materials and video lessons, interact with other classmates, engage in online classroom activities, participate in online discussions, and ask questions to the online course instructors. Besides, they had the opportunity to contact their course instructor during their in-class classroom sessions, and have instant feedback for their studies.

3.4 Procedures

In this section, detailed information regarding data collection instruments, data collection procedures, data analysis, reliability, validity, and limitations of the study will be given.

3.4.1 Data collection instruments. In an effort to examine participants' perceptions of FC model, the difference of perceptions, if any, between high and low achievers and their overall opinions on integrating a MOOC-based FC model into the ELT program, data were collected through three devices. Data were quantitatively collected through a quantitative review of participants' achieved test results as pre- and post-test and a perception of flipped learning experience questionnaire, and qualitatively data were collected via two open response questionnaires. The details of each instrument are described below.

3.4.1.1 Pre-post tests. A test[1] by Cambridge Assessment English (2019) was administered twice both to the experimental and control group as pre- and post-test. It was first administered to both groups as a pre-test before instruction. The purpose of the pre-test was in a way to serve as a proficiency test to find out to what extent the participants in both groups were familiar with the course content before the instruction started. The results of pre-tests of both groups and the Independent Samples T-Test used to compare the pre-test scores of both groups are indicated in the following chapter.

After four weeks of instruction, the students of both groups were given the same test as a post-test to track their progress on the instruction. The same test was administered to both groups as pre- and post-test so that a more reliable result can be achieved at the end of the instruction.

Being exactly the same as the pre-test and comprised of 32 questions, the post-test was applied to both groups right after the instruction of the groups was over with a view to examining the effect of FC model on the academic achievement of the participants in the experimental group. To this end, the pre- and post-test scores of each group were calculated, compared and analysed in detail in the following chapter. The scores of each group were compared and contrasted, using Independent Samples T-test.

[1] As the test (Teaching English Online Achievement Test) is used commercially, test items are not shared in this study.

***3.4.1.2 Questionnaire*.** The Perception of Flipped Learning Experience questionnaire developed by Chen Hsieh, Wu, and Marek (2017) was employed to identify participants' opinions on FC model at the end of the experiment period after the post-test administration (Appendix A).

A questionnaire is an instrument, administered at a certain place with a particular purpose to a group of people to get information on a specific aspect of their experience (Ary, Jacobs & Sorensen, 2010). Referred to by Seliger and Shohamy (1989) as "printed forms for data collection, which include questions or statements to which the subject is expected to respond" (p. 172), questionnaires are considered to be effective data collection tools (Creswell & Clark, 2011).

A 5-point Likert scale was used to explore the perceptions of the participants in the experimental group upon their FC model experience. On his definition of Likert scales before stating that they could range from 'strongly disagree' to 'strongly agree', Dörnyei (2007) noted that they have "close ended items, which consists of a characteristic statement and respondents are asked to indicate the extent to which they 'agree' or 'disagree' with it by marking one of the responses (p. 105).

Ranging from 'Strongly disagree' (1) to 'Strongly agree' (5), the 5-point Likert scale employed in the present study has 14 statements with four constructs. The constructs are motivation, effectiveness, engagement, and overall satisfaction.

Two outside experts in the field of ELT ensured the validity of the instrument. Also, the Cronbach's alpha reliability score of the instrument, which was administered to 26 participants, who made up the experimental group, was measured .92. This value indicates that the reliability of the instrument is quite high (see Table 5).

Table 5

Cronbach's Alpha Reliability Score of the Instrument

Cronbach's Alpha	N of Items
0,92	14

3.4.1.3 Open response questionnaires. In order to gain a deeper level of understanding about the issue of students' FC experiences, and explore their perceptions on FC model of instruction, data were collected from the experimental group through open-response questionnaires. Open-response questionnaire is an ideal method of data collection as it is based on the participants' own terms, reflecting their views on how they look at an issue, and give them the chance to elaborate on their replies (Heigham & Croker, 2009).

Although quantitative data were collected from the participants through a Likert-scale questionnaire, additional data were needed to evaluate the results of the quantitative data. Therefore, in order to get in-depth information about participants' perceptions on the FC model, two open-response questionnaires were conducted.

The first open-response questionnaire was administered to all participants in order to explore each participant's opinions about the FC model right after the experiment (Appendix B). According to Heigham and Croker (2009), "Answers to open-response items can also provide striking examples and illustrative quotes, so they offer a far greater richness, adding more depth and colour to the data" (p. 205). Therefore, in order to get additional clarification from the participants, make sure that every key element in the first open-response questionnaire was understood correctly, and ask for more detailed information from them, a second open-response questionnaire was carried out with 7 participants 1 week after the experiment, mostly based on the content analysis done in the first open-response questionnaire. In addition, students' views on learning through a MOOC and FC approach model and their perceptions about integrating a MOOC-based FC model into the ELT program were also questioned in the second open-response questionnaire (Appendix C). Thus, the data collected from the first open-response questionnaire could be examined and evaluated more intensively thanks to the data collected and analysed from the second open-response questionnaire. The participants of the second open-response questionnaire were chosen, using purposive sampling, based on several criteria such as their achievement scores, views on FC model, and gender so that maximum variety could be achieved to determine the participants of the second open-response questionnaire. The items of both open-response questionnaires were adapted from the studies of Amiryousefi (2019) and Chen Hsieh, Wu, & Marek (2017).

3.4.2 Data collection procedures. To begin with, the data collection process started by the researcher's consulting head of the department and getting permission to carry out the research. The experiment started on October 7, 2019 and took a little more than 4 weeks to complete. Both quantitative and qualitative data were collected during October and up until the first half of November, and analysed towards the end of December 2019. On the basis of ethical considerations, the participants having been the students of the researcher himself, special care was taken to avoid any suspicion of bias by not allowing any personal views to influence the equal treatment and objective assessment of their performance. The written consent of all participants was obtained in accordance with a clearly defined study protocol, ensuring strict data protection guidelines. They were also told about the importance of their sincere answers on the questionnaire items, and that nothing would be in their disadvantage. In addition, the participants were told to feel free not to fill any questionnaire item if they didn't wish to do so.

As for the FutureLearn MOOC Platform, the videos and all the content that were used during the experiment were offered free online, and they were open to public use. They can be obtained from the same web site free of charge (see Appendix D).

***3.4.2.1 Quantitative data collection*.** The quantitative data collection had two phases and took four weeks to complete. The first phase consisted of the pre- and post-tests, which respectively served as a proficiency and achievement test, while the second one was based on an attitude questionnaire, which was administered to examine the FC model perceptions of the participants.

While the pre- and post-tests were administered to both groups respectively on the first and the last days of the experiment, the attitude questionnaire was only applied to experiment group right after the treatment ended, upon their post-test administration. The results of the pre- and post-tests were collected and exported to a Microsoft Excel file for later processing.

As for the questionnaire, it was first turned into an online form by means of Google Forms to facilitate quick evaluation, then it was sent to the participants. After having been collected via the internet based online-questionnaire, all data, including pre- and post-test results, were transferred to SPSS 24.

***3.4.2.2 Qualitative data collection*.** For the qualitative part of the present study, data were gathered only from the experimental group after the completion of four-week treatment. Upon a request by the researcher for personal interviews, the participants expressed their desire for open-response questionnaires, instead. Hence, qualitative data were collected through two open-response questionnaires, based on Heigham and Crocker's (2009) guidelines for how to conduct good quality qualitative research. The reason given by the participants for open-response questionnaire, rather than interview was because of the time and freedom with which they were provided to elaborate on their replies.

Upon the agreement of both parties on the qualitative data collection methodology, all the students were informed about the aim and the scope of the study, and the confidential treatment of their data was assured by the researcher.

Then, the first open-response questionnaire was sent to all participants in the experimental group in BCC format. This happened on the day they completed the experiment and after they took their post-test. The purpose of the first open-response questionnaire was to explore the participants' opinions about the FC model.

The second open-response questionnaire was sent to 7 participants 1 week after the first questionnaire was conducted. They were asked for more detailed information to gain in-depth knowledge on their views on learning through a MOOC and FC approach and integrating a MOOC-based FC model into the ELT program. All responses that were sent to the researcher via emails of the participants were filed and kept in the personal computer of the researcher to be evaluated.

3.4.3 The process in the experimental and control groups. In the control group the rules and regulations of a typical lesson were followed. Namely, the topics to be covered, the achievements that are targeted, the learning goals, course objectives were all explained to the classroom. The course materials were shared and the students were told that each week the content of the course would first be delivered by the instructor, and then through classroom discussions it would be repeated. Moreover, through the homework which was assigned after every course the content was aimed to be consolidated.

As for the experimental group, however, besides the introduction procedures that were explained above, all aspects of the flipped model of teaching were covered. The students were informed that the content delivery would occur through the MOOC platform, while in the face-to-face session extended classroom discussions would take place.

As explained above, each lesson with the experimental group followed a blended kind of teaching, which is required by the FC model. In other words, the learners got engaged in the course content through the MOOC platform at home, and then participated in the classroom activities and discussions, which were designed and coordinated by the instructor to reinforce and consolidate the content delivered in the MOOC platform. The engagement of the students in the experimental group was not limited to the class time, rather they continued to interact and engage in the learning content as well as some outside participants that they happened to meet online through the online MOOC platform. They also had the opportunity to extend their questions to the professionals and qualified teachers who were the developers of the online course. The students sometimes took notes and brought them up to the classroom to be discussed, which also helped them increase the retention of their knowledge and reinforce the subjects that were covered online and during the face-to-face session. All chapters followed this path.

3.4.4 Data analysis procedures. To achieve methodological variety, a combination of quantitative and qualitative data analysis procedures was carried out in this study. While quantitative data were provided through pre- and post-test results and an attitude questionnaire, qualitative data were obtained via two open-response questionnaires for this study. Similarly while, on the one hand, quantitative procedures were utilized for the first and the second research questions, qualitative procedures, on the other hand, were used to analyse data for the third and the fourth research questions.

3.4.4.1 Quantitative data analysis. The quantitative data analysis was made using SPSS 24. As regards the first research question, the data collected from pre- and post-tests, which were administered to both the experimental and the control group, were evaluated quantitatively to analyse the differences between the scores of both groups which were instructed through the Flipped vs Traditional Classroom model. The number

of participants in the present study is 27 (*n*=27) for the experimental group, and 34 (*n*=34) for the control group.

After the data were collected from pre- and post-tests, Kolmogorov-Smirnov and Shapiro-Wilk normality test was carried out to determine whether or not the data follows a normal distribution. If the sample size is larger than 50, the Kolmogorov-Smirnov test is used to assess the normality of distribution, however for smaller sample sizes between 3 and 50, Shapiro-Wilk statistic is suggested instead (Elliot & Woodward, 2007).

In the ideal case of a normal distribution, an Independent Samples T-test is performed for independent groups and a Paired Samples T-test is performed for paired dependent groups. However, if the distribution is not normal, a Mann Whitney U-test is performed to examine the differences between the two groups, while Wilcoxon test is performed to compare paired data. In other words, the Wilcoxon test is the non-parametric equivalent of the Paired Samples T-test, while the Mann Whitney U-test is the non-parametric equivalent of the Independent Samples T-test.

Data from both groups were tested for normal distribution and significance value for Shapiro-Wilk test was found to be .159 for the experimental group and .180 for the control group, suggesting a normal distribution ($p > .05$). Table 6 and Table 7 below respectively show the normality test results of the experimental and control group.

Table 6

Normality Test Results of the Experimental Group

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,151	27	0,115	0,945	27	,159

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

a. Lilliefors Significance Correction

Table 7

Normality Test Results of the Control Group

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,144	34	0,71	0,956	34	,180

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

a. Lilliefors Significance Correction

As data from both groups were found to follow a normal distribution in the present study, an Independent Samples T-test was conducted to compare the differences in the scores of the two independent groups.

In addition, for a better understanding of the impact of the FC model on the students' success rates, a comparative analysis was also conducted to see the progress each group made by evaluating the mean difference between the pre- and post-tests of each group. To this end, another normality test was carried out again to see if the data from both groups were normally distributed. As seen Table 8 and Table 9 below, the significance value for the Shapiro-Wilk test is .598 for the experimental group and .945 for the control group, indicating a normal distribution ($p > .05$).

Table 8

Normality Test Results of the Mean Difference of the Pre- and Post-Tests of the Experimental Group

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,123	27	,200*	0,970	27	,598

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

a. Lilliefors Significance Correction

Table 9

Normality Test Results of the Mean Difference of the Pre- and Post-Tests of the Control Group

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,092	34	,200*	,987	34	,945

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

a. Lilliefors Significance Correction

Hence, the effect of FC model on the academic achievement of the students can be evaluated by comparison with the TC model. A detailed evaluation of the Independent Samples T-test results is presented in the next chapter.

The items on the questionnaire were also analysed quantitatively through SPSS 24 in a descriptive manner in connection with the second research question. Descriptive analysis was conducted for each item in order to explore students' perceptions of FC approach. The mean scores and standard deviations of each item obtained from the questionnaire are also presented in the next chapter.

3.4.4.2 Qualitative data analysis. As regards the third and the fourth research questions, the qualitative data gathered through open-response questionnaires was analysed using content analysis, based on van Manen's (2016) analysis criteria. To achieve this, first of all, the data collected from each participant was examined thoroughly. Then, each questionnaire, received through email, was analysed, and every item was read repeatedly to highlight relevant and irrelevant parts. To this end, thematic analysis was carried out by sorting out, and then discarding data which is considered to be unnecessary with a view to formulating core themes for further analysis. At this point, some specific themes were constructed based on the categorization of the most significant statements, thus the common statements were clustered and identified as main themes. The main themes that emerged from this process are presented in the next chapter. Table 10 demonstrates the research questions and the corresponding data collection procedures.

Table 10

Overview of Research Questions and Data Collection Procedures

Research Questions	Data Collection Instruments & Study Group	Data Analysis
1- Is there a significant difference between the experimental group and the control group in terms of their academic performance after the implementation of the MOOC-based FC model?	Pre- & Post-Tests (Teaching English Online Achievement Test) Experimental + Control Group	Inferential Statistics (means and standard deviations)
2- What are pre-service English language teachers' perceptions of FC model?	Questionnaire Experimental Group	Descriptive Statistics (means and standard deviations)
3- What are pre-service English language teachers' attitudes towards MOOC-based FC model based on their MOOC and FC experiences?	1st and 2nd Open-Response Questionnaires Experimental Group	Content Analysis
4- What are pre-service English language teachers' perceptions of integrating a MOOC-based FC model into the ELT program?	1st and 2nd Open-Response Questionnaires Experimental Group	Content Analysis

3.4.5 Validity and reliability. For all studies, it is very important that the results of both quantitative and qualitative research are reliable and valid. While reliability refers to the consistency or stability of test results, validity is about the correctness and appropriateness of the inferences made from the evidence (Creswell & Plano Clark, 2007). To ensure reliable and valid results, "it is recommended to carefully address each

component separately and to apply procedures specific to each research tradition" (Heigham & Croker, 2009, p. 153).

In quantitative studies trustworthiness is referred to as reliability and validity. In quantitative research, reliability of measurement tools can be estimated by some statistical procedures. Two quantitative measurement tools were used for this study. A test by Cambridge Assessment English (2019) and a questionnaire by Chen Hsieh, Wu, & Marek (2017). The reliability of the questionnaire was tested through SPSS 24 using Cronbach's alpha, and was found to be .92, indicating a high level of reliability. The validity of the instruments, on the other hand, was ensured by two outside experts in the field of ELT.

In qualitative research, trustworthiness is maintained through four criteria; confirmability, credibility, transferability, and dependability (Lincoln & Guba, 1985). Confirmability "refers to the extent to which the study findings are shaped by participants' views and not a researcher's bias" (Ivankova, 2014, p.265). In this study, confirmability was established through a detailed examination of data. It was also maintained through member checking (participant feedback) with a view to verifying the accuracy of the findings. In addition, themes were identified based on the views of the participants to ensure confirmability.

Credibility (internal validity), which is synonymous with validity in quantitative research, "involves establishing that the results of qualitative research are credible or believable from the perspective of the participant in the research" (Kumar, 2019, p.219). The researcher aimed to maintain it by asking participants to clarify their statements, and verify their responses, thus confirming the accurate interpretation of the data.

Transferability (external validity) "refers to the degree to which the results of qualitative research can be generalised or transferred to other contexts or settings" (Trochim & Donnelly, 2007, p. 149). Readers were provided with detailed description (thick description) of the research context and the participants. Descriptive information about the setting and the progress of the research was also provided to help learners decide on the transferability of the findings.

Dependability is the last criterion. It is about the consistency of the findings. "It is concerned with whether we would obtain the same results if we could observe the same

thing twice (Trochim & Donnelly, 2007, p. 149). The researcher tried to ensure dependability by exhaustively documenting the research process, and asking an outside expert to review the data and examine the research findings, which provided a different perspective and helpful feedback. Data collection tools, data collection process, and data analysis were demonstrated clearly so that the study could be replicated by other researchers.

3.5 Limitations

Although it provides some important insights about the pre-service English language teachers' perceptions of FC model, and offers some useful information about their attitudes towards integrating a MOOC-based FC model into the ELT program, the current study has some limitations. First, one of the limitations of this research had to do with the relatively short period of treatment. Longitudinal studies over a longer period of time are expected to yield more valid and reliable results. Second, only senior students in the ELT department were surveyed, and the study was limited by a relatively small number of participants, a total of 61 students for both classes. However larger and more inclusive studies are likely to make results more reliable and comparable. Finally, although qualitative data were collected from different participants at different times via two separate open-response questionnaires, and despite the implementation of a quantitative attitude questionnaire to achieve data and methodological triangulation, some other qualitative tools such as interviews or observations could have been utilised to increase the reliability of the findings.

Chapter 4

Findings

This chapter covers the findings of the present study based on the research questions. The findings are presented using both quantitative (pre- and post-test results and an attitude questionnaire) and qualitative (two open-response questionnaires) data.

The first research question aimed to find out the effect of the FC model on the academic achievement of the pre-service English language teachers through the analyses of pre-and post-tests in both groups, while the second research question sought to examine what the pre-service teachers' perceptions were on FC model via the analyses of the attitude questionnaire items. The third research question, on the other hand, intended to investigate how the qualitative findings elaborate the quantitative results of the study by exploring the differences, if any, in the perceptions of the pre-service English language teachers regarding their MOOC and FC experience through the implementation of the first and the second open-response questionnaires. Finally, the fourth research question, via the first and the second open-response questionnaires, aimed to explore pre-service English language teachers' overall opinions on integrating a MOOC-based FC model into the ELT program.

4.1 Quantitative Findings

In this part of the study, the first and the second research questions are addressed through quantitative analysis of pre-post test results and an attitude questionnaire using SPSS 24. The findings of each quantitative analysis related to each research question are presented below.

4.1.1 Findings related to the 1st research question. Pre-post tests were applied to experimental and control groups, and analyses of both tests were done with regard to the first research question below.

1st Research question: Is there a significant difference between the experimental group and the control group in terms of their academic performance after the implementation of the MOOC-based FC model?

To determine the effect of the FC model on the academic achievement of the students, the first research question examined whether there was any significant difference between the post-test scores of students in the experimental (FC model) and control (TC model) group. However, in order to get more reliable results at the end, the pre-test scores of both groups were analysed and the levels of the participants in both groups were examined before instruction began. Table 11 below shows the mean of pre-tests for both the experimental and the control group. As shown in the table, the mean score of the experimental group is 64.22 with a standard deviation of 11.26, while the mean score of the control group is 59,52 with a standard deviation of 7,65.

Table 11

The Means of the Pre-test Scores.

Group	N	M	SD
Experimental	27	64,22	11,26
Control	34	59,52	7,65

To find out if there was a statistically significant difference between the proficiency levels of both groups, an independent samples T-test was performed. The results of the Independent Samples T-test are shown in Table 12 below. As illustrated in the table, statistically there is no significant difference between the success rates of the two groups; $t = .058$, $P > .05$. It means that the levels of participants in both groups are similar. In other words, the pre-test scores of the participants in each group which in a way were proficiency test scores were similar, which contributes to the reliability and validity of the study.

Table 12

Independent Samples T-test Results for Pre-test(Proficiency Test Results)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	2,872	,095	1,933	59	**,058**	4,692	2,428	-,1659	9,5516
Equal variances not assumed			1,851	43,912	,071	4,692	2,534	-,4163	9,8019

To find out the effect of the FC model on the academic achievement of the students in the experimental group, it was necessary to examine whether there was any significant difference between the post-test scores of students in the experimental and the control group. However, before applying any test to see the difference between the groups, data from both groups were tested for normal distribution. As data were found to be normally distributed (see Table 6 and Table 7), parametric tests were applied using an Independent Samples T-test to compare the mean scores of two independent groups; the experimental and the control group. Figure 3 below shows the mean scores of both groups.

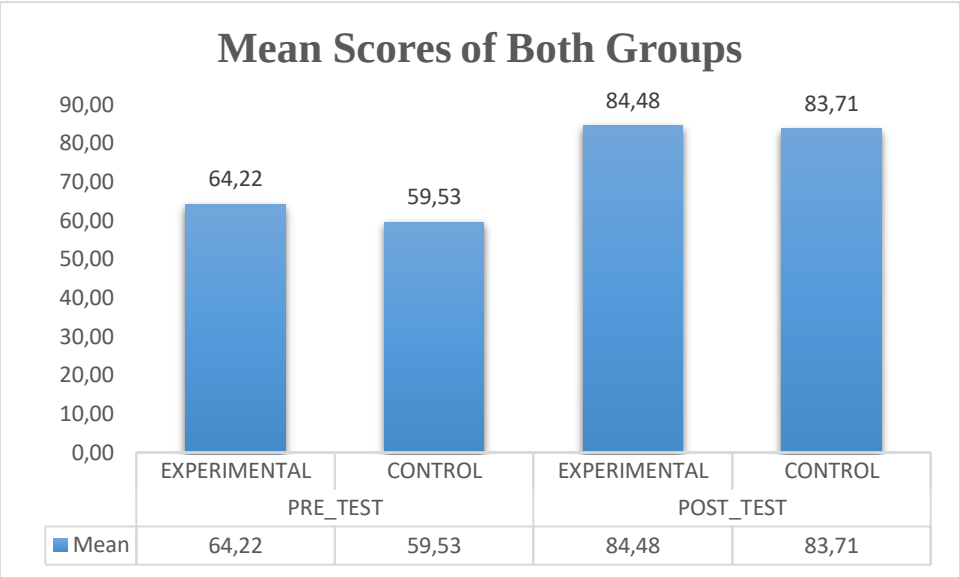

Figure 3. Mean scores of both the experimental and the control group.

As seen in Figure 3 above, the experimental group (M=84.48, SD=10.39) outperformed the control group (M=83.71, SD=8.81) regarding the post-test scores. Table 13 below also indicates that the mean of the scores from FC model (experimental group, M=84.48) is higher than that of the TC model (control group, M=83.71).

Table 13

Pre-Post Test Results of Both Groups & P value of the Independent Samples T-Test

Group Statistics	**Group**	**N**	**M**	**SD**	**P**
Pre-Test	Experimental	27	64,22	11,27	0,058
	Control	34	59,53	7,66	
Post-Test	Experimental	27	**84,48**	10,39	**0,754**
	Control	34	**83,71**	8,81	

Based on the post test scores of both groups, it turned out that the experimental group scored higher than the control group. However, an Independent Samples T-test was also conducted to determine whether the difference between the scores of the two groups was statistically significant or not. Table 14 below shows the results of the Independent Samples T-test of the post-test carried out to both experimental and control group.

Table 14

Independent Samples T-test Results (Post-test Results of Both Groups)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	1,284	,262	,315	59	**,754**	,77560	2,45876	-4,14436	5,69556
Equal variances not assumed			,309	51,027	,758	,77560	2,50636	-4,25607	5,80727

As seen in Table 14, Levene Test results show that the variances of two groups is equal (p = .262 p > .05), which means that the 'Equal variances assumed' row should be interpreted. The results indicated that although the experimental group outperformed the control group, statistically there was no significant difference between the success rates of the two groups; t= .754, P > .05.

From this perspective, in relation to the first research question: "Is there a significant difference between the experimental group and the control group in terms of their academic performance after the implementation of the MOOC-based FC model?", the Independent Samples T-test results show that although no difference was seen between the overall performances of the students who were instructed in an FC model and the ones who were instructed in TC model, it seems that FC approach had a slightly positive effect concerning students' academic achievement.

Despite these findings, however, for a better understanding of the impact of the FC model on the students' success rates, a comparative analysis was performed to see the progress each group made by evaluating the mean difference between the pre- and post-tests of each group. However, before applying any test to see the achievement levels of learners in both groups, normality test were conducted first to see if the data from both groups were normally distributed. The data having been normally distributed (see Table 8 and Table 9), parametric tests were applied for both groups. Thus, an Independent Samples

T-test was done to compare the mean scores of both groups. Figure 4 below shows the mean difference between the pre- and post-tests scores of each group.

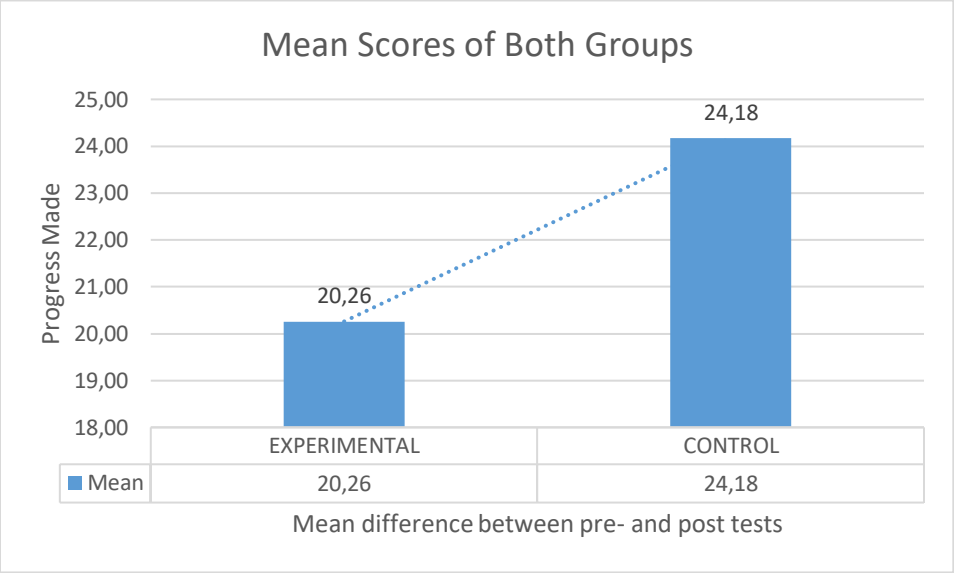

Figure 4. Mean difference between the pre- and post-tests of each group.

As seen in Figure 4 above, the control group (M=24.18, SD=10.41) outperformed the experimental group (M=20.26, SD=8.52) regarding the progress they made between pre- and post-test scores. Table 15 below also indicates that the mean difference between the pre- and post-tests of the control group (M=24.18) is higher than that of the experimental group (M=20.26).

Table 15

Mean Scores of Pre- and Post-Test Difference of Both Groups & P Value of the Independent Samples T-Test

Group Statistics	**Group**	**N**	**M**	**SD**	**P**
Mean Difference of Pre-and Post-Test	Experimental	27	20,26	8,52	0,120
	Control	34	24,17	10,41	

Based on the mean differences between the pre- and post-test scores of each group, it turned out that the control group made a better progress than the control group. However, an Independent Samples T-test was also conducted to determine whether

the difference between the academic performances of both groups was statistically significant or not. Table 16 below shows the results of the Independent Samples T-test regarding the mean difference between pre- and post-tests of each group.

Table 16

Independent Samples T-test Results (Mean Difference Between Pre- and Post-test Results of Both Groups)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	1,513	,224	-1,578	59	**,120**	-3,91721	2,48163	-10,20137	,50560
Equal variances not assumed			-1,615	58,928	,112	-3,91721	2,42528	-10,18218	,48641

In Table 16, Levene Test results show that the variances of two groups is equal (p = .224 p > .05), which means that the 'Equal variances assumed' row should be interpreted. The results indicated that the control group made a better progress than the experimental group. However, statistically there is no significant difference between the levels of achievement of both groups; t= .120, P > .05.

All in all, the results show that considering the final scores of both groups, the experimental group outperformed the control group, but only by a narrow margin. Regarding the progress they made, however, the control group had slightly better scores than the experimental group. Hence, it seems that the FC approach has no significant effect on students' academic performances.

4.1.2 Findings related to the 2nd research question. An attitude questionnaire (14 items with four constructs) was employed to determine students' perceptions on FC approach. First, four constructs of the questionnaire; motivation, effectiveness, engagement, and overall satisfaction were evaluated using SPSS 24. Then, data gathered

from each questionnaire item was analysed using descriptive statistics of means and standard deviation. The findings of both analyses were presented in order to find an answer to the second research question below.

2nd Research question: What are pre-service English language teachers' perceptions of FC model?

In order to gather information on the overall attitude of the students towards the FC approach, in accordance with the four constructs of motivation, effectiveness, engagement and overall satisfaction, data were analysed using descriptive statistics. Table 17 below indicates the descriptive statistics of each construct.

Table 17

Descriptive Statistics of FC Perceptions in Accordance with the Four Constructs

Constructs	Min.	Max.	M	SD	*N* of items
Motivation	1	5	3.43	0.77	5
Effectiveness	1	5	3.26	0.81	4
Engagement	2	5	3.52	0.81	4
Overall Satisfaction	1	5	3.57	1,13	1

N = 26

Results in Table 17 show that based on the responses of the participants, each construct has respondents with similar attitudes and high mean scores for motivation (M=3.43), effectiveness (M=3.26), engagement (M=3.52), and overall satisfaction (M=3.57).

Based on the findings in reference to students' attitudes towards FC approach with regard to four constructs, it can be said that the FC approach motivated the participants to get involved in classroom activities, and its effectiveness was found to be satisfactory, possibly thanks to the increased level of learning that is engaged. However it should also be noted that the constructs of effectiveness (M=3.26) and motivation (M=3.43) had lower mean scores than those of engagement (M=3.52) and overall satisfaction (M=3.57), which needs to be further analysed and interpreted through qualitative findings of this study.

In an attempt to help identify the key issues relating to participants' attitudes toward FC approach, each questionnaire item was described in detail, and further examination was done using descriptive statistics of each item as shown in Table 18 below.

Table 18

Students' Attitudes Towards FC Approach

Questionnaire Items		M	SD
1-	A flipped classroom is a better way of learning.	3.23	1.06
2-	I enjoyed the flipped classroom teaching approach more.	3.50	0.86
3-	I think the flipped classroom is a more effective and efficient way to learn.	3.19	0.89
4-	I feel more motivated in a flipped classroom.	3.19	1.09
5-	I participated and engaged myself more in learning in the flipped classroom.	3.50	0.94
6-	I became a more active learner in the flipped classroom.	3.53	0.90
7-	I thought the time and effort I spent in the flipped classroom was worthwhile.	3.50	0.98
8-	I learned more and better in the flipped classroom.	3.26	0.87
9-	I prefer the flipped classroom to a lecture-based classroom.	3.07	1.01
10-	I think the flipped classroom learning guided me toward better understanding of the course topics.	3.38	1.02
11-	I experienced pleasure in the flipped classroom.	3.73	1.11
12-	I devoted myself more to the instructional/class activities in the flipped classroom.	3.46	0.90
13-	I spent more time and effort than usual on my flipped classroom learning activities.	3.61	1.23
14-	Generally, I am happy and satisfied with this flipped learning experience	3.57	1.13

N = 26

According to the results indicated in the table above, all items got more than an average score, suggesting an overall positive attitude towards the FC approach. For example, item 11 "I experienced pleasure in the flipped classroom" received the highest score (M=3.73, SD=1.11) from the participants. On the other hand, item 3 "I think the flipped classroom is a more effective and efficient way to learn" (M=3.19, SD=0.89) and item 4 "I feel more motivated in a flipped classroom" (M=3.19, SD=1.09) received the lowest scores from the respondents. Although these scores are more than average, they provide enough evidence to suggest that despite participants' overall positive attitudes toward FC approach, there is a need to focus on a closer examination of its effectiveness and motivation.

All in all, the findings of the attitude questionnaire items support the results of the four constructs of the questionnaire, suggesting students' more positive views on overall satisfaction and engagement aspects of the FC approach than its motivation and effectiveness aspects.

Taking the questionnaire as a whole, with respect to the second research question: "What are pre-service English language teachers' perceptions of FC model?", it can be concluded that the students are mostly positive about the FC approach and they seem to have favourable attitudes toward the integration of FC model into their traditional ELT classes. However the aspects of motivation and effectiveness of FC approach need to be further analysed in a qualitative manner.

4.2 Qualitative Findings

Upon the completion of the quantitative phase of the study through the quantitative analysis of the first and the second research questions, qualitative analysis concentrates on the third and the fourth research questions in this part of the study. Two open-response questionnaires were conducted with the participants in the experimental group. The first open-response questionnaire included 6 questions (see Appendix B) and the second one consisted of 7 questions (see Appendix C). The qualitative data gathered via two open-response questionnaires were analysed using content analysis, based on van Manen's (2016) analysis criteria. The basis of qualitative criteria, data collection procedure, sampling and thematic analysis of the qualitative data were described in detail in the

participants section of the qualitative part of the study (see Chapter 3). The questions are addressed through qualitative analysis of two open-response questionnaires. The results of each qualitative analysis in connection with the third and the fourth research questions are discussed below.

4.2.1 Findings related to the 3rd research question. In order to gain an in-depth understanding of the quantitative findings of the research, two open-response questionnaires were conducted analysing participants' perceptions of the FC model. Students were asked for more detailed information on their views on learning through a MOOC and FC model in accordance with the four constructs of the attitude questionnaire; motivation, effectiveness, engagement, overall satisfaction. The effect of the FC model on the academic achievement of the students was also analysed. To be specific, qualitative evaluation of both open-response questionnaires was made with comparison to the quantitative findings in regard to the third research question below.

3rd Research question: What are pre-service English language teachers' attitudes towards MOOC-based FC model based on their MOOC and FC experiences?

In order to explore students' perceptions about the effect of the FC model on their academic achievement through the implementation of qualitative mode of inquiry and with a view to extending more on the quantitative findings relating to the four constructs of motivation, effectiveness, engagement and overall satisfaction, the data collected through two open-response questionnaires were systematically refined and analysed. To determine how participants' perceptions differed from each other, diverse information was compiled and the varying perceptions of the participants were sorted out. Upon examining various opinions of the participants, core themes were formulated for further analysis. In addition to academic achievement, analysis was carried out for each construct separately. Then common statements were clustered and identified as main themes. Table 19 below shows the main themes that emerged in the process of identifying basic patterns during the qualitative data analysis.

Table 19

Emerging Themes of the Qualitative Findings Related to the 3rd Research Question

Categories	Main Themes
Academic Achievement	(a) sharpening critical thinking skills, (b) supporting different learning styles, (c) accommodating high levels of multi-tasking, (d) designing debate-based lessons, (e) familiarizing students with MOOC-based FC model, and (f) tracking students' progress.
Motivation	(a) active learning, (b) self-directed learning, (c) rich learning experiences, (d) simplified in-class activities, and (e) prospects for future teaching strategies.
Effectiveness	(a) academic readiness, (b) external reinforcement, and (c) learner autonomy.
Engagement	(a) effective instructional techniques and group facilitation skills and (b) group-oriented teaching material.
Overall Satisfaction	(a) creating collective and individual learning environment (b) promoting autonomous and cooperative learning, and (c) accommodating different learning styles.

4.2.1.1 Academic achievement. In order to evaluate students' feelings about the effect of FC on their academic achievement, they were asked about their thoughts on FC vs TC models, why they had a higher or lower average grade than the traditional group, whether they believe their grade would change if they had a TC instruction, and what suggestions they might have for a more successful FC model. The views of the participants centred on the following themes: (a) sharpening critical thinking skills, (b) supporting different learning styles, (c) accommodating high levels of multi-tasking, (d) designing debate-based lessons, (e) familiarizing students with MOOC-based FC model, and (f) tracking students' progress.

Sharpening critical thinking. When asked about how FC vs TC models influenced their academic achievement, the majority of the participants stated that FC model contributed to their academic achievement in terms of pre-service learning skills by creating a meaningful and authentic context for learning. They added that learners become more productive and enthusiastic when participating in FC lessons. They went on saying

that FC enhances their learning performances and increases their motivation when compared to conventional classrooms. Most of the participants think that flipped learning is useful for them as it helped them explore new things by developing their skills of critical thinking, as indicated in the excerpt below;

> […] Experiencing these two-learning models became a lesson by itself, pre-service teachers may apply what they've experienced to see what works better with students. Also flipped learning encourages critical thinking which is a necessity if the pre-service teacher is planning to get higher academic education (Participant 1).

Other participants also seem to be positive about FC model mentioning the positive role of flipped learning thinking that it can provide them with some additional qualifications in their professional development. But they also emphasize that conventional learning doesn't mean that they don't have good education or they aren't qualified. However, they also favour FC model, and they seem to believe that using both FC and TC is beneficial, as inferred from one of the respondents' utterances below;

> […] I think both of them (FC and TC) are very useful and accessible learning processes and an ELT pre-service teachers can use these two learning systems. He/she can get very effective teaching process by using flipped learning because he/she can take advantage of digital tools and its benefits. Of course an ELT pre-service teacher can also take advantage of using conventional one by using a white board like drawing some pictures or writing on it while students are observing him or her in the same class (Participant 7).

One of the participants, however, expressed his opinion on the importance of conventional approach hinting at his preference for TC model, as is deduced from his statements below;

> […] Due to the fact that conventional classrooms are more common and will probably be that way maybe over a century, conventional classroom experience would be more helpful (Participant 5).

Supporting different learning styles. Many of the participants highlighted the necessity of being familiar with both instructional models indicating that each might be used depending on the topic and the students' learning styles. One of the students conveyed her thoughts on the issue as such;

> […] Since we tried a new method on learning, it broadened our vision, and changed our point of view, so we are open to the inventions (Participant 4).

Some of the participants seemed to be excited about welcoming the idea of using FC and TC both to meet the various needs of different learners thinking that each model can affect pre-service English language teachers' academic achievement in a good way. One of them made an extended explanation noting that in conventional learning they learned everything step by step slowly from the instructor, while in flipped classroom they learned through self-paced learning and from the instructor, as well. They also state that they are happy about experiencing FC model as it gives them a better chance to speak their minds. In addition, they think that as one model can compensate for the deficiency of the other, it is good to know FC approach as pre-service teachers. Below is the statement of one of the participants;

> […] As the technology develops more and more traditional classrooms might lose their favour. We learned both models effectively and we can use both in our teaching in the future effectively according to our lessons and learners type (Participant 6).

Accommodating high levels of multi-tasking. When they were asked about the reason they had higher grades than the traditional group, some of the participants attributed their success to the implementation of FC model mostly due to the multiple tasks they engaged in such as watching videos, making comments on the topics,

interacting with other participants, joining discussion sessions and so on, which made the content of the course memorable for them. This is mentioned in the comment below;

> […] Flipped Classroom Course motivated me for studying more with the help of the different types of the interactive and exciting activities and up-to-date platforms (MOOC) in it. As it presents a comfortable learning environment, I was keen on learning more compared to learning in traditional classroom. It was my first flipped classroom experience, and I think that it was really beneficial for me than traditional model because it was more engaging and effective and for that reason, I think that flipped classroom model affected my grade positively (Participant 1).

While responding to the question if they would have a lower grade had they participated in a TC rather than FC, mostly they stated that they would still have a high grade, but they might not internalize the content of the lesson as well as they did in the FC model, as commented in the excerpt below;

> […] If I had a traditional classroom instruction, I wouldn't have a lower grade. Because, as honestly, I would try to study on the articles about the lesson content in a more detailed way to get a high grade in the exam. However, this wouldn't be useful for me. I am a visual learner. I can learn best with the videos, pictures, graphics, etc. I also like personalizing the topic to make connections between the topic and my experiences, opinions about the topic, etc. If I just read the articles or attended the lesson without doing anything in my spare time, I would have difficulties in understanding the lesson (Participant 2).

Other participants, on the other hand, while interpreting the role of FC in their having relatively lower grades than those of the participants in TC, mostly put the blame on themselves rather than FC model, as is indicated in one of the comments below;

> […] Actually I don't think it is about flipped learning, my exam scores are always between 60-80, so it is about my style. It was all about me. I wasn't well-prepared.

> However the basic and important factor why I had a lower average grade than the others is I did not study enough for this course (Participant 5).

In response to the question whether they would have a higher grade if they had participated in a TC rather than FC, they felt that they had no clear idea about it, suggesting they have mixed feelings about that, as can be inferred from one of the student's comment below;

> […] I don't know. Sometimes it is hard to follow lesson in the class. So maybe, I would be bored and may not be able to listen and participate. But with videos I watched them in my free times and with breaks (Participant 6).

However, in another comment from another student, it seems that he favours the TC model as it would save them from taking some responsibilities. This might be deduced from the excerpt below;

> […] Maybe I would have a higher grade. Because I would have to listen to the teacher in the classroom. I can learn by listening. Also, being stick to a scheduled video at home, at first, bothered me. I may be more interested in a traditional one (Participant 7).

Designing debate-based lessons. On being asked what suggestions they have for a more successful FC model, most of the participants stated that the instructor should design a lesson which could increase the amount of participation and the instances of interaction between students through some interesting, on-point, and motivating questions to make students debate or think profoundly. Also having students watch some parts of the topic during the lesson and forming groups for further discussion might make the lesson more dynamic. These opinions are indicated in the excerpt below;

> […] When we are in the face-to-face lesson, it can be more like debate-based lesson. First hour of the class, teacher can elicit the information about topic from students by

asking questions and all. In the last hour, there can be a debate with organized groups. It will help us to comprehend fully what we have learned (Participant 3).

As a response to the same question above, the other participants mostly referred to creating a stress-free environment through constant communication, as is suggested in the comment below;

> […] Constant communication with students about everything is really important. Although today's students were raised with technology and are constantly using their mobile devices, they need some help. You cannot just come and say 'This is how it is going to work.' You should make sure that your students have watched the videos. So, you may create a stress free environment in which all of the students can discuss the videos and ask some questions about it (Participant 7).

Familiarizing students with MOOC-based FC model. Participants mostly believe that MOOCs are sure to play a great role, with their distinct features, in helping students increase their academic achievement in FC model. However, in order to highly benefit from the MOOC platform, they are mostly of the opinion that students should be informed, educated, and encouraged to use it gradually as some of them might lack the resource, knowledge, and even the motivation to use it immediately. Also, they think that instructors should help learners discover the benefit of using a MOOC by offering them practical and technical guidance. These suggestions can be deduced from the excerpt below;

> […] So, the students should be informed about the MOOC-based Flipped Classroom model, the benefits of using it and the tips to use it successfully. When they are accustomed to this model, the teacher has lots of responsibilities to apply it into the lessons. S/he should be sure that each one of the students can access the videos or related materials before the lesson (Participant 1).

Some participants, on the other hand, think that some patience is required for the students to truly appreciate, competently use, and successfully adapt to learning through a MOOC and FC approach, as is indicated in the comment below;

> […] Smoother transitions from traditional classrooms to Flipped Classroom model could help. Secondly, teachers should apply Flipped Classroom model gradually. Because, our education system is based on Traditional Classroom model. Since 2000s, the teachers have started to use technology in the classes (Participant 5).

Tracking students' progress. For a more successful implementation of FC model of instruction, participants also put stress on the necessity of making sure that all of the students have watched the videos before coming to school, as clearly displayed in the excerpt below;

> […] At this point, it is very important for you to make sure that all of the students have watched the videos before coming to school. Maybe, you can give them some quizzes to check that they have watched it (Participant 4).

Participants also put emphasis on the importance of tracking students' progress through data-tracking features on the MOOC, which might also enable monitoring not only the progression but also the competency levels of the students, as can be inferred from the statement below;

> […] Teacher should control what learners did before the lesson. If learners know they are being watched, they would be more careful (Participant 5).

4.2.1.2 Motivation. Although less than those of the overall satisfaction and engagement constructs, the results of the descriptive analysis of the attitude questionnaire revealed a high mean score for motivation, suggesting a positive view of students on the motivation aspect of the FC approach. However, in an effort to analyse students' thoughts on motivation more thoroughly, students were asked about how the FC model affected

their motivation. The participants presented their views on the following themes: (a) active learning, (b) self-directed learning, (c) rich learning experiences, (d) simplified in-class activities, and (e) prospects for future teaching strategies.

Active learning. Most of the participants highlighted the significance of active participation in the lesson thanks to the FC design, which encouraged them to get involved in classroom discussions more freely due to increased motivation, resulting from enjoyment of active learning, as is clearly understood from the excerpt below;

> […] Well, rather than just listening, actively participating in the lesson to widen our opinions increased my motivation (Participant 3).

Participants also expressed how much the active learning atmosphere increased motivation for them to practice their communication skills, which can be deduced from the statement below;

> […] I heard different opinions about different subjects. In specific topics, my point of view has changed, it has expanded. Flipped learning encouraged me because I had more ideas about the topics and wanted to share more (Participant 5).

Self-directed learning. Giving much of the credit to the MOOC's varied learning opportunities for their motivation in FC model, some of the respondents reported that they can choose their own learning pace, go deeper in the topic, record their own learning, reuse, and retake the lessons many times if they wish, which is made possible thanks to the instructional technologies in MOOCs. The advantage of self-directed learning in MOOC-based FC learning is described by one of the students as such;

> […] From my point of view, Flipped Classroom has a positive impact on my learning motivation. First of all, I have more control over the pace of learning while taking responsibility for directing my own learning. I can watch the videos at any time that

I want or I can watch them again and again. However, this is not possible in traditional classrooms (Participant 2).

However, there were some students who could be considered displeased not with the varied learning opportunities they were offered maybe, but with the extra time needed to fulfil them while at the same time they had some other assignments to do, as is clearly stated in the excerpt such;

[…] As I learned the information individually, I was more encouraged to discuss about it. However, there were many things to do before the lesson so I felt a bit bored because I had many things to do for my other lessons as well (Participant 4).

Some of the participants clearly stated that the FC model affected their motivation in a good way, as they are fully aware what will be covered in the upcoming lesson and because they have the opportunity to come up with some fresh ideas to be discussed in the classroom, which accelerates the learning process and make it more effective. See how this is mentioned in the excerpt below;

[…] As a student, taking more control makes me feel better and confident. When I was a student in high school or primary school, I was sometimes feeling uncomfortable about dominance of teachers in the lessons. Students have chances to see their progress and evaluate it. Also, students can be better prepared for the lesson in flipped classroom. This means their participation will be high in the classes in this way (Participant 6).

Rich learning experiences. Most of the participants acknowledged that the FC model helped them to continue developing their skills and broaden their horizon by extending their interaction, through the MOOC, beyond the borders of the classroom, enabling them to meet a lot of new people, talking about different cultures and languages, discussing various topics with people of different viewpoints. They seem to be pleased to be involved in learning through a MOOC and FC model as they claim they've learned a lot from the

videos, articles, pictures, discussions, which allowed them to cooperate with each other and improve their communication skills. It seems that these rich learning experiences enhanced their motivation and participation in class as well as learning and developing new skills at home, as is indicated in the excerpt below;

> […] The students can be exposed to using English outside the classroom. Also, they can get a chance to learn English with using lots of different materials and task such as videos, audios, role plays, reading tasks, etc. In this way, they can feel more motivated and enthusiastic to participate to the lessons (Participant 2).

Some of the participants, on the other hand, seem to be in the position of acknowledging the obvious benefit they might get from the rich learning experiences that is provided by the FC model, yet they mostly confess their reluctance in fulfilling their assigned duties as they suffer just from sheer neglect, which can be inferred from the statements below;

> […] Flipped learning has been used for a long time but as I said it is a new thing for us. It did not affect my motivation enough but it was a video-based platform that offers so many options to follow courses so it is useful method to attend to courses (Participant 7).

Simplified in-class activities. Some of the participants implied that they are highly motivated to engage in most of the in-class discussions with peers and the instructor as they don't have to deal with boring routine tasks assigned in everyday classroom practices. They add that FC model frees them from boring monotonous tasks and offers them more leisure time by only requiring them to talk about the content they studied at home, as is asserted in the comment below;

> […] In the class hour we had nothing to write or read so that was just perfect. We only needed to participate in the class for some discussions held in class. Even saying 2 or 3 things in class is enough to count as active participant in my opinion since we

have more than enough students in class. Benefit of this flipped one is you don't have to think hard in class which ease my pain in class hours, just talking what I learned yesterday is adequate for me (Participant 1).

Despite arguing that it sometimes becomes difficult to undertake the extra pressure put on their shoulders due to the increased and diversified online lesson activities in the MOOC, most of the students seem to support the idea of MOOC-based FC model as they don't have to deal with a variety of in-class activities, as is suggested in the excerpts below;

> […] To be honest, it demotivated me sometimes. Because there will be both online learning class and face-to-face learning class, that means more workload. However, later I realized that it is not that bad because you don't need to repeat the topic after face-to-face class. You already repeat it in face-to-face class (Participant 6).

> […] The lesson in the class took shorter time. It is good for me. I studied online in my home. So, I feel more comfortable and relax. My motivation was higher when I did my responsibilities, I am talking about attending the online lessons (Participant 6).

Prospects for future teaching strategies. The views shared by the majority of the students were very satisfactory regarding the prospects of FC model's future deployment as the prevailing teaching method of the future education systems, laying the foundation for their motivation for future education. This is clearly shown in the following comments;

> […] We learned a new learning/teaching method that we can use in our future academic career. Maybe it will be the future teaching method which will be used commonly. So it's a good thing that we catch up with this trend that is used abroad (Participant 4).

Other participants also seem to be in favour of the FC model for its future prospects, as is clearly stated in the excerpt below;

> […] I think participating in such a classroom (FC) takes us closer to the future and will increase our proficiency in technological tools since it is a requirement rather than a luxury for the days to come (Participant 7).

4.2.1.3 Effectiveness. Despite ranking as the last construct among others - overall satisfaction, engagement, and motivation, the construct of effectiveness also has a high mean score, suggesting that students hold favourable views about the effectiveness aspect of the FC approach. Nevertheless, in order to have a deeper insight into students' opinions on the issue of effectiveness, students were asked about their thoughts on the effectiveness of the FC model. On the basis of the participants' views, the following themes emerged: (a) academic readiness, (b) external reinforcement, and (c) learner autonomy.

Academic readiness. Commenting on the effectiveness of the MOOC-based FC model, most students mentioned the importance of students' eagerness to take responsibility for their own work as for the most part, the effectiveness of the FC model depends on their willingness to fulfil the tasks assigned to them both at home and in the classroom. That is, as far as the effectiveness of the FC model is concerned, the participants think that as well as some other factors like the course, the subject, the schedule, the instructor, etc., it is dependent on the students' academic readiness, as can be understood from the excerpts below;

> […] With those I can say that if the student is eager and willing to do the task, it (FC) is an effective method, but if student is lazy and will not do the activities at home, this method cannot work well (Participant 3).

> […] I think it depends on the learner and the course. Flipped classroom model is more suitable for learners who can take responsibility of their learning. Also, not every course can be taught like that. It needs to be open to discussion for example you would

have difficulties to apply this model in factual courses like mathematics (Participant 3).

There are some among the participants who mostly think of it as a matter of learning style, noting that the effectiveness of the FC model depends on the style of the learners, which seems to echo the general views of the participant as regards the academic readiness of the students. The following comment reflects this view;

> […] It depends on your style. For example, a student who has problem with focusing may find it troubling to keep their attention on the lesson since they will not have the teacher in front of them to draw their attention (Participant 5).

External reinforcement. Participants mostly think of the FC model as an external drive that helps students prepare for the subjects that will be covered in the classroom and reinforce the knowledge that they have already learnt as they have direct access to knowledge prior to the lesson, which makes them more active in the learning process. Below are two excerpts revealing the aspects mentioned above;

> […] In my opinion, when the students are more active in learning process, it is more effective way of learning. Therefore, flipped classroom approach is quite an effective learning method as the students have direct access to the knowledge and more active in the learning process. The teacher is a guide and helps students to reinforce their knowledge by guiding (Participant 2).

> […] Talking about something that I worked on gave me a chance to see the topic from different aspects so I can say it had positive affect for effectiveness mathematics (Participant 2).

For some, it seems that they like the idea that the lesson content is accessible to them prior to the lesson, and they also like the fact that the subjects are discussed during in-class activities, but they don't seem to be too much enthusiastic about participating in the

classroom discussions. In other words, they seem to enjoy having the opportunity to have an access to the lesson content when they please prior to the lesson and watch the classroom discussions being made between the instructor and other participants, but they also want to be free from having to participate into classroom activities and performing all the tasks assigned to them at home. Namely, they prefer to be passive listeners in the classroom and registered users at home, as can be inferred from the comments below;

> […] Effectiveness- I only like about the videos and the opportunity to watch them everywhere. Videos were short, clear and understandable (Participant 7).

> […] It had no effect on my effectiveness unfortunately (Participant 7).

Learner autonomy. Most participants find the FC model effective as it puts them in a position where they can play an active role in shaping and building their own learning process, as is clearly indicated in the excerpts below;

> […] I think it is effective because it improves students' achievement and students contribute to their own learning process. Since students introduce the material before the class, they know what to do and how to do in classroom (Participant 1)

> […] From my point of view, flipped classroom is very effective. First of all, students have more control in learning process. It is possible for the learners to have increased input and control over their own learning in a flipped classroom (Participant 1).

Some other participants also like the idea that the FC model provides knowledge beforehand, as enables them to work independently. They also have direct access to knowledge, which offers opportunities for learner autonomy. In addition, they can internalize the knowledge through a wide range of learning tools, as the MOOC-based FC model provides them with easy access to sources. This is clearly displayed in the excerpt below;

> […] It is effective, because it offers to learners a new digital world outside of classroom. It is interesting and attractive way for the learners who like technology and technologic tools much. Students can reach the knowledge easily and they have a chance to review, to practice on language on MOOC and Flipped Classroom. It is good for students to improve their autonomy. Because teachers are supporter or coach in this classroom (Participant 6).

4.2.1.4 Engagement. Ranking as the second highest construct after overall satisfaction, the construct of engagement, based on the results of the descriptive analysis of the attitude questionnaire, suggests that students think positively about the engagement aspect of the FC approach. With this in mind, to go further with regard to increasing our understanding of students' perceptions, students were asked to elaborate on their views about engagement in FC model. Their statements taken into account, the following two themes were developed: (a) effective instructional techniques and group facilitation skills and (b) group-oriented teaching material.

Effective instructional techniques and group facilitation skills. Upon being asked about their feelings in regard to engagement in FC model, participants generally revealed that creating a learner-friendly atmosphere and designing courses that build upon the positive effects of group dynamics can enhance learner engagement in classroom activities, thus improving the ability of learners to revise what they have learned at home. This can be deduced from the comment below;

> […] There can be some activities such as puzzles, riddles, games for the class to make it more entertaining. If the activities allow them to cooperate with each other, they will be more willing to learn. Group work/pair work can be done in the class to improve their communication and cooperation skills (Participant 3).

However, there are some who also noted that the successful implementation of the FC model depends much more on students' eagerness to get involved in exercises and

activities than on the course design or teaching materials, as clearly indicated in the comment below;

> […] Engagement is not about the method of class, instead it is inside the student in my opinion. If one student doesn't want to talk or not feel ready to talk even if you serve them anything in a gold plate they will still remain silent (Participant 4).

When asked about their thoughts on the engagement aspect of the FC model, some other participants highlighted that it is mostly the instructors who are responsible for experimenting with new learning techniques and designing effective courses which will address the specific needs of the group members. In contrast to some participants who underscored students' eagerness for classroom engagement, in order to increase engagement in FC model, these participants put emphasis on teacher quality and intensive coaching, as can be inferred from the comments below;

> […] More game based platforms might be used in the lessons or giving sts more lively activities might increase their engagement, but all thing is about teacher (Participant 6).

> […] This (engagement) depends on the tasks or materials created by the teacher or taken from somewhere else. If the teacher creates his/her own materials by considering the students' needs, expectations and interests, the students may feel more comfortable and glad to do tasks. Also, these materials should be related to their real life (Participant 6).

Group-oriented teaching material. Most participants believe that considering the individual needs and wishes of the group members, giving learners some control over the learning material, and encouraging them to apply in practice what they have learned at home would make a huge difference in the level of student engagement in learning activities, as described in the excerpts below;

> […] Choosing next week topic with the students and deciding what to do all together would make this experience more enjoyable (Participant 2).

> […] Giving students some control over the learning pathway increases their level of engagement and I think that is why I engage in the course more. As I mentioned the advantages of it earlier, it is very effective. It is student centred, flexible (Participant 2).

Other participants also hold the view that when generating teaching materials, being open to suggestions and ideas from students can raise student engagement in FC model, as can be understood from the excerpts below;

> […] Maybe students can also choose their subject content, or they can prepare something about lesson, so they can present and share it to the teacher and other friends. This may be enjoyable for them (Participant 7).

> […] It is a good and effective model. But learners should control. There should be interesting activities and good topics (Participant 7).

4.2.1.5 Overall satisfaction. On the basis of the results of the descriptive analysis of the attitude questionnaire, the construct of overall satisfaction received the highest mean score, suggesting learners' high degree of satisfaction with the FC model. However, to get a better insight into the causes of this satisfaction and the possible problems and dissatisfaction as well, students were asked to share in detail their views on their FC model experience. Their opinions were listed under the following themes: (a) creating collective and individual learning environment (b) promoting autonomous and cooperative learning, and (c) accommodating different learning styles.

Creating collective and individual learning environment. Most of participants mentioned that although it's labour-intensive, they like the FC model as it creates a cooperative learning environment and promotes interaction among students in the

classroom as well as reinforcing the competency of the individual at home, as is stated in the excerpts below;

> […] Conventional classes usually look the course in one aspect which is teacher and doesn't involve student much, student just learns in these classes. However, in Flipped Classroom Model both student and teacher take an active role and student doesn't just learn but internalize the information (Participant 2).

> […] It was a different experience. What makes it different is "going school to reinforce what we learnt in class" rather than "going school to learn". Most of the time, we stop learning after class in tradition method. However, in flipped learning, we keep on learning in school after an online course. Yes, there is much more workload and yes, you need to arrange your schedule considering this type of learning. But learners discover the lesson by themselves and get the knowledge out of it (Participant 2).

There are some participants who seem to have mixed feelings about the FC model. On the one hand, some of them find it enjoyable and effective, as is clearly shown in the comment below;

> […] It is technology based and more enjoyable than conventional classes. Teachers don't seem an authority in flipped classroom and it provides more relaxing teaching environment. Teachers also use various materials and share them with students easily. Students can be prepared for the lesson thanks to materials provided before the lesson (Participant 7).

On the other hand, others find it to be too difficult to follow as it requires a lot of time and devotion to complete, as is clearly stated in the comment below;

> […] It is a good teaching model, but it may not be suitable for senior students as this model requires more time and devotion to follow the courses and do the tasks (Participant 6).

There are even some others who think that the FC model is not suitable for them, as they admit that they are too lazy to make an effort to fulfil the requirements on their part, so they just want to enjoy the lesson as it is being lectured by the lecturer or topics being discussed by peers, as can be inferred from the excerpts below;

> […] To me, conventional one is better than flipped learning because I am a lazy student so in conventional style I have to listen the lesson, but in flipped one you can watch lesson later so because of the reason I would not watch it thanks to conventional style I listen the lessons carefully (Participant 5).

> […] Flipped learning has its benefits such as practicality, but I would prefer conventional classes, which I think the teacher can be more active than the flipped classroom (Participant 5).

Promoting autonomous and cooperative learning. Many of the participants stated that although it is demanding and sometimes difficult to keep pace with the requirements placed on them, they are in favour of the FC model as it is deeply engaging since it offers autonomous and cooperative learning opportunities through the interaction of learners via the MOOC platform and in-class activities, as is indicated in the excerpts below;

> […] Actually it was a really different experience for me. Sharing my ideas with other people from all around the world (through the MOOC platform) and learn from them was a bonus. In the flipped classroom, you don't learn only from your instructors, you also learn from other participants. Since they live in different parts of the world, all of them have different experiences from real life. Besides, having an access to the courses anytime you want in a day or a week is a huge thing. We all have things to do in our real life (Participant 1).

Other participants also stated that the FC model is time consuming and sometimes difficult to come by, yet they also seem to believe that it's worth the effort thanks to the enhancement of interactive learning and the entertainment it offers, as noted in the comments below;

> […] At first, I thought that it would be boring and hard, because this year is our last year and we have lots of works to do, our lessons are hard. But it wasn't like that. Both of the online course, which we joined, and flipped classroom were fun and they weren't as hard as I had thought (Participant 6).

Accommodating different learning styles. The majority of the participants noted that the benefits of the FC model is not limited to its contribution to autonomous and cooperative learning. The model also enable learners to adapt the pace of learning to meet their individual learning needs by supporting different learning styles through various motivating factors, as indicated in the comments below;

> […] In the conventional classes, you get the information, knowledge from the teacher and you get it in our teacher's method, it isn't personalized or you don't have a chance to get it again. In flipped learning, you can choose when to learn and how to learn and how many times to repeat etc. (Participant 4).

Other participants put special emphasis on the efficacy of the FC model on the one hand, and on various risk factors such as high time consumption required by this model, on the other hand, as can be inferred from the excerpt below;

> […] It was really an efficient lesson and I am really happy for experiencing that kind of lesson. However, it took a lot of time and I did not have much time for my other lessons. Except that it was a bit time consuming, it was a really good type of learning and I was able to learn the lesson more efficiently than in the other conventional type of classes (Participant 6).

Overall, analysis of the participants' comments on their experience with the MOOC-based FC model revealed that although it seems more demanding than the traditional model of teaching, considering the benefits they have gained such as the increased chances to practise their learning during the class time and the motivating factors like managing their own learning, the pre-service English language teachers seem to be satisfied with the model.

4.2.2 Findings related to the 4th research question. The fourth research question aimed to explore pre-service English language teachers' overall opinions on integrating a MOOC-based FC model into the ELT program. The data collected from open-response questionnaires were examined and the findings were presented in sufficient depth to provide an answer to the fourth research questions below.

4th Research question: What are pre-service English language teachers' perceptions of integrating a MOOC-based FC model into the ELT program?

In order to gain a better understanding of students' views and feelings towards learning through a MOOC and FC approach and integrating a MOOC-based FC model into the ELT program, the data collected through the first open-response questionnaire were examined, revised and conducted again as the second open-response questionnaire. To assess opinions of the students, data were processed, interpreted, and evaluated using qualitative analysis. Diverse views were put together upon being clustered to formulate some key themes. Table 20 below indicates the core themes revealed after further analysis.

Table 20

Emerging Themes of the Qualitative Findings Related to the 4th Research Question

(a) expanded opportunities for well-rounded education,
(b) expectations for immediate support and unwillingness to take extra personal responsibilities, and
(c) alternative teaching strategies for different learning styles and content-related factors.

Expanded opportunities for well-rounded education. When asked about their views on integrating a MOOC-based FC model into the ELT program, some of the participants commented that this could be a good idea as it provides them with a well-rounded

combination of course content and practice through the MOOC platform and classroom instruction, as can be understood from the quotes below;

> […] I gained different ideas on the MOOC, received advice from experts and peers, practical suggestions that are easy to adopt. I saw videos of inspiring practice and access a range of support material. I learned how to use a variety of online tools and social media to communicate and engage in peer view activities. Yes, I think this would be perfect. I find MOOC-based FC approach so productive and useful (Participant 4).

> […] I'II use flipped learning. Because, I believe that practice is more important than presentation of the language. Instead of teaching the students a new topic for hours and then giving them few activities, I prefer making them discover the language independently and creating a learning environment (MOOC) which includes lots of tasks and materials (Participant 4).

Despite agreeing that it is an effective way to reinforce the subjects in the curriculum and that it enhances the learning process, there were also some other respondents who stated that the integration of a MOOC-based FC model into the ELT program should be free from obligation, and its integration should be offered as an additional or alternative option to the TC model, instead of completely replacing it, as is clearly indicated in the excerpts below;

> […] We are used to conventional approach, but since we tried the flipped learning and saw the benefits of it, I can say that I would prefer flipped classroom method. It can be integrated into the ELT program, but not as a must (Participant 3).

> […] Yes, it (the MOOC-based FC model) has so many benefits and it allows you to control your own learning, but only some of the courses should be adapted as a flipped classroom (Participant 3).

There were also some students who stated that they would like the MOOC-based FC model to be integrated into their ELT program as firstly, it is more effective and, secondly and more importantly, more motivating. However, they also shared their concerns about the role of the instructors, stressing that if the instructors don't feel ready to do their job with dedication and devotion, have little or no interest in implementing the MOOC-based FC model, have low motivation, or fail to fulfil their obligations arising from their reluctance to perform their daily tasks, the FC model should not be integrated, as can be understood from the comments below;

> […] I prefer flipped learning for most of my courses, but sometimes it depends on the teacher of the course. Because some teachers just give all the responsibilities to students. The learning process is more student-centred than normal. I think some teachers find it easy to give all responsibilities to students for their learning (Participant 6).

> […] I wish my other courses would be flipped as well in the ELT curriculum, but some instructors might take all the weight off their shoulders and put it on the students' shoulders (Participant 6).

A few participants also noted that despite the advantages of the FC model, they would still prefer the TC model due to the fact that they are used to the conventional classes and they don't want to experience a new method on their last year, as understood from the comments below;

> […] I am so used to conventional classes and in my last year, I don't want to experience a new method (Participant 5).

> […] To be honest, I'm still on the side of conventional learning. I love to create a real life bond between my students. I'm still thinking it's better (Participant 5).

Expectations for immediate support and unwillingness to take extra personal responsibilities. A few of the participants commented that maybe not all of them but some of the courses could be too difficult for them to grasp without immediate professional guidance provided by professors at the university, so they remained cautiously optimistic in their outlook toward the idea of integrating a MOOC-based FC model into the ELT program, as stated in the excerpts below;

> […] Some courses need conventional learning because the topics are so hard that you need immediate support, but some of them are suitable for flipped learning (Participant 4).

> […] Conventional is the most suitable for me as I like learning with a teacher beside me since if I'm stuck the immediate correction is always closer to me than at home (Participant 4).

Few among the participants however, were completely against the idea of integrating a MOOC-based FC model into the ELT program, implying that this integration would bring with it extra responsibilities, as can be inferred from the comment below;

> […] To be honest, I do not want. I want lecture based, traditional, teacher-led instructions. Also, in flipped classroom, you have to rely on yourself. Collaboration with other students is difficult. I prefer conventional learning approach (Participant 3).

Some participants also indicated that the MOOC-based FC model would mean a more intensive course content, compulsory self-learning programs, extra workload, and a greater effort, which would be required to achieve all the expected learning outcomes, thereby implying that they would not like to undertake such a heavy burden of demanding and multiple tasks, as understood from the quotes below;

> […] I prefer conventional one because now it seems like easier than flipped learning. Also I feel undisturbed while taking lesson in conventional way (Participant 5).

> […] I don't think that I will learn well in online teaching for ELT course. It isn't attractive for me. ELT courses have heavy content mostly and they can be hard to teach online (Participant 5).

> […] I would still need that conventional system since I don't like to be controlled over an abstract system. I want to feel authority in front of me, performing (Participant 5).

Alternative teaching strategies for different learning styles and content-related factors. Quite a few of the participants put forward the argument that the issue of integrating the MOOC-based FC model into the ELT program should be dependent on student preferences for specific learning styles, as some teaching methods might suit some learners, but not others. In addition, a successful teaching method or a tightly specified course content cannot serve all learning styles, so tailoring the content for individual learning styles and responding to different learning styles is likely to provide the best learning outcomes. This can be inferred from the excerpts below;

> […] I think both of these approaches should be used because some lessons would be more effective with conventional learning and others would be more effective with flipped learning. Teachers should decide according to their students' needs and their preferences (Participant 3).

> […] I would first look for my students' needs and interests and after that I would choose the best approach. In my opinion insisting strictly on just one approach is not effective for some learners and lesson itself (Participant 3).

Other participants also stated that a successful ELT program should address as many various learning styles and learner characteristics as possible, as is clearly indicated in the comments below;

> […] Both. It is true that flipped classroom has many advantages but we need conventional learning in same way too. I would use them according to my students' needs and learning styles. Alternative teaching strategies for different learning styles and content-related factors (Participant 7).

> […] I would prefer both of them according to the unit's content, my students' needs and their learning styles. Because I think not all unit's content are appropriate for flipped or conventional ways. And also there may be students who have different learning styles. Again, just flipped or conventional learning may not be appropriate for everyone. So, I would use both of them in balance (Participant 7).

When the comments of the participants are considered as a whole, it can be suggested that despite some concerns regarding students' readiness to fulfil their changing roles, the lack of training and insufficiency of instructors in adapting to new requirements, the views of the participants seem to be generally positive on the idea of integrating a MOOC-based FC model into the ELT program.

Chapter 5

Discussion and Conclusions

This study aimed to investigate the effect of FC model on the academic achievement of the pre-service English language teachers in order to make a comparison of the Flipped vs Traditional Classroom Models. It also attempted to examine what the pre-service teachers' perceptions were on FC model. In addition, it sought to determine their attitudes towards MOOC-based FC model based on their MOOC and FC experiences. Finally, the study aimed to discover their views on integrating a MOOC-based FC model into the ELT program. The data were gathered through both quantitative and qualitative data collection instruments, including achievement tests scores, an attitude questionnaire, and two open-response questionnaires. This chapter discusses the findings of each research question in detail and ends with pedagogical implications as well as the conclusion and recommendations for future research.

5.1 Discussion of Findings for Research Questions

5.1.1 Discussion of findings for the 1st research question. The first research question aimed to determine the effect of the FC model on the academic achievement of the students by examining whether there was any significant difference between the post test scores of students in the experimental (FC model) and control (TC model) group. Contrary to expectations, this study did not find a significant difference between the success rates of the students in FC vs TC. The findings revealed that although the experimental group outperformed the control group, statistically the results were not significant, suggesting that the FC approach had no significant effect on students' academic achievement (see Table 14 and Figure 4).

The findings of the current study do not support some of the previous research which found that the success rates of the students in FC are significantly higher than those of the students in TC (Hung, 2015; McLaughlin et al., 2014; Deslauriers & Wieman, 2011; Day

& Foley, 2006). There are studies, however, whose results agree with the findings of the present study, revealing that there is no significant difference in student achievement between flipped and non-flipped classes. (Fraga & Harmon, 2014; Findlay-Thompson & Mombourquette, 2014; Mason, Shuman, & Cook, 2013; Johnson & Renner, 2012; Strayer, 2012).

The unexpected result of the current study might be due to the difficulty in changing established patterns of behaviours and study habits that have been developed over the years. This explanation accords with some earlier observations by He et al. (2016), which showed that despite many advantages of FC approach, some students took offense at the change of the instructional model as they were accustomed to TC. Similarly, the surprising result of the present study is contrary to some previous studies which revealed that FC enhanced students' learning performances and increased their motivation when compared to conventional classrooms as it helped them explore new things by developing their skills of critical thinking, suggesting that flip-class setting has positive impact on learners' creativity and higher-order thinking skills and it empowers them with critical thinking as well as improving their problem solving skills (Zainuddin & Attaran, 2016; Zahrani, 2015; Kim et al. 2014). However, this outcome is contrary to that of Burke and Fedorek (2017) who found that participants in FC demonstrated lower critical and analytical skills when compared to the ones in TC.

A note of caution is due here, though, since the students in the experimental group did just as well, if not better, than those in the control group, which suggests that despite being limited, their success in the FC model could be attributed to the multiple tasks such as interacting with other participants, watching videos, joining discussion sessions and the like. This explanation broadly supports that of Strayer (2012), who found that the students in FC became more open to cooperative learning although there was no significant difference in their performance, and it also supports the findings of Findlay-Thompson and Mombourquette (2014), who received satisfactory responses from the students in FC with regards to the increased opportunities to ask questions during in-class activities despite their similar success rates with students in TC. These results are likely to be related to the instructional design in FC, which makes the content of the course more memorable

for the learners and help them internalize the content of the lesson due to increased interaction and discussion among peers.

5.1.2 Discussion of findings for the 2nd research question. The second research question sought to explore students' perceptions on FC approach through an attitude questionnaire with four constructs. The four constructs of the questionnaire; motivation, effectiveness, engagement, and overall satisfaction were evaluated first, then followed by a further examination, using descriptive statistics for each item. The findings of both analyses suggest an overall positive attitude towards the FC approach (see Table 18).

Taking the questionnaire as a whole, it can be concluded that the students are mostly positive about the FC approach and they seem to have favourable attitudes towards it. These findings are in accord with results of some previous studies revealing a high level of student satisfaction with FC approach (Graziano, 2017; Kurt, 2017; Adnan, 2017; Guy & Marquis, 2016; Kocabatmaz, 2016; Al-Zahrani, 2015; Basal, 2015; Gaughan, 2014; Musib, 2014; Roach, 2014; Davies, Dean, & Ball, 2013). The findings also mirror those of the previous studies that have examined instructor satisfaction as well (Gilboy, Heinerichs, & Pazzaglia, 2015; Lage, Platt, & Treglia, 2000).

In spite of their limited achievement when compared to the students in TC, which could at best be defined as a moderate success, flip-class participants' generally positive reception towards the FC approach could be attributed to their increased motivation, as suggested by Merrill (2015), or it might be related to the major advantage of the FC model that enables them to progress at their own pace and not in predetermined time, as revealed by Davies et al. (2013). Another possible explanation for this outcome may be the increased level of interactivity, communication and cooperation between students, as well as the changing roles of teachers and learners, which broadly supports the observations of Galway et al. (2014) and Roach (2014).

Additionally, participants' positive attitudes towards the FC approach may be explained by the fact that it appeals to students with diverse learning styles (Lage, Platt, & Treglia, 2000). Factors such as student empowerment (McLaughlin et al., 2014), improvements in use of class-time (Gaughan, 2014), welcoming atmosphere for active learning (Ziegelmeier & Topaz, 2015), and responsible manners of collaboration among

participants (Kim et al., 2014) have also been reported in the literature as some of the reasons for student satisfaction regarding the FC model, which are in line with the findings of the present study.

The findings of the present study, on the other hand, are contrary to some previous studies which have suggested that there is no significant difference between student satisfaction and perception in TC and FC experience (Mason et al., 2013; Snowden, 2012). Increasingly being confronted with the requirement to put in more varied levels of performance and be more active learners than the conventional way of teaching could have led those students to adopt a cautious attitude towards FC, as revealed by Al-Zahrani (2015) and Papadopoulos, Santiago-Román, & Portela (2010).

Moreover, the findings of the current study differ sharply from the findings of other studies which indicated that students had more positive attitudes towards TC than they had towards FC (Jaster, 2013; Strayer, 2012). In spite of its increased popularity and the valuable contributions it makes towards the quality of learning outcomes and the measurable improvement in learners' learning performance (Hung, 2015; Deslauriers & Wieman, 2011), the novelty of the FC model or some students' preference of passive over active learning styles may explain their choice in favour of TC rather than FC, which is not the case in the present study. Not being able to get immediate feedback in addition to having to watch pre-class videos cannot be ruled out as what seems cool to academically advanced students is often irrelevant or boring to average students.

5.1.3 Discussion of findings for the 3rd research question. The third research question attempted to arrive at a deeper understanding of the quantitative findings of the current study. The data collected through two open-response questionnaires were gradually refined and categorised based on the views of the students. In order to extend more on the quantitative findings relating to the four constructs of motivation, effectiveness, engagement and overall satisfaction, further analyses were conducted for each construct separately. In addition, with a view to determining students' perceptions about the effect of the FC model on their academic achievement, differing opinions of the participants were carefully examined and systematically analysed. The findings outlined

below are thus based on the data analysed on the basis of information gathered from students participating in this research study.

To begin with, as regards the achievement aspect of the study, the quantitative findings indicated that although the students adopting FC model outperformed the students having the lecture-based TC model (see Table 13), statistically the results were not significant, which suggests that the FC approach had neither a positive nor a negative effect on the academic achievement of the students (see Table 16). However, the qualitative findings provide us with more varied views on the effect of FC on students' academic achievement, depending on their level of success.

The majority of the students, quite understandably, indicated that the FC approach contributed to their academic achievement as they become more productive and enthusiastic when participating in FC lessons. This result is aligned with that of previous studies (Akçor, 2018; Steen-Utheim & Foldnes, 2018; Elmaadaway, 2018; Zappe et al., 2009). They also seemed to believe that using FC can provide them with some additional qualifications in their professional development. This finding is also consistent with that of Sherrow, Lang, and Corbett (2016) who found in their study that there was an increase in the performance of students thanks to the increased interaction with peers, engaging collaborative tasks, and extended in-class time for practice.

Some participants also referred to the necessity of getting acquainted with both instructional models (FC and TC), implying that each might be used depending on the topic and the students' learning styles. In accordance with the present results, previous studies have demonstrated that traditional methods still need to be used as all topics cannot be covered with an FC approach (Ramlogan, Raman, & Sweet, 2014; Johnson & Renner, 2012; Snowden, 2012). However, the findings of the current study do not support the previous research, which revealed that FC has more advantages for different learning styles of students than TC (Strohmyer, 2016; Houston & Lin, 2012).

Interestingly, some participants seemed to be even more excited about welcoming the idea of using FC and TC both to meet the various needs of different learners with various learning styles. This surprising result could be attributed to the low achievers' belief that one model can compensate for the deficiency of the other. These results partly reflect those of Toto & Nyugen (2009) and Zappe et al. (2009), who found that FC instructional

practices develop a greater awareness of different learning and teaching styles both at home and in the classroom.

Furthermore, when asked about the reason they had lower grades than the traditional group, some participants mostly put the blame on themselves rather than FC model, which seems to explain the reason why, in spite of its benefits, some participants favoured TC model over FC, which is because TC model would save them from taking extra responsibilities. These results are in keeping with previous observational studies, which revealed that although the responsibility they had to take for pre-class preparation annoyed them, learners acknowledged that pre-class preparation in FC gave rise to more learning gains (Mason et al., 2013; Snowden, 2012).

Additionally, for a more successful implementation of FC model of instruction, students mostly highlighted that the instructor should design a debate-based lesson to boost the amount of participation and the instances of interaction between students through stimulating in-class activities and motivating questions, which would encourage learners to engage in discussions and adopt an active role in the learning process. In accordance with these findings, a study carried out by Merrill (2015) yielded similar results, demonstrating that apart from the individual out-of-class activities, the acquisition of in-class transferable skills supported collaborative activities thanks to the open learning environment in the FC model.

Likewise, Galway et al. (2014) observed that some students in the flip-class setting were frustrated as they could not take part in discussions and classroom activities possibly due to their passive learning habits. A possible explanation for this frustration could be the absence of debate-based lesson design highlighted above. The students in the present study also seem to support the previous findings as they referred to creating a stress-free environment to facilitate greater communication between learners through constant communication. These results are consistent with data obtained from various studies, showing that FC practices facilitate positive peer-to-peer interaction and student-teacher interaction as wells as improving participation skills (Sun & Wu, 2016; Yu & Wang, 2016). As indicated by Cakici and oflaz (2012), these findings are likely to be related to the fact that cooperative learning resulting from FC can boost the confidence and high self-esteem of the students.

As for out-of-class activities, the participants mostly think that MOOCs are sure to play a great role, with their distinct features, in helping students make steady progress through out-of-class activities, thus increasing their academic achievement in FC model. However, they also think that instructors should help learners familiarize with MOOC-based FC model, thereby discovering the benefit of using a MOOC by offering them practical and technical guidance. They also think that some patience is required for the students to truly appreciate, competently use, and successfully adapt to learning through a MOOC. These findings are line with that of Bruff et al. (2013) who revealed that although the students appreciated the instructional design offered through the MOOC and valued the FC model, it took a lot of motivation and determination to stay focused and keep on track to achieve their learning goals on the MOOC.

Additionally, for a more successful implementation of FC model of instruction, the participants highlighted the necessity of tracking students' progress and encouraging them to carry out the course activities. Similarly, they underscored the importance of tracking students' progress through data-tracking features on the MOOC. It is encouraging to compare this result with that found by Song, Song, & Wei (2015) who found that an effective and rigorous monitoring method should be implemented and actively pursued by instructors to ensure course success while implementing a MOOC-based flipped classroom model. A possible explanation for this might be that monitoring or tracking students' progress could have a significant influence on high achievers' sense of responsibility and push low achievers to carry out their duties.

With respect to motivation, the quantitative findings revealed a positive view of learners on the motivation aspect of the FC approach (see Table 17). This finding is consistent with the previous research (Guy & Marquis, 2016; Merrill, 2015; Franciszkowicz, 2008). In order to have a clearer insight into the quantitative findings and analyse students' thoughts on motivation more thoroughly, qualitative findings were utilised to gain even clearer perspectives on the perceptions of the participants in the study.

The qualitative findings revealed that a great number of participants underscored the significance of active participation in the lesson thanks to the FC design. This finding is consistent with that of Hung (2015) and Zappe et al. (2009) who revealed that FC can enhance active learning. They also expressed how much the active learning atmosphere

in FC increased their motivation to practice their communication skills. This also accords with some earlier observations, which showed that learners felt motivated by the flip-class approach as a consequence of external factors such as increasing opportunities to practise the course content, and thus improving their communication skills (Zainuddin & Perera, 2019). The reason behind these findings might be the FC design, which encourages learners to get involved in classroom discussions more freely due to increased motivation, which results from enjoyment of active learning. This outcome, however, is contrary to that of Wilson (2013) who contended that some individuals found the FC practices to result in an unfair burden on students, thus putting further pressure on them, which makes them lose their motivation.

Giving much of the credit to the MOOC's varied learning opportunities for their motivation in FC model, some of the participants clearly stated that the advantage of self-directed learning in MOOC-based FC affected their motivation in a good way. These results mirror those of the previous studies that have found that students like FC approach as it places great value on their independence, and gives them the chance to coordinate their interests and requirements with their individual timetables (Gilboy et al, 2015; Davies et al., 2013). It seems possible that these results are due to the instructional technologies in MOOCs, which make it possible for the learners to choose their own learning pace, go deeper in the topic, record their own learning, reuse, and retake the lessons many times if they wish. However, there were some students who could be considered displeased with the extra time needed to fulfil the heavy tasks while at the same time they had some other assignments to do. This finding broadly supports the work of other studies, which found that FC approach requires far more effort than some students have been prepared to put into achieving their learning goals (Al-Zahrani, 2015; Papadopoulos, Santiago-Román, & Portela, 2010). On the other hand, some participants seem to be in the position of acknowledging the obvious benefit they might get from the rich learning experiences that is provided by the FC model, yet they mostly confess their reluctance in fulfilling their assigned duties as they suffer just from sheer neglect. In accordance with the present results, previous studies have demonstrated pre-class preparation might be frustrating for some students, and so motivating them to watch videos and gather detailed information through pre-class materials, arousing their interest,

and familiarizing them with this new learning experience will require a greater responsibility and higher degree of dedication on the part of teachers (Herreid et al., 2014; Musib, 2014).

In connection with motivation, qualitative findings also revealed that some of the participants were highly motivated to engage in most of the in-class discussions with peers and the instructor as they don't have to deal with boring routine tasks assigned in everyday classroom practices. They also seem to support the idea of simplified in-class activities as they don't have to deal with a variety of in-class activities despite arguing that it sometimes becomes difficult to undertake the extra pressure put on their shoulders due to the increased and diversified online lesson activities in the MOOC. It has been suggested, however, that pre-class learning experience enhances the learning process by stimulating motivation and raising the interest of the individuals for learning (Long, Logan, & Waught, 2014). This does not appear to be the case in the current study. On the other hand, putting their trust into FC model's future prospects as the prevailing teaching method of the future education systems, most participants implied that once the groundwork has been arduously lain, the long-term benefits of FC model can be reaped easily. However, this result has not previously been described.

In respect to the effectiveness aspect of FC approach, quantitative findings demonstrated that students hold favourable views on FC model (see Table 17). Namely, they thought of FC model as a good and effective way of learning, which helped them increase their learning gains. These findings are aligned with those of previous studies (Kurt, 2017; Karimi & Hamzavi, 2017; Alsowat, 2016; Engin, 2014; Farah, 2014). Qualitative findings gave us clearer understanding of this aspect on the basis of the participants' views.

The qualitative findings suggest that most of the participants believe that the effectiveness of the FC model depends on students' academic readiness and willingness to fulfil the tasks assigned to them both at home and in the classroom. These results corroborate the ideas of He et al. (2016), who suggested that highly-motivated and academically well-prepared learners are more welcoming and responsive concerning flipped instruction than the ones with low motivation, poor self-discipline and weak academic skills. Somewhat echoing these results as regards the academic readiness of the

students, the participants in the present study noted that the effectiveness of the FC model depends on the style of the learners. This finding broadly supports earlier observations, which showed that FC may not accommodate all learning styles and may not be appropriate for all learner types (O'Flaherty & Phillips, 2015).

With reference to effectiveness, qualitative findings also indicated that most of the participants mostly think of the FC model as an external drive that helps students prepare for the subjects that will be covered in the classroom. Similarly, Vaughan (2014) explored the impact of flipped instruction on pre-service teachers and found an increased sense of responsibility on the part of students. A few of the participants, on the other hand, prefer to be passive listeners in the classroom and registered users at home, even though they seem to enjoy watching the classroom discussions being made between the instructor and other participants. These finding is somewhat surprising as it has not been described in the literature before. A possible explanation for this might be that some students like to be free from having to participate into classroom activities and performing all the tasks assigned to them at home.

Qualitative findings also revealed that learner autonomy is a key factor, which is why most participants find the FC model to be effective as it puts them in a position where they can play an active role in shaping and building their own learning process. They also like the idea that the FC model provides knowledge beforehand, as enables them to work independently. In accordance with the present results, previous studies have demonstrated that FC instructional practices encourage self-learning and foster autonomy (Keengwe & Hussein, 2014; George-Walker & Keeffe, 2010). A possible explanation for this might be that they have direct access to knowledge, which offers opportunities for learner autonomy.

With regards to its engagement, quantitative findings revealed that students think positively about the engagement aspect of the FC approach (see Table 17). They noted that FC model increased their engagement in learning activities. The same results occurred in earlier studies (Kocabatmaz, 2016; Fraga & Harmon, 2014; Bergmann & Sams, 2014; Dill, 2012). However, the results of the current study do not support those of Burke and Fedorek (2017) who found in their study that students in FC exhibited lower scores on student engagement when compared to students in TC and online classroom. Views of the

participants taken into account, qualitative findings helped us go further in understanding their perceptions about engagement in FC model.

Referring to effective instructional techniques and group facilitation skills, the participants generally revealed that creating a learner-friendly atmosphere and designing courses that build upon the positive effects of group dynamics can enhance learner engagement in classroom activities. This perspective puts the greatest responsibility in the hands of instructors. Similarly, most of the participants also referred to teacher quality and intensive coaching to ensure the effective engagement of learners in FC model. These results reflect those of Göğebakan Yıldız, Kıyıcı, & Altıntaş (2016) who shared their concerns about the importance of active participation of teachers in FC, warning that they should take initiative in engaging students in the classroom by encouraging them to express their creative ideas. This result may be explained by students' false assumption that only the instructors are responsible for designing effective courses and addressing the needs of the group members. However, there were some among the participants who also noted that the successful implementation of the FC model depends much more on students' eagerness to get involved in exercises and activities than on the course design or teaching materials. This result is aligned with that of Deci and Ryan (2004) who also found that flipped classes enhance students' engagement and activities in classroom as they are intrinsically motivated mostly due to their prior preparation before coming to class.

Additionally, most of the participants noted that giving learners some control over the learning material would make a huge difference in the level of student engagement in learning activities. They also hold the view that when generating teaching materials, being open to suggestions and ideas from students can raise student engagement in FC model. These results match those observed in earlier studies, which also found that FC model embraces a more student-centred approach as well as establishing an atmosphere for active learning (Ramnanan & Pound, 2017; Ziegelmeier & Topaz, 2015; McLaughlin et al., 2014; Toto & Nyugen, 2009).

Finally, relating to the overall satisfaction, the quantitative findings suggest a high degree of learner satisfaction with the FC model (see Table 17). However, for a better

insight into the causes of this satisfaction and the possible problems and dissatisfaction as well, different opinions of the participants were gathered and analysed.

Most of the participants indicated that although it's labour-intensive, they like the FC model as it creates a collective and individual learning environment, which covers the whole spectrum of cooperative learning and mutual learning. In accordance with the present results, previous studies have also revealed that collaborative practices were reported to be among the most favoured practices of FC model (Göğebakan Yıldız, Kıyıcı, & Altıntaş, 2016). This finding might be explained by the fact that FC model promotes interaction among students in the classroom. A few participants, on the other hand, find the tasks in FC to be too difficult to fulfil as they require a lot of time and devotion to complete, even though they consider the FC model to be effective and enjoyable. And there are even some among them who admit that they are too lazy to make an effort to fulfil the requirements. Although, these results differ from some published studies (Turan & Göktaş, 2018; Basal, 2015; Davies, Dean, & Ball, 2013), they are consistent with those of Kocabatmaz (2016) who noted that lack of motivation for pre-class preparation was among the most cited problems by the learners. This results may be explained by the fact that the low achievers or students with poor motivation just want to enjoy the lesson as it is being lectured by the lecturer or topics being discussed by peers, but they don't want to take responsibility on their part or actively take part in in the classroom activities.

Qualitative findings also showed that although it is much more demanding than the TC model and sometimes difficult to come by, most of the participants were satisfied with the FC model as it is deeply engaging thanks to the autonomous and interactive learning opportunities it offers through the interaction of learners via the MOOC platform and in-class activities. These findings concur with the other studies as well (Sun & Wu, 2016; Yu & Wang, 2016; Gilboy et al, 2015; Davies et al., 2013). It is possible that the enhancement of interactive learning in MOOC-based FC model could account for some aspects of these results.

The majority of the participants uttered their satisfaction with the FC model, indicating that the model allows them to adapt the pace of learning and support different learning styles. This result is consistent with that of Merrill (2015) who found that student-centred learning in FC model increased student satisfaction. It is difficult to explain this

result, but it might be related to the students' belief in the efficacy of the FC model despite the increased responsibility, devotion and dedication it requires.

5.1.4 Discussion of findings for the 4th research question. The fourth research question aimed to reveal pre-service English language teachers' views about integrating a MOOC-based FC model into the ELT program. Data were gathered from two open-response questionnaires. Qualitative analyses were performed to determine general views of the participants.

Being asked about their views on integrating a MOOC-based FC model into the ELT program, most of the participants said that this could be a good idea, stating that they would like the MOOC-based FC model to be integrated into their ELT program. In accordance with the present results, previous studies have also indicated that participants hold positive views about integrating a MOOC into their traditional classroom lectures (Xinying, 2017; Orsini-Jones, Conde Gafaro, & Altamimi, 2017; Yousef et al., 2015; Bruff et al.; 2013; Ghadiri et al., 2013).

The results are in line with that of Orsini-Jones, Conde Gafaro, & Altamimi (2017) who found in their study that students perceived the MOOC blend as a positive addition to their existing face-to-face courses as they enjoyed the flexibility in the MOOCs that keep additional learning materials within easy reach and provide them with a comprehensive e-learning platform. A possible explanation for these results might be that the MOOC and the classroom instruction provided learners with a well-rounded combination of course content and practice, which could have led them to think positively about the MOOCs. Alternatively, it may be that the participants attached significance to communicative aspects of learning across national and cultural borders, which is promoted by MOOCs.

In addition, the above findings seem to be consistent with other research which indicated that a MOOC flipped classroom model is a powerful mix of internet technology and face-to-face instruction. To illustrate, the current study found that the MOOC-based FC model appears to be instrumental in supporting social contacts among learners, thus enabling them to continue learning beyond regular class time. This supports Xinying's (2017) finding that learners take advantage of having a choice of benefiting more from the

knowledge of their professors even after class. The model also appears to motivate students to use knowledge more reflectively and keep them engaged in learning far more than a traditional lecture. This also accords with Richardson, Abraham and Bond's (2012) definition of active learning, which embraces the view that learning is more effective when learners have control over their learning and participate in the process of learning rather than being passive recipients of facts.

However, despite acknowledging the advantages of the MOOC and the FC model and agreeing that it is an effective way to reinforce the subjects in the curriculum and to enhance their learning process, a few of the participants also stated that they would still prefer the TC model due to the fact that they are used to the conventional classes. They were completely against the idea of integrating a MOOC-based FC model into the ELT program, implying that this integration would bring with it extra responsibilities, and it would mean a more intensive course content, extra workload, and a greater effort. Regardless of their achieved test results, this finding may be explained by students' unwillingness to undertake such a heavy burden and experience a new method in their last year at school. This partly reflects the argument of Xinying (2017) who revealed that learners could resist innovation in any teaching model if it is not designed for passing the exam. Another possible explanation for this finding could be the limitations of output and feedback on one's production on a MOOC. This explanation is consistent with that of Bax (2018) who indicated that the difficulty in practicing output and obtaining immediate professional feedback are two serious shortcomings of MOOCs.

On the other hand, there were some other respondents, who stated that the integration of a MOOC-based FC model into the ELT program should be free from obligation. This outcome is line with that of Li et al. (2015) who also found that students with autonomy and freedom to choose their own learning style and have control of their own learning process are happier learners. Likewise, some of the participants in the current study shared their concerns about the role of the instructors, stating that if the instructors don't feel ready to do their job with dedication and devotion and fail to fulfil their obligations, the MOOC-based FC model should not be integrated. This finding is consistent with the previous research. Li et al. (2015) demonstrated that in an FC setting, where individuals have more autonomy in determining their own pace of learning, instructors should be more

careful about designing lessons, adjusting activities and adopting strategies that will help engage more passive students and enhance both face-to-face and online-interaction among learners. Similarly, Bralić and Divjak (2018) warn against students' increased workload when MOOCs are introduce in traditional classrooms, therefore suggesting fine tuning with learning outcomes and assessment procedures. This rather surprising result can be explained by students' concerns about teachers' readiness to adapt to the new challenges and requirements in order to fulfil their changing roles as well as their willingness to accept new responsibilities, because they will need to update their existing knowledge or skills and develop new ones to catch up on the latest technological trends with innovative ideas and attitudes.

Oddly enough, some of the participants highlighted that some of the courses might be too difficult for them to grasp without immediate professional guidance provided by professors at the university, therefore they remained cautiously optimistic in their outlook toward the idea of integrating a MOOC-based FC model into the ELT program. This finding is consistent with that of Yousef et al. (2015) and Ghadiri et al. (2013) who pointed to lack of effective feedback and insufficient integration between learners and instructors. This results may partly be explained by students' too much reliance on teacher-centred and centralized learning model that might hinder the development of autonomous learning and autonomous learners.

Similarly, some participants noted that the issue of integrating the MOOC-based FC model into the ELT program should be dependent on student preferences for specific learning styles, highlighting that a tightly specified course content cannot serve all learning styles. They also indicated that a successful ELT program should address as many various learning styles and learner characteristics as possible. These findings, however, differ from those revealed by another study, which recommended that MOOCs should be integrated into more modules (Orsini-Jones, Conde Gafaro, & Altamimi, 2017). It seems possible that the results presented in the current study are due to students' belief that responding to different learning styles is likely to provide the best learning outcomes instead of sticking to a uniform approach.

Having said this, though, the overall findings from this study suggest that despite some concerns about students' and instructors' readiness to fulfil their changing roles and

adapt to new challenges as well as their willingness to accept new responsibilities and requirements, the MOOC-based FC model is generally favoured by the majority of the participants, which is in line with some previous studies (Bralić & Divjak, 2018; Xinying, 2017; Orsini-Jones, Conde Gafaro, & Altamimi, 2017; Li et al., 2015), so it can be successfully implemented in higher education context. Although no significant difference was identified between the achieved test results of the students in Flipped vs Traditional classrooms, the high levels of satisfaction reported by students engaging with the MOOC suggest that the model deserves to be given a chance due to its great potential to promote active learning network, which is consistent with connectivist principles, and its enormous capacity to create a motivating learning environment and thanks to the exciting prospects it offers as the prevailing teaching method for future education.

5.2 Pedagogical Implications

The findings of this study have a number of important implications for future practice. First of all, the evidence from the study suggests that although the MOOC-based FC approach made little or no contribution to the academic achievement of the pre-service English language teachers, it helped them become more productive and enthusiastic, as it provided them with some additional qualifications in their professional development. Therefore, as a complement to traditional face-to-face instruction, FC model could be considered useful for the training of future teachers. Besides, pre-service teachers could set a good example for the modern teacher profile by empowering individuals to fill the digital divide between generations and applying educational technology tools.

Second, the current data highlight the importance of designing courses that are based on active learning principles, which necessitates intensive coaching, stress-free environment, and tracking of student progress. Therefore, in order to motivate learners to engage in more learner-centred activities in the digital age of information and technology, in-service teachers, instructors, teacher trainers and practitioners are suggested to apply the MOOC-based FC model in their own courses, which would facilitate greater communication between learners by combining face-to-face classroom training with out-of-class learning activities while at the same time tracking students' progress through data-tracking features on the MOOC platform.

Third, these findings have significant implications for the understanding of how could a MOOC blend motivate learners to engage in more learner-centred activities and provide them with valuable opportunities to reinforce the subjects in the curriculum and enhance autonomous and cooperative learning. In general, therefore, it seems that by making real use of digital technology, MOOCs can play a great role in breaking down the traditional walls of teaching. The findings of the study also suggest that MOOCs can establish an online global community, through which knowledge transmission can continue outside of class time. As learning is no longer bound by the traditional classroom setting, school administrators, educators and other stakeholders should consider adapting school curricula to match changing learner needs by fully exploiting the potential of the Internet for greater learning success and more student-centred instruction. Taking the findings of this study into account, they are recommended to consider integrating a MOOC-based FC model into the traditional classroom settings.

Fourth, considering the unprecedented and global outbreak of the COVID-19 crisis, which led to the near-total closures of schools, universities and colleges worldwide, and forced all policy makers as well as educators to take an action to address new challenges in their education systems, one obvious implication of the current study could be the fact that it provides educators with a conceptual and methodological framework that combines all aspects of online and face-to-face teaching. Moreover, taking into account schools' transition to online learning during the COVID-19 Pandemic, the findings of the present study also suggest that the model presents a well-structured online educational platform with its useful resources to maintain the continuity of teaching and learning process through the implementation of the MOOC-based FC model.

Finally, another important implication of this study is the future prospects of the MOOC-based FC model as the prevailing teaching method of the future education systems. The widespread use and availability of the Internet and the rapid advancement in information and communication technology have brought profound changes in education and training systems. These drastic changes might require a radical reorganisation of the education systems and necessitate an active response from policy makers and other professionals. Therefore, supplementing traditional taught classes with high-quality online content and introducing new learning technologies into TC instruction should be

on the agenda of the policy-makers in order to mobilize the modern pedagogical methods and the research and innovation efforts.

5.3 Conclusion

The purpose of the current study was to examine the effect of FC model on pre-service English language teachers' academic achievement and their perceptions on FC model. The study also set out to investigate their attitudes towards MOOC-based FC model based on their MOOC and FC experiences. In this investigation, the aim was to determine pre-service English language teachers' overall views on integrating a MOOC-based FC model into the ELT program.

This study has shown that although the students adopting FC model outperformed the students having the lecture-based TC model, statistically the results were not significant, suggesting that the FC approach had no significant effect on students' academic achievement. Despite this, though, the students are mostly positive about the FC approach, thinking of it as a good and effective way of learning, which helped them increase their learning gains.

This study appears to be one of the first attempts to thoroughly examine pre-service English language teachers' perceptions of a MOOC-based FC model. With this in mind, the second major finding was a high degree of learner satisfaction with the MOOC-based FC model. Despite the generally favourable attitudes towards the model, however, a note of caution is due here since there were some students who could be considered displeased with the extra time needed to fulfil the heavy tasks, while a few other participants, on the other hand, mostly confessed their reluctance in fulfilling their assigned duties as they suffer just from sheer neglect. These data must be interpreted with caution, because some of the participants believe that the effectiveness of the FC model depends on students' academic readiness and willingness to fulfil the tasks assigned to them both at home and in the classroom, while some other participants like to be free from having to participate into classroom activities and performing all the tasks assigned to them at home. It could be argued, therefore, that the positive results were due to the favourable conditions and positive atmosphere created by the MOOC-based FC model, which enabled a collective

and individual learning environment, and covered all components of cooperative, mutual and autonomous learning.

Taken together, these results suggest that although it seems to be much more demanding than the TC model and sometimes difficult to come by, most of the participants were satisfied with the FC model as it is deeply engaging thanks to the autonomous and interactive learning opportunities it offers through the interaction of learners via the MOOC platform and in-class activities. The learning environment identified here, therefore, assists in our understanding the role of connectivist theory in learning and content delivery and highlights the importance of connectivist principles which promote collaborative learning and provide continuous access to knowledge even before and after class time.

Moreover, one of the most significant findings to emerge from this study was that while some of the participants put the greatest responsibility in the hands of instructors, referring to effective instructional techniques and group facilitation skills, other participants believed that the successful implementation of the FC model depends much more on students' eagerness to get involved in exercises and activities than on the teacher quality or course design. These findings provide important insights into the role of teachers in supporting different learning styles while at the same time creating a learner-friendly atmosphere and designing courses that build upon the positive effects of group dynamics, which can enhance learner engagement in classroom activities and outside the classroom. These findings also highlight the potential usefulness of students' belief in the efficacy of the MOOC-based FC model despite the increased responsibility, devotion and dedication it requires. Additionally, the contribution of this study has been to confirm that the role of a teacher in the 21st century has shifted from that of a dispenser of knowledge to an organiser of learning. The study has also confirmed previous findings and provided additional evidence that present day technologies have changed the nature of teaching profession and have required innovative pedagogical methods, which guide students through educational content and help them find alternative ways to reach various sources of knowledge and making the most of this knowledge.

Furthermore, the present study has found that generally the students were cautiously optimistic in their outlook towards the idea of integrating a MOOC-based FC model into

the ELT program, even though most of them indicated that this could be a good idea. However, while some of the participants referred to extra responsibilities and additional workload for their being cautiously optimistic, other participants voiced their concerns about teachers' readiness to adapt to the latest technological trends and the requirements they bring together. These findings suggest students' too much reliance on teacher-centred and centralized learning model, which might hinder the development of autonomous learning and autonomous learners. This provides some explanation as to why students were cautiously optimistic, but not strongly optimistic about the idea of integrating a MOOC-based FC model into the ELT program despite the well-rounded combination of course content and practice provided by the model both inside and outside the classroom. Hence, these findings highlight the potential usefulness of the MOOC-based FC model in higher education as a good alternative for the modern teacher of the 21st century with the incredible increase in the use of computers and digital content in schools, universities, and at home. The contribution of this study has also been to confirm the MOOC-based FC model could constitute a valuable supplement and an ideal complement to traditional face-to-face instruction in higher education.

It can thus be suggested that all pre-service and in-service teachers should be informed about the MOOC-based FC model and the effective leverage factors of technology-enhanced education, and they should also be ready to employ new teaching methodologies and different learning models to customize their teaching to the individual needs and expectations of their students, thus tailoring the learning experience of their students by taking into account the latest technological advances in the field of education. Finally, on the basis of the results presented above, it can be concluded that although no significant difference was identified in terms of the academic achievement of the students in Flipped vs Traditional classrooms, the results of the attitude questionnaire and the qualitative data analyses revealed that the students generally had positive attitudes towards the FC model and the integration of a MOOC-based FC model into the ELT program.

5.4 Recommendations for Future Research

Based on the findings, the current study has several recommendations for further research.

First, further research should focus on comparing the effect of teacher and student readiness for the successful implementation of the MOOC-based FC model.

Second, more studies should explore the perceptions of students about the efficacy of teachers in successfully implementing the MOOC-based FC model.

Third, experimental investigations should be conducted to find out the impact of MOOCs in enhancing student autonomy and decreasing student dependency on a teacher-centred learning model.

Finally, further research on various stakeholders', e.g., practitioners, in-service teachers, teacher trainers, educators, school administrators, and policy makers, etc. perceptions of MOOC-based FC model should be conducted.

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APPENDICES

A. Perception of Flipped Learning Experience Questionnaire

Perception of flipped learning experience

This survey is to understand your overall perception of the flipped learning in the course. T
no right or wrong answer. Please circle the answer which best reflects your overall thought
each statement. Your answers are anonymous and confidential. Thank you in advance for you

Strongly disagree	Disagree	Neutral	Agree	Strongl
1	2	3	4	5

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

B. First Open-Response Questionnaire

1. How did you find the flipped learning compared with your previous experience of attending conventional classes?
2. Do you think that flipped classroom approach is an effective learning method?
3. If you would like to explain to us your experience with flipped classroom model with only one word, what would that word be?
4. If you would like to use an analogy to better state your thoughts or feelings about your experience with flipped classroom model, what would that analogy be?
5. How can conventional vs. flipped learning influence ELT Pre-Service teachers' academic achievement?
6. Is there something else you would like to add about flipped classroom model?

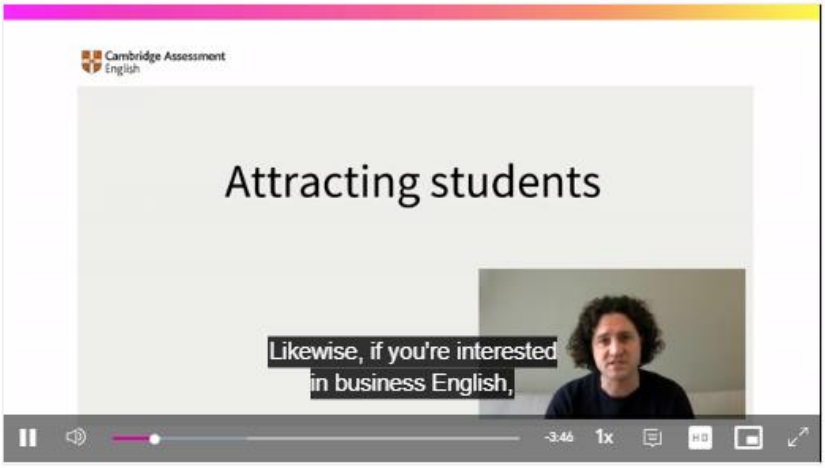
C. Second Open-Response Questionnaire

1. How did the Flipped Classroom model affect your motivation, effectiveness, and engagement? Please explain each item separately.
2. Why do you think you had a higher/lower average grade than the traditional group? Do you think that Flipped Classroom model affected your grade?
3. Do you believe if you had a traditional classroom instruction, I mean if you didn't have a Flipped Classroom model, would you have a lower grade? Why?
4. What should be done to have a more successful Flipped Classroom model? What suggestions do you have?
5. Considering your MOOC-based flipped learning experience, which approach would you prefer to be used to achieve your curricular goals, conventional or flipped learning? Why?
6. Considering your MOOC-based flipped learning experience, which approach would you prefer to be used in your university courses, conventional or flipped learning? Why?
7. Would you like a MOOC-based FC model to be integrated into the ELT program?

D. Screenshots of FutureLearn MOOC Materials

View transcript

Download video: standard or HD



View transcript

Download video: standard or HD

Step – Useful online tools for developing pronunciation

Task

Read the descriptions of the online tools and click on the links to find out more. Then answer these questions:

1. Which tools help learners to produce sounds?
2. Which tools help learners to produce words?
3. Which tool focuses on sentence stress and intonation?
4. Which tools provide a reference for learners of English?
5. Which tools could be used in an online lesson?
6. Which tools are more likely to be used for self-study?

Sound Foundations interactive phonemic chart:	A free, interactive version of the phonemic chart. Click on each sound to hear it or alternatively download a non-interactive version.

Practising language in online lessons

Intro 1 2 3 4 5 6

Question 6

Can a written gap-fill activity be used in any online lesson to practise grammar or vocabulary? i.e. learners complete a set of 10 sentences by adding in the appropriate word.

- [x] **Yes, with no modification.**
- [ ] Yes, with some modification.
- [ ] No, it's unlikely to work in an online environment.

Task

Look at the activities below. Which do you think are acceptable? Which do you think are not acceptable?

1. A teacher records some lessons for her own professional development. The learners are unaware of this.	2. A teacher gets a teenager's parent's permission before logging onto a website outside their normal learning platform.
3. A teacher shares a learner's work on social media to highlight something interesting.	4. A teacher has a list of their students' email addresses on a noticeboard behind their desk where they teach their online lessons.

Check your answers.

You can read more about the General Data Protection Regulation (GDPR) here which governs privacy in Europe.

Copyright laws

Copyright laws that apply to online teaching are basically the same as those that apply to face-to-face teaching although these may

E. Consent Form

Dear participant,

My name is Muhammed Özgür YAŞAR. I'm an MA student at Bahçeşehir University ELT program. You are being invited to take part in my research study as a part of a Master's Degree in English Language Teaching Program supervised by Assist. Prof. Dr. Mustafa POLAT in the Department of Foreign Languages Education at Bahçeşehir University in İstanbul, Turkey. The purpose of this study is to investigate pre-service ELT teachers' perceptions of the MOOC-based Flipped Classroom model. Participation in this study is voluntary. If you agree to participate in this study, you will be asked to fill in two open-response questionnaires, an attitude questionnaire and enrol in a four-week online course, offered free on FutureLearn MOOC Platform. Taking part in this study is entirely voluntary and you may choose to end participation at any point in the study. In this case, the data you provided will not be used in the study. Your participation will remain anonymous and confidential. Your name will not be attached to any of the data you provide. Your participation in this project will be highly appreciated as the value and outcome of the study depends on your willingness to take part in this study. Your opinion really counts. If you have questions or concerns about the research study or wonder about the results of the study, please feel free to contact me at oyasar@ogu.edu.tr

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:
Address:
Phone number:
e-mail:
Date:
Signature:

Principal Researcher:
Assist. Prof. Dr. Mustafa POLAT
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CURRICULUM VITAE

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EDUCATION

Degree	Institution	Year of Graduation
MA	Bahçeşehir University	2020
BA	Çukurova University	2000
High School	Siirt Atatürk Anatolian High School	1996

WORK EXPERIENCE

Year	Place	Enrollment
2017-	Eskişehir Osmangazi University	Instructor/ELT Department
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FOREIGN LANGUAGES

English, Arabic

PUBLISHED PAPERS

Yaşar, M. Ö. (2020). Can MOOCs promote EFL learners' English communication skills? *Language and Technology, 2*(1), 1-15.

HOBBIES

Language, Technology, History