

T.C.
BAHCESEHIR UNIVERSITY
GRADUATE SCHOOL
ENGLISH LANGUAGE EDUCATION HEAD OF THE DEPARTMENT

**THE EFFECTS OF SELF-MADE VIDEOS ON STUDENTS' SELF-
REGULATED LEARNING, L2 SPEAKING PERFORMANCE, AND
COURSE ACHIEVEMENT IN A MOOC-BASED FLIPPED CLASSROOM
MODEL**

PHD THESIS

MUHAMMED ÖZGÜR YAŞAR

İSTANBUL 2024

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ABSTRACT

THE EFFECTS OF SELF-MADE VIDEOS ON STUDENTS' SELF-REGULATED LEARNING, L2 SPEAKING PERFORMANCE, AND COURSE ACHIEVEMENT IN A MOOC-BASED FLIPPED CLASSROOM MODEL

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The purpose of this study is to investigate the development of pre-service English language teachers' self-regulated learning (SRL), foreign/second language (L2) speaking performance, and course achievement by examining the impact of students' self-made videos as a pre-class activity with a flipped classroom (FC) approach, the content of which is delivered in a Massive Open Online Course (MOOC). The present research also seeks to find out, through qualitative methods, how pre-service teachers use and perceive their self-made videos to improve their self-regulation. It investigates the effect of self-made videos by comparing the SRL, L2 speaking and course achievement scores of two classrooms using the MOOC-based FC Model in a freshmen year ELT undergraduate program at a state university in Turkey: one (experimental group) implementing self-made videos and the other (control group) doesn't. An explanatory sequential mixed-methods research design was used to collect data through pre- and post-tests of self-regulated online learning questionnaire (SOL-Q), speaking test and course achievement scores, along with semi-structured and focus group interviews. The findings revealed that student-generated videos as a pre-class

activity had a significantly positive effect on students' self-regulated learning, L2 speaking performance and course achievement in a MOOC-based FC model. The study offers an innovative pedagogical framework, in which classroom instruction, MOOCs, self-control and video-based active learning assume a special status for a more learner-centred and autonomous way of language learning.

Keywords: Self-regulated Learning, ELT, MOOC-based Flipped Classroom, L2 Speaking Performance, Pre-service English Language Teachers



ÖZ

KİTLESEL AÇIK ÇEVİRİMİÇİ DERS (KAÇD) TABANLI TERS YÜZ SINIF MODELİNDE KENDİ HAZIRLADIKLARI VİDEOLARIN ÖĞRENCİLERİN ÖZ- DÜZENLEMELİ ÖĞRENMELERİ, YABANCI DİL KONUŞMA PERFORMANSLARI VE DERS BAŞARILARI ÜZERİNDEKİ ETKİLERİ

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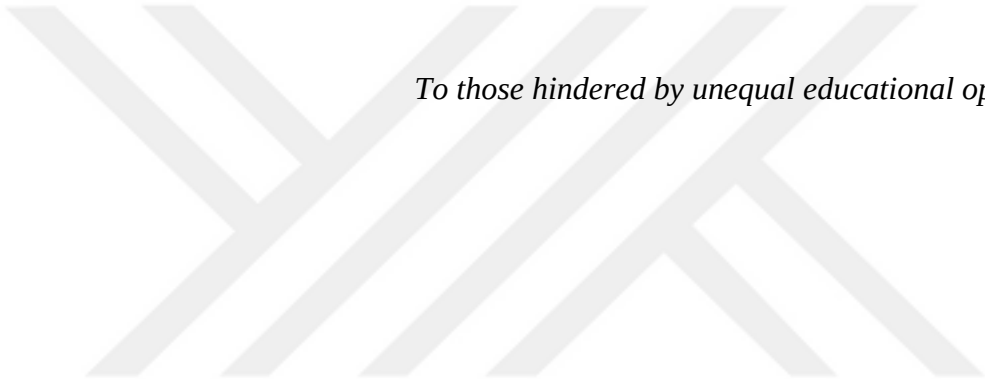
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Bu çalışmanın amacı, içeriği Kitlesele Açık Çevrimiçi Ders'te (KAÇD) sunulan Ters Yüz sınıf modeli yaklaşımıyla ders öncesi bir etkinlik olarak öğrencilerin kendi hazırladıkları videoların etkisini inceleyerek hizmet öncesi İngilizce öğretmen adaylarının öz-düzenlemeli öğrenmelerinin, yabancı dil konuşma performanslarının ve ders başarılarının gelişimini araştırmaktır. Bu araştırma ayrıca, nitel yöntemlerle, öğretmen adaylarının öz-düzenlemelerini geliştirmek için kendi hazırladıkları videoları nasıl kullandıklarını ve algıladıklarını bulmayı amaçlamaktadır. Araştırma, Türkiye'deki bir devlet üniversitesinin Yabancı Diller Eğitimi Bölümünün lisans programında KAÇD tabanlı Ters Yüz sınıf modelini kullanan, biri kendi videolarını hazırlayan (deney grubu) diğeri kendi videolarını hazırlamayan (kontrol grubu), iki sınıfın ders başarısını, yabancı dil konuşma performansını ve öz-düzenleme anket puanlarını karşılaştırarak hazırlanan videoların bu değişkenler üzerindeki etkisini araştırmaktadır. Açıklayıcı sıralı karma yöntem tasarımı kullanılan araştırmada veriler, öz-düzenlemeli çevrimiçi öğrenme anketi, konuşma testi ve ders başarı puanlarının ön ve son testleri ile yarı yapılandırılmış ve odak grup görüşmeleri yoluyla toplanmıştır.

Bulgular, öğrenciler tarafından oluşturulan videoların öğrencilerin öz-düzenlemeli öğrenme, yabancı dil konuşma performansı ve ders başarısı üzerindeki etkisinin önemli ölçüde olumlu olduğunu ortaya koymuştur. Çalışma, daha öğrenci merkezli ve özerk bir dil öğrenme yöntemi için sınıf içi eğitimin, KAÇD'lerin, öz denetimin ve video tabanlı aktif öğrenmenin özel bir statü kazandığı yenilikçi bir pedagojik çerçeve sunmaktadır.

Anahtar kelimeler: Öz-Düzenlemeli Öğrenme, İngiliz Dili Eğitimi, KAÇD Tabanlı Ters Yüz Sınıf Modeli, Yabancı Dil Konuşma Becerisi, Hizmet Öncesi İngilizce Öğretmen Adayları



To those hindered by unequal educational opportunities

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LIST OF ABBREVIATIONS

SRL	Self-Regulated Learning
FL	Flipped Learning
FC	Flipped Classroom
MOOC	Massive Open Online Course
ELT	English Language Teaching
L2	Foreign/Second Language
EFL	English as a Foreign Language
SOL-Q	Self-Regulated Online Learning Questionnaire
AI	Artificial intelligence
CoHE	Council of Higher Education
KAÇD	Kitlesel Açık Çevrimiçi Ders

Chapter 1

Introduction

This introductory chapter starts by outlining the theoretical framework used in the study and continuous with the statement of the problem. It then proceeds to outline the purpose of the study and research questions. Next, the significance of the study is mentioned. Finally, it ends with the definition of key terms and concepts frequently used in the study.

1.1 Theoretical Framework

Developing learning autonomy could prove to have desired effects on students' attitudes towards learning and school. Self-Regulated Learning (SRL), which is defined as the degree to which learners can take an active and responsible role in their own learning process (Zimmerman, 1998), can raise the quality of classroom instruction, and contribute to student learning (Butzler, 2016). Being a key notion in sociocultural theory, which argues that individuals learn by observing what others do and learn from them, SRL deals with the development of a person's self-judgment, self-reaction, and self-monitoring in pursuit of generating new knowledge and accomplishing a goal (Bandura, 1986; Scholnik, Kol, & Aberbanel, 2006). In line with this statement, Zimmerman (1998) also put forward three phases of SRL, which are forethought (the strategic procedures before the learning process happens), performance control (the strategic operations carried out to monitor learning during the learning process), and self-reflection (the strategic actions taken to properly evaluate the outcomes and effectiveness of the learning process after it happens).

Similarly, SRL has been defined as a process that requires learners to determine their learning pace themselves, and plan their learning process individually (Zumbrunn et al., 2011). The process of learning can be facilitated through SRL as the goal is to gain knowledge about better decision-making processes for operational, tactical, and strategic procedures (de Boer et al., 2018). Although key terms related to self-regulation are used interchangeably within the self-regulation literature i.e., self-

control or self-management, all these conceptions address the extent to which behaviour is controlled by the self (McCrae & Lockenhoff, 2010).

Even though a large strand of theoretical literature has been devoted to analysing and understanding SRL, such as Flavell's views on metacognition, Bandura's perspectives on self-regulation and Zimmerman and Pintrich's conceptualization of SRL, the SRL literature has been dominated in recent decades by the detailed accounts of social and cognitive factors and their influence on attitudes and behaviour. Pintrich (2000) and Zimmerman (1989), for instance, explained the concept based on social cognitive theory. They both emphasize that self-regulation requires metacognitive strategies such as self-observation and self-evaluation of the thought and learning process. They indicate that the ability of cognition and self-awareness help learners determine their goals, regulate their behaviours, maintain motivation, and overcome unforeseen difficulties. Similarly, for Flavell (1979), an American developmental psychologist, who first coined the term metacognition, self-regulation is associated with metacognition, which requires learners' to individually plan their learning strategies, monitor their activities, and assess their learning goals by reflecting on their learning progression.

Likewise, an essential component of Bandura's (1986) social cognitive theory, self-efficacy is a fundamental precondition for the organisation and operation of the learning process. According to Pajares (2002), learners with a high expectation of self-efficacy tend to invest plenty of time and effort in a goal and take on challenges which, if successful, will significantly foster their personal development. Similarly, strengthening the perception of self-efficacy can make a significant contribution on the path to lifelong learning as it helps learners apply more self-regulatory processes (Moos & Bonde, 2016). Therefore, this study will mainly focus on SRL as it investigates the effect of self-made videos as a pre-class activity on the development students' SRL.

1.2 Statement of the Problem

The COVID-19 crisis has revealed some of the limits of the traditional classroom instruction. It has emerged that the global lockdown of education institutions has disrupted the traditional education systems around the world (Babbar & Gupta, 2022).

The coronavirus pandemic has also showed us that what learners need from teachers can vary in the face of changing external and internal conditions, which would require teachers to make an additional effort in terms of the skill levels and flexibility to develop their professional role as promoters of creative individuals and facilitators of learning processes (Bozkurt et al., 2022). The pandemic has also highlighted how open and distance learning technologies can play a critical role for teacher education institutions to respond to the new demands of the teaching profession, for instance by extending learning beyond the classroom and promoting collaborative, learner-centred pedagogy, which is based on blended educational approaches (Ali & Nath, 2023).

As the end of the COVID-19 pandemic is in sight, teachers have been returning to their classrooms only to find out that their traditional roles and responsibilities are being challenged by new teaching and learning methods. In fact, according to UNESCO (2020), teachers and learners cannot return to the world the way it was before, as education cannot be sufficiently achieved outside of human relationships between trainers and learners anymore, nor can it be dependent solely on digital platforms. Therefore, blended learning, the combination of new online forms of learning and traditional forms of learning, seems to be the way of the future (Kanwar & Ogan, 2021).

Flipped Classroom (FC) instructional approach, a blended method of teaching, has gained increasing popularity in the wake of COVID-19 (Khodaei et al., 2022). In fact, multiple articles have emerged globally, suggesting that the pandemic may have considerably increased the awareness and desirability of the FC model (Ghozayel, 2022). Multiple articles have advocated for flipped instruction during the pandemic and beyond, due to its rotational model, which combines students' independent online study with a face-to-face classroom instruction (Clark et al., 2022). Many professionals and researchers in the field of education have described major benefits of flipped instruction during the pandemic, indicating that it might, therefore, be preferable to the lecture-based classroom (Zhu et al., 2022).

Similarly, Massive Open Online Courses (MOOC)s, which can be defined as “a course of study made available over the Internet without charge to a very large number of people: anyone who decides to take a MOOC simply logs on to the website and

signs up” (Oxford Dictionaries Online, 2021), can offer a practical option for blended learning (Wang et al., 2022). Enthusiasm for MOOCs seems to have reignited, as they have formed a significant part of the educational response to the pandemic across the globe in recent years (Daniel, 2022). The number of MOOC users worldwide was estimated to rise around to 180 million in 2020 (Class Central, 2020). One-third of all learners who ever enrolled on a MOOC did so in 2020, which was evidence of the large enrolment growth during the pandemic (Impey & Formanek, 2021). Given the pandemic-induced surge of interest in MOOCs and building on the experience they have gained during the covid lockdowns, many universities will want to either supplement or even completely replace classroom-based instruction with MOOCs so that they can continue offering their students online education (Peters et al., 2022).

However, because purely online options don’t work for everyone due to the limitations of online approaches, and as not every new technology is equally suitable for all target groups (Kanwar & Daniel, 2020), many universities around the world are likely to opt for blended approach for post-pandemic teacher education, keeping in mind the future of teaching-learning is blended (Zhu & Liu, 2020).

Therefore, the MOOC-based FC model has been considered as a practical option for flipped instruction (Wang et al., 2022). It is a method of pedagogical inversion of traditional education as it shifts the traditional teacher-centered approaches to an approach that accommodates for learners' needs and expectations before and after class time (Al-Rahmi et al., 2019). In a MOOC-based FC model, virtual learning materials such as video lectures, texts, quizzes can be provided by an already existing MOOC, rather than being prepared by the instructor (Bruff et al., 2013). Flipped learning with MOOCs provides students with a well-structured virtual learning environment at home and helps them to further explore the content through group discussions in class (Wang & Zhu, 2019).

Despite these generally favourable assessments and outstanding technological, network-supported capabilities, however, there are still at least two major practical problems that must be addressed regarding the implementation of the MOOC-based FC model. First, the growing need for SRL, through which students are expected to develop greater learning autonomy and to take responsibility for their own learning

due to the lack of motivation, support, or guidance of physical education instructors in MOOCs (Lee et al., 2020). Second, the lack of opportunities for foreign language learners in an English as a Foreign Language (EFL) context to practice their speaking skills in a flipped classroom, where little attention is given to its implementation in teaching speaking skills (Amiryousefi, 2019), especially in countries like Turkey, where EFL learners have little or no opportunities to practice their speaking skills in natural communication settings.

1.3 Purpose of the Study

The purpose of this study is to investigate the development of pre-service English language teachers' (ELT) SRL, L2 speaking performance, and course achievement by examining the impact of a series of students' self-made videos as a pre-class activity with a flipped classroom approach. Specifically, the study examines how students' self-made videos affect pre-service ELT teachers' SRL, L2 speaking performance, and course achievement, the content of which is delivered in a MOOC. The present research also seeks to find out, through qualitative methods, how pre-service teachers use and perceive their self-made videos to improve their self-regulation during the implementation process. Hence, the present study investigates the effect of self-made videos by comparing the SRL, L2 speaking and course achievement scores of two classrooms using the MOOC-based FC Model in a freshmen year ELT undergraduate program in Turkey: one (experimental group) implementing self-made videos and the other (control group) doesn't.

1.4 Research Questions

In the light of the above-mentioned objectives, the present study aims to address the following research questions:

1. Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' self-regulated learning?
2. Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' L2 speaking performance?
3. Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' course achievement?
4. How do the pre-service ELT teachers perceive the implementation of self-made

videos to improve their self-regulation in a MOOC-based FC model?

1.5 Significance of the Study

The constraints of the pandemic required teacher educators and other stakeholders to visualize or experience the rethinking of instructional approaches, facilitating a paradigm shift from a lecture-based, teacher-centred education towards more of a student-centred, self-learning approaches (Adhya & Panda, 2022). Therefore, to support teachers in adapting to the post-pandemic era trainings and help them to be more prepared for online delivery of courses, post-pandemic teacher education programs could be composed of face-to-face, blended, and online education (Zhu, 2020). Thus, a growing body of research has investigated the implementation of MOOCs and FCs regarding EFL students' SRL, speaking skills, and academic achievement (Ding & Shen, 2022; Huang, 2022; Kulusakli, 2022; Kusuma, 2020; Lee et al., 2020; Russell, 2018; Yaman, 2014).

Moreover, a few studies have been conducted to examine the impact of self-made videos as a pre-class activity on pre-service teachers' speaking performance and SRL with traditional classroom instruction (Cavanagh et al., 2014; Miyata, 2002; Star & Strickland, 2008; Wang & Hartley, 2003; Yamashita & Nakajima, 2010) and flipped instruction (Kusuma, 2020; Moos & Bonde, 2016; Shyr & Chen, 2016; Wang & Zhu, 2019) separately. However, how self-made videos affect ELT pre-service teachers' speaking performance, SRL and course achievement altogether in a MOOC-based FC model is unknown. Thus, there is a lack of research in the literature because the previous video-based studies only investigated those variables distinctly with either traditional or flipped classroom instruction.

This study extends the practice of self-made videos to the context of the MOOC-based FC model to promote EFL students' speaking performance and self-regulated learning, thereby addressing the established weaknesses of MOOCs and FC in lacking the capability of autonomous learning and independent learners. This study could provide evidence to support whether the implementation of self-made videos as a pre-class activity in a MOOC-based FC model can promote pre-service ELT teachers' SRL, L2 speaking performance and course achievement and offer evidence-based

guidance for this promising teaching and learning approach. By examining relevant factors in a MOOC-based FC model that could play a key role in the teaching and learning processes, the study could also offer practical guidelines for instructors who are interested in complementing traditional classroom teaching with MOOCs using FC model. It is these guidelines that frame the current study's vision of teacher education in the post-pandemic era.

1.6 Definitions

Self-Regulated Learning (SRL): Pintrich (2000) refers to SRL as “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment” (p. 453).

Flipped Classroom (FC): “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).

Massive Open Online Course (MOOC): Having been originated in the US in 2008, MOOCs are online courses with features such as convenience, affordability, openness, and accessibility, which “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” (Yaşar, 2020, p. 9).

English Language Teaching (ELT): “The English Language Teaching Department aims particularly to educate students with the contemporary knowledge, practical skills and attitudes required for English teachers” (METU, 2022, para. 1).

English as a foreign language (EFL): EFL is a term suggesting that “English is a foreign language for learners in whose community English is not the language of communication” (Thornbury, 2006, p. 74).

Communicative Language Teaching (CLT): In CLT, “language techniques are designed to engage learners in the pragmatic, authentic, functional use of language for meaningful purposes” (Brown, 1994, p. 245).

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

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

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: “Instructional activities involving students in doing things and thinking about what they are doing.” (Bonwell & Eison, 1991, p. 5)

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).

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).

Artificial intelligence (AI): “AI can be described as the ability to imitate human intelligence by machines and computer systems. It involves human intelligence and things that humans do not comprehend. It can understand and retain knowledge within the environment for context” (Solanki et al., 2022, p. 106).

Chapter 2

Literature Review

2.1 Introduction

This chapter, first, presents an overview of MOOCs, followed by a comprehensive explanation of SRL strategies, SRL input, and SRL in online learning environment. Second, it provides an overview of new trends in foreign/second language (L2) instruction and the interrelation between SRL and L2 speaking in online learning environment. Third, flipped learning, MOOC-based FC model and SRL strategies in MOOCs are presented in detail. Fourth, a systematic review of self-made videos, their theoretical basis and the pedagogical model on which they are based are discussed in detail. Finally, studies on self-made videos and related to the MOOC-based FC model are reviewed.

2.2 Massive Open Online Courses (MOOCs)

The term Massive Open Online Course (MOOC), a specific form of online education, was first introduced by Downes (2008) to describe an experimental online course called “Connectivism and Connective Knowledge”. Based on Siemens’ (2005) connectivism, MOOCs (e.g. FutureLearn, Coursera, edX, NovoEd, Udacity, etc.) offer quality courses from top universities without space or time restrictions to any individual in the world. As Yaşar (2020) puts it, MOOCs “make 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).

Siemens (2012) mainly differentiates between two types of MOOCs: cMOOC (connectivist MOOC) and xMOOC (extended MOOC). A cMOOC supports cooperative learning, know-how and the sharing of experience through information networks for intercultural learning (Ferdig et al., 2014). An xMOOC, on the other hand, combines audio, video lectures, interactive assignments, quizzes and texts to design learning and perform new tasks (Lugton, 2012). Whereas cMOOCs focus on strengthening mutual learning and cooperative work to create new knowledge, xMOOCs aim to ensure the widespread exploitation and duplication of existing

knowledge (Caulfield, 2013).

The widespread availability of MOOCs has the potential of making higher education more accessible and more flexible, offering opportunities to trainers and learners from a number of participating countries to work together on topics of common interest (Rambe & Moeti, 2017). Accordingly, educators can enhance and bring innovation to their traditional face-to-face programs by incorporating open materials that are easily accessible from other institutions and of high quality (Bralić & Divjak, 2018). Thus, due to their convenient course design, high education standards and accessibility to all students, an increasing number of universities have started to integrate MOOC contents into their regular curriculum (de Jong et al., 2020).

On the other hand, many students struggle with online learning due to a lack of self-regulated learning strategies (Beaven et al., 2014). However, independent learning is crucial for success, particularly in MOOCs, which require students to self-organize and manage their learning to achieve their goals (Reparaz et al., 2020). Much research has been conducted on MOOCs. However, these studies have been limited to specific aspects of MOOCs such as course design (Wang et al., 2023), student engagement and completion rates (Kala & Chaubey, 2023; Romero-Rodríguez et al., 2020), or a separate discussion of self-regulated learning and motivation on MOOCs and face-to-face learning (Alonso-Mencía, et al., 2020; Onah, et al., 2024; Luo & Wang, 2023). Not much research has focused on possible aspects that could empower self-regulated learning in blended learning approaches like MOOCs and flipped learning. Given that the promotion of effective instruments for effective self-regulation is linked to enhanced learning, it is surprising that this aspect has received little attention in most MOOCs.

Therefore, further research is needed to identify key factors that could enhance self-regulated learning within blended learning approaches. In this regard, some key factors will be described in more detail in the following sections. It would be helpful, however, to provide more information about the concept of self-regulated learning in the following section.

2.3 Self-Regulated Learning (SRL)

Self-regulated learning (SRL) involves setting goals, planning, selecting

strategies, monitoring content, evaluating progress, and reflecting on learning difficulties (Klug et al., 2014). It is a self-directed process that helps transform mental abilities into academic skills, relying on self-awareness, intrinsic motivation, and behavioural skills to create, apply and exchange new knowledge effectively and efficiently (Zimmerman, (2008). Individuals need to cultivate a positive outlook on self-knowledge, self-confidence, perseverance, and lifelong learning (Zumbrunn et al., 2011). They also need SRL skills, including effective organization, time and effort management, knowing when and how to seek help, and collaborating with peers (de Boer et al., 2018). Besides learning how to learn, possessing SRL skills is crucial for becoming critical thinkers, creative and constructive problem solvers, and information-literate individuals (Humrickhouse, 2021).

Thanks to its benefits in education, SRL has become highly popular among educational researchers and practitioners, and to this day remains a mainstay of international education studies (Anela, Katica, & Jasminka, 2022). SRL has gained significance in the field of education as it is concerned with achieving a better understanding of how students can be supported in structuring their thoughts and knowledge (Nilson, 2013). There are some concerns, however, about the development of SRL, bringing into question its connection with language learning. Factors that might cause such concerns include the timing and speed of the development of SRL, which could give language learners greater self confidence in starting to learn a language and have a positive effect on their self-esteem, concentration, and communication skills (Kusuma, 2020). Some key factors regarding self-regulation for language learning will be mentioned in more detail in the following sections. It would be more relevant, however, to provide more information about SRL strategies in the following section.

2.3.1 SRL strategies. An important factor which also plays a very major role in SRL is the implementation of self-regulated strategies designed by Zimmerman and Martinez-Pons (1986). They include behavioural, motivational, cognitive, metacognitive, and affective aspects of learning, through which learners manage their resources to perform a desired task (Lienemann & Reid, 2006; Winne, 1997). Major

types of self-regulation strategies are (a) goal-setting, (b) self-monitoring, (c) environmental structuring, (d) utilizing task strategies, (e) self-reflecting on performance outcomes, (f) seeking social assistance and information, (g) self-reinforcement, and (h) self-instruction (also called self-talk) (Schunk & Zimmerman, 1994). The positive correlation between the effective use of self-regulated learning strategies and self-efficacy beliefs has been the subject of considerable attention in the literature (Bouffard-Bouchard et al., 1991; Pintrich & DeGroot, 1990; Zimmerman, 2000).

In light of the vast existing theoretical foundations that have been laid by scholars from different areas of expertise concerning SRL and models for SRL, self-regulation theorists have mentioned various types of input entering the self-regulation system. These are affective input, cognitive/behavioural input, non-conscious input, and metacognition. Gross's (1999) model of emotion regulation highlights the conscious perception of one's own affect by using distraction as a defence and an emotion regulation strategy upon a difficult and stressful situation. Gross's affective input theory posits that attentional deployment, which is an explicit input component, enhances the sharpness of one's own perception through the feeling of detachment. Blagden and Craske (1996) also indicated that engaging in distracting tasks can provide individuals with opportunities and abilities to deal constructively with stressful situations. These researchers suggest that by regulating their emotions, individuals can find out how to deal with difficult situations and how to overcome conflicts in a positive manner.

As for the cognitive/behavioural input, in Bandura's (1986) self-regulation model, self-monitoring represents an integral element of the behaviour change process. Self-monitoring is about bringing about a positive change in one's own behaviour (Carver & Scheier, 1998). It also means gearing and restructuring one's own actions by a positive shift of focus towards reflecting on one's own stance through purposeful switch in attention (Febbraro & Clum, 1998). On the other hand, Bargh's (1990) automatic model of self-regulation or automatic self-regulation model suggests that non-conscious input can lead to a change in behaviour, even more than the conscious self-regulation, so self-regulation must be largely automatic. Bargh's model suggests that

attention can be selectively drawn to a particular issue through primed information or non-conscious input. As conscious self-regulation is a limited resource, individuals who are primed with prime stimulus such as an image, word, or a feature of the environment, tend to become more prone to the effects of unconsciously processed stimuli (Muraven et al., 1998). These show that individuals' self-regulatory behaviour can be shifted by primed information, or their attitudes can be altered by non-conscious input, which might result in perceptual or behavioural changes (Chartrand & Bargh, 1996).

Drawing on insights from theory and practice, MacKenzie et al. (2012) point to the difference between a system that just works non-consciously and another one that is capable of metacognition. Defined as knowledge about one's own cognitive functioning (Flavell, 1979), metacognition is the ability to think about one's own thinking. It allows individuals to monitor, regulate, evaluate, and improve their own learning (Schunk, 1989). According to Febbraro and Clum (1998), a purposeful modification of one's own metacognition involves learning awareness, learning priority, access to learning opportunities, and recognition of learning achievements. Similarly, Higgins's (1987) self-discrepancy theory also indicates that in a conscious system, the effect of the self-regulation process on behaviour can be supported by cognitive processing that acts as a facilitator of behaviour change.

As they can maintain self-regulatory behaviour and influence long-term learning in the process of behaviour change, self-efficacy and controllability of the environment emerge as important constructs that could promote continued self-regulation (MacKenzie et al., 2012). Defined as belief about one's ability to influence change, achieve a goal, or complete a task, self-efficacy is an important motivational factor that can contribute to long-term behaviour change (Bandura, 1986). This perceived success in the output may boost self-efficacy for the self-regulated behaviour by supporting the self-regulatory process (Bandura, 1991). A positive self-image results in more self-confidence, attainment of self-sufficiency, increased ability to perform, and greater perseverance (Kanfer & Karoly, 1972). This concept of self-efficacy shows a close resemblance to Ajzen's (1985) output variable of controllability of the environment, which postulates that an individual's belief in his or her capacity to

influence the context and the conditions in which learning is situated enhances his/her personal relationship with the environment and promotes the development of a positive self-image. When individuals feel connected to their environment and have strong self-efficacy beliefs, the process of behaviour change is more likely to occur thanks to the acquisition of self-confidence, self-esteem, and motivation (Ajzen & Fishbein, 2000).

According to Butler (2018), early ages are the best time to develop SRL, as it would assist children in developing self-discipline, good judgment, and a sense of responsibility while teaching them how to set goals and make wise decisions. Likewise, Carlson et al. (2013) place particular emphasis on providing early support for individual children and developing their SRL and self-esteem, which would enable them to face challenges and find their way in a complex world. In line with these views, Schmitt et al. (2015) argued that bilingual learners seem to have better SRL than monolingual learners as they master important developmental milestones more quickly. Zimmerman (2008) also pointed out that SRL is a crucial tool for academic success as it is one of the most significant affective factors that help learners achieve a lasting learning success. Thus, some researchers have examined learners' SRL in ELT, including its relation to academic achievement and speaking skills development. Others have focused on the implementation of MOOCs and flipped learning regarding EFL students' SRL and academic achievement in an online setting, which is within the scope of the present study. The next section, therefore, provides more detailed information about SRL in online learning environment.

2.3.2 SRL in online learning environment. The COVID-19 pandemic has made an enormous contribution to the transition from traditional to online, self-guided, blended, and remote forms of learning (Greenhow et al., 2022). Therefore, the general move toward online learning is progressively replacing traditional practices, making it an increasingly prevalent form of learning worldwide (Johnson et al., 2020). One of the major problems associated with online learning, however, is the need for greater self-regulation on the part of learners, given the absence, not timely appearance, or less active role of the instructor than it would be needed in the case of a traditional learning environment (Sun et al., 2017; Tuckman, 2007).

Due to its structural connection with online learning, SRL in online learning environment is gaining increasing importance and making long-term changes in education, especially in higher education (Cao et al., 2022). Thus, there is a growing literature dedicated to gaining a better understanding of the interaction between the phenomena of online learning and SRL. A series of studies exploring the self-regulation of learners in an online learning environment within the literature are set out below.

In a study conducted by Yu et al. (2022), noticeable results have been found pointing to a strong relationship between the subjective perception of self-efficacy and SRL online learning contexts. The researchers found that the feeling of self-efficacy is a fundamental precondition for self-regulated learning in online settings. They reached the conclusion that the expectation of self-efficacy can make an essential contribution on the path to SRL in online learning environment, as it can largely determine the choice of alternative courses of action, the degree of effort and thereby indirectly the degree of success as well. A parallel study carried on by Lee and Choi (2011) on the reasons of high attrition rates in online lessons indicated that learners' lack of SRL was a significant determiner of their attrition. The researchers highlighted that lack of a personal commitment to achieve set goals and giving up too quickly, specifically in the face of resistance or setbacks, can be given as examples of personality traits that are linked to individuals with low levels of self-efficacy beliefs in online learning environments.

In another study by Ejubovic and Puska (2019), the development of SRL strategies, including the assessment of learner satisfaction and learner performance in online learning environments, was examined. The results showed that the satisfaction, motivation, and commitment of the learners were affected by the implementation of self-regulated learning strategies in online learning settings. Steinkamp (2018) also stressed that lack of self-organising, self-monitoring and prioritizing skills might significantly undermine the efficient use of online learning, which could thereby cause the dropout rate to be around seven times higher in online courses when compared to the classroom settings (Christensen & Spackman, 2017). Therefore, the implementation of SRL strategies, with the concurrence of metacognitive,

motivational, behavioural, actional and cognitive processes (Zimmerman, 2008) is extremely important to achieve greater success in online learning environments (Chen, 2002; Zimmerman, 1990). It is equally important also to provide learners with adequate training for the successful implementation of the appropriate SRL strategies, as it might not be helpful enough to expect them to implement the appropriate SRL strategies without first guiding them in their learning and helping them cope with the variety of challenges they might be faced with during their learning process (Barnard-Brak et al., 2010).

A study by Kondo et al. (2012) specifically focused on two student groups in higher education with different self-regulation systems, with one group classified as minimal self-regulators, while the second group was categorized as competent self-regulators. The results indicated that minimal self-regulators needed some assistance in the proper use and adoption of SRL strategies, while competent self-regulators were successful in adopting and effectively implementing them according to the diverse needs of the online learning environment. In a similar study carried out by Azevedo and Cromley (2004), the researchers found, as might be expected, that the group which was given training in SRL strategies performed better than the group which received no training in terms of mental processes.

Moreover, some studies have been conducted regarding pre-service teachers' self-regulated learning competency (Lu & Wang, 2022; Michalsky, 2014), self-regulated online learning perceptions (Özdemir & Önal, 2021), their SRL skills in terms of gender, class and grade level (Güneş, 2023; Orakcı & Durnali, 2022), their conception of online learning and its association with SRL skills (Tarchi et al., 2022), the relationship between their creative thinking skills and self-regulated learning (Zakiah & Fajriadi, 2020), their professional development on assessment for learning and its effect on pre-service teacher's self-regulated learning (Yigletu et al., 2023)

Similarly, some researchers have tried to examine student' SRL in ELT and EFL in relation to their speaking skills development (Derakhshan & Fathi, 2024; Oxford, 2016; Ozdemir & Papi, 2022; Sun, 2022; Uztosun 2021). For instance, Aregu (2013) found that the SRL use in EFL contexts could improve students' self-efficacy and productive skill of speaking. Derakhshan and Fathi (2024) and El-Sakka (2016) also

found that EFL learners' speaking performance could be significantly improved through SRL strategies. In light of this, due regard needs to be paid to the interrelation between SRL and speaking in regard to the SRL use by EFL learners, which will be explained in detail in the following sections. The next section, however, provides more detailed information about L2 speaking instruction.

2.4 Second Language (L2) Speaking Instruction

Speaking is the most important skill in both first and foreign languages in an increasingly globalized world (Salem, 2013). It offers several personal benefits, ranging from the experience of travelling abroad to the sense of achievement (Isaacs, 2016). Similarly, developing the ability to speak can enrich one's social life, leisure time, economic status, and living conditions (Fauzan, 2014). It can also broaden one's horizon and provide job opportunities, which makes it a source of motivation for most learners of foreign languages (Abugohar et al., 2019). Likewise, Leong and Ahmadi (2017) argue that the key determinant of success in foreign language learning lay in speaking it fluently, as translating a text and speaking a foreign language are not equivalent skills. Therefore, a complete mastery of a foreign language means speaking it fluently on a broad range of topics and conducting normal conversations with speakers of that language spontaneously and clearly (Dalton-Puffer, 2006).

On the other hand, speaking is complex and difficult to maintain because it involves a combination of many linguistic and non-linguistic features such as social, cultural, psychological elements as well as phonetic, prosodic, and morphological features based on syntax, semantics, and the culturally differing pragmatics of discourse (Sayed, 2005). These are all decisive factors that contribute to the overall success of a verbal interaction between parties, because one can understand the real meaning of utterances only through pragmatics, which goes beyond what is said by the mere words by focusing on the functioning of speaking in context (Dinçer & Yeşilyurt, 2013).

Despite the high value language educators place on speaking, L2 speaking instruction has been a challenging process due to the need to address various linguistic and psychological factors, such as pronunciation, grammar, vocabulary, and learners' confidence and anxiety levels. As a result, many language learners struggle to express

themselves clearly when speaking in the target language (Horwitz, 2009; Leong & Ahmadi, 2017). Therefore, L2 speaking is a skill that requires not only linguistic but also sociolinguistic competence. This leads us to another facet of speaking, which is called communicative competence.

The term ‘communicative competence’ was first coined by Hymes (1972) and defined as the ability to produce utterances that are linguistically correct, culturally appropriate, socially acceptable, and contextually relevant. The notion was further developed by Canale and Swain (1980), who identified its four main components as linguistic competence, sociolinguistic competence, strategic competence, and discourse competence.

Linguistic competence is about an adequate and sufficient mastery of the vocabulary and structure of the target language, while *sociolinguistic competence* refers to the ability to interact socially with those from different cultural backgrounds in the context of a diverse society (Shumin, 1997). It also refers to the ability to handle conflict situations and maintain peaceful discussions with others despite differences of opinions. *Strategic competence*, on the other hand, is identified as the ability to use all components of complex human communication such as language, gestures, facial expressions, context, behaviour, and accompanying activities to eliminate communication breakdowns arising from cultural differences or gaps in knowledge (Bailey, 2004). Lastly, *discourse competence* is about forming new words and putting them together into coherent messages in simple language (Goh & Burns, 2012). Namely, it refers to the ability to provide clear messages that can be made to work together as a coherent whole.

Considering all these components of communicative competence, Richards (2008) identifies the core pedagogical and linguistic skills which he finds necessary for today's language teachers. Arguing that communication should form the basis for language teaching, he proposes a framework for language teachers to maximise the opportunities for L2 speaking, which is based on the basic functions of speaking. These functions can be used for different purposes in various social contexts to engage in common daily activities. They may vary from expressing opinions, information, and key points of an argument, through aiding in the form of recommendations, making

presentations, undertaking public speaking, to responding quickly to the needs of an audience and their reactions with skill and confidence. These functions are talk as interaction, talk as transaction, and talk as performance (Brown & Yule, 1999).

Talk as interaction refers to the ability to initiate, maintain and end a conversation. The primary intention in talk as interaction is to establish social bonds and sustain interpersonal connections (Thornbury, 2005). The focus, in interactional conversations, is more on the speakers' social integration and their performance than on the message itself, namely this function of speaking attaches greater importance to the further development of interpersonal and social skills rather than to the linguistic utterances (Nunan, 2003). Some skills regarding talk as interaction are, for example, introducing yourself in a conversation, talking about the latest gossip, reacting to the actions of others, asking and answering questions on everyday topics, formulating and justifying opinions, joking about things to break the ice and to form a positive climate, choosing appropriate topics and switching them when needed, talking about yourself and your life, and interrupting or taking over a conversation (Richards, 2008).

Talk as transaction, in contrast to talk as interaction, is not about taking part in discussions, devoting more time to social interaction, or maintaining good relationships with others. Rather, the primary focus in talk as transaction is to make sure that the necessary information is provided, and the message is put across simply and clearly (Brown & Yule, 1999). Some qualifications and skills required for this type of spoken language are: describing complex problems, developing a complex argument, making comparisons between competing companies or products, explaining a piece of work, providing information about the needs of a patient, clarifying any ambiguities, checking understanding, defining next steps, asking questions and making comments, giving advice and making suggestions, asking for repetition, checking in and out of a hotel, making sure that your message is understood properly (Richards, 2008). The main concern here is not about ensuring good interaction and coordination between interlocutors. Rather, it is about conveying a message in a clear and accurate way as close as possible to the point of relevance.

Talk as performance, lastly, refers to situations where the speaker faces challenges such as giving a public speech, addressing a wide, mixed audience, or making an

important presentation at work. Communication happens mostly in one direction only, which means there is no dialog but a monologue. Exhibiting strong interpersonal skills, addressing the target audience specifically and appropriately, demonstrating a good understanding and knowledge of good presentation skills before a group of people, including the methods and techniques that are appropriate to specific situations, are the main objectives of this kind of speech performances (Harmer, 2007). Therefore, it is essential to focus not only on communication goals and the target audience but also on message formulation and document delivery, as this type of speech often follows patterns closer to written language rather than spoken language (Brown & lee, 2015). Providing information in a specified sequence, seeking a process of engagement with the audience, communicating the concepts and content of the message to the chosen audience, using an appropriate format and effective communication strategies, drawing the attention of the audience, using appropriate opening and closing remarks, using good pronunciation, an appropriate accent, precise grammar, and appropriate vocabulary are some of the skills required for this type of spoken language (Richards, 2008).

In parallel with communicative competence and the functions of speaking, it is also vital for language learners to maintain their present speaking skills and improve their confidence and fluency in speaking by developing communication strategies, which are explained in detail below.

2.4.1 Communication strategies. Communication strategies are often used as a means of addressing communication problems. They have three main components which need to be combined and used selectively to speak a foreign language fluently and to produce speech easily (Thornbury, 2005). These components are cognitive, metacognitive, and interactional strategies. Cognitive strategies help to compensate for learners' lack of foreign language knowledge through techniques such as approximation, word-coinage, restructuring, literal translation, code switching, and mumbling (Burns, 2019). Metacognitive strategies involve planning what to say, how to react accordingly to what others have said, what action to take, and how to implement that action, e. g. to complain, to ask for help and advice, or to deal with

conflict (Meng, 2009). Interactional strategies, on the other hand, are coping strategies used to fix communication breakdowns by giving or requesting an example, checking comprehension, asking the interlocutor to elaborate on a comment, asking for confirmation, reformulating, guessing, rephrasing, and expressing nonunderstanding (Goh & Burns, 2012). As they have been the focus of extensive research, the approaches taken by researchers to study communication strategies have varied based on the researchers' overall perspective on language analysis. This diversity is also evident in the various definitions and classifications of communication strategies. Table 1 below shows one of such taxonomies developed by Dörnyei and Scott (1997).

Table 1

Taxonomies of Communication Strategies

Direct Strategies	Interactional Strategies	Indirect Strategies
<i>Resource deficit-related strategies</i>	<i>Resource deficit-related strategies</i>	<i>Processing time pressure-related strategies</i>
Message abandonment	Appeals for help	Use of fillers
Message reduction	<i>Own-performance problem-related strategies</i>	Repetitions
Message replacement	Comprehension check	<i>Own-performance problem-related strategies</i>
Circumlocution	Own-accuracy check	Verbal strategy markers
Approximation	<i>Other-performance problem-related strategies</i>	<i>Other-performance problem-related strategies</i>
Use of all-purpose words	Asking for repetition	Feigning understanding
Word-coinage	Asking for clarification	
Restructuring	Asking for confirmation	
Literal translation	Guessing	
Foreignizing	Expressing nonunderstanding	
Code switching	Interpretive summary	
Use of similar sounding words	Responses	
Mumbling		
Omission		
Retrieval		
Mime		
<i>Own-performance problem-related strategies</i>		
Self-rephrasing		
Self-repair		
<i>Other-performance problem-related strategies</i>		
Other-repair		

Source: Dörnyei & Scott (1997)

As seen in in Table 1, the researchers conceptualized three main classes of communication strategies (direct, indirect, and interactional) based on manner of

problem-management; that is, how communication strategies help resolve conflicts and promote understanding by serving as facilitators in communication between individuals.

Hence, the variations in language views overall have revealed certain methodological differences in the field of ELT, promoting the development and implementation of new methods and modern alternative approaches to teaching and learning L2 speaking skills. These new trends will be explained in detail in the following section.

2.4.2 New trends in L2 speaking instruction. Since the emergence of the Communicative Language Teaching (CLT), which can be traced back to the late 1960s, there has been a gradual shift from traditional teacher-centered language instruction to approaches that accommodate for learners' needs and expectations, namely student-centered language instruction (Richards and Rodgers, 2001). CLT assumes, in the case of L2 acquisition, that the educational goal should be to increase the capacity for communicative actions, therefore focusing on language acquisition through communication, wherein learning and the acquisition of communicative language competence are conceptualised from the learners' perspectives (Nunan, 2003). Likewise, as it focuses on language acquisition through communication, competency in CLT is expressed by learners' ability to deal constructively with communicative situations (Horwitz, 2009). Thus, with its emphasis on effective communicative ability, CLT has some characteristics that are distinct from traditional teacher-centred lessons and lectures.

In communicative classrooms, for instance, the focus is not on grammatical or linguistic competence only, as grammatical structure does not make the exact meaning reasonably clear (Brown, 2007). Therefore, learners are expected to free themselves from all the barriers to authentic communication. As a consequence, language techniques are designed to engage learners in spoken interaction according to criteria such as authentic and functional use of language for conversational strategies and meaningful aims (Burns, 2019). In communicative classrooms, hence, the educational environment has been shifting from a primarily teacher-centred, structured

communication activities towards participative and student-centred instruction (Richards & Rodgers, 2001). Accordingly, the move from impersonal and rule-centred practices to real-life conversation practices has gained more momentum and has been supported by emerging technological trends recently. Certain new trends in teaching and learning L2 speaking skills are task-based language teaching, personalized learning, intercultural communication, community-based language teaching, and technology integration (Hinkel, 2022).

Task-based language teaching has been gaining significance in ELT since the 2000s (Wang, 2007). It has been listed as a preferred pedagogy as it focuses on real-life activities and problem-solving tasks to develop speaking skills (Bui & Tai, 2022). It aims to nurture L2 learners' real-world communicative competence by directing their attention to the fulfilment of a task, which serves as a strong motivational tool to achieve a proposed goal (Brown, 2007). It also gives students the responsibility for self and others in achieving the outcomes, thereby allowing for an integrated response and shared responsibility for a specific outcome (Richards, 2008).

Personalized learning, another fast-growing language education approach, has also been receiving increasing attention over the past decade (Ekoç, 2022). It adjusts instruction to suit the specific preferences and needs of the individual, using data-driven approaches and learner autonomy (Raj & Renumol, 2022). As the traditional educational landscape is being replaced by more modern and efficient techniques, personalized learning is getting more comprehensive with the advancements in Artificial Intelligence (AI) technology, gradually leading to a more individualized approach to education and learning (Dorca et al., 2017). L2 learners can perceive a great improvement in their L2 speaking fluency thanks to their personalized learning experiences with the help of AI technologies (Chen, 2022).

Intercultural communication, a concurrent development in the field of language education, draws on the sociocultural paradigm (Neuner, 1997). Intercultural communication is also gaining great attention and being accepted with much enthusiasm by EFL teachers, students and researchers due to its potential to promote social inclusion in the L2 classrooms (Hirbu, 2022). It fosters the development of intercultural competence through social activities by encouraging the inclusion and

participation in discussion and learning activities of students in the classroom (Lehman, 2017). The teacher creates an environment in which the notions of intercultural communication competence can be exercised by fostering communicative activities such as whole-class discussion, group or pair work, problem-solving tasks, oral presentations, information transfer activities, songs, plays, describing pictures, conversations, and games (Dimitrov & Deardorff, 2023). Intercultural communication empowers relationships in the classroom, maintains solidarity at school, and even contribute to the enrichment of life and development of social skills through speaking activities that involve communication with native speakers of the target language (Romijn et al., 2021).

Community-based language learning, another innovative, pragmatic, practical and straightforward language education approach, focuses on the use of L2 in real-world contexts (Cope & Kalantzis, 2011). The content of the community-based language classes is for the most part practice-oriented and typically these courses are offered free-of-charge, commonly by volunteer instructors, to participants in community settings such as community centres, schools, or libraries (Shufflebarger, 2022). In these language learning contexts, participants are encouraged to actively participate in discussions to develop their L2 speaking skills (Arabaci Atlamaz, 2022).

Technology integration refers to the use of the technology such as language learning apps, internet-accessible devices, virtual reality, computer programs, and video conferencing to provide students with opportunities to practice speaking in authentic environments (Park & Son, 2022). Recent technological advancements and the current focus on informal language learning have also had a positive impact on the quality of teaching and learning as the mobility of international L2 learners has led to the introduction of new communication strategies, more authentic materials, and exchange of good practices and learning experiences (Kusuma, 2022). For instance, YouTube is used as a means of submitting speaking videos for assessment and classroom management purposes (Sun & Yang, 2015). Instead of emailing them directly to the teacher, students submit them on YouTube, recommending and commenting on them online. Thus, with its all features and benefits, technology-based instruction provides a learning environment that enables learners to further practice

their language skills and promote the transfer of these new skills (Chun et al., 2016).

MOOCs, as an emerging technology, can offer many educational opportunities to L2 learners by providing them with some affordances to overcome the limited classroom time available for engaging as a group with the learning content and practicing speaking skills (Çakmak, 2022). However, the interrelation between SRL and L2 speaking needs to be examined before providing a comprehensive picture of different aspects of MOOC-based learning. Therefore, the interrelation between SRL and L2 speaking will be the focus of the following section.

2.4.3 The interrelation between SRL and L2 speaking. Extensive research has been conducted recently to evaluate the role of SRL in L2 speaking development. For instance, in her study, El-Sakka (2016) confirms the assumption that the training of SRL strategies can generate positive effects on the EFL learners' L2 speaking proficiency and decline their L2 speaking anxiety. Similarly, Tavallali and Marzban (2014) indicate that the knowledge of using the SRL behaviors help learners improve their L2 speaking performance. Mahmoodi and Karampour (2019) also found a positive significant correlation between L2 learners' speaking performance and metacognitive self-regulation. Likewise, Ahmadpour et al. (2022) underscored the crucial role of the SRL strategies in the development of L2 learners' confidence and self-esteem as well as their speaking skills.

Regarding L2 speaking, Alotumi (2021) points out the importance of EFL students' ability to self-regulate their affective responses and its positive impact on their engagement in speaking tasks. Nugroho et al. (2021) also indicate that emotional regulation and good habits are basic requirements for L2 learners to improve their speaking ability. Accordingly, motivational regulation strategies, problems with affect regulation, classroom environment, students' self-confidence, their needs and aspirations are among the factors which should be taken into account by teachers when designing classroom tasks to improve their students' speaking ability (Uztosun, 2020). Hence, some researchers have examined EFL learners' SRL and their L2 speaking skills development. Others have focused on their motivational regulation strategies and communication skills in an online setting, which is within the scope of the current

study. The following section, therefore, provides more detailed information about L2 speaking in online learning.

2.4.4 L2 speaking in online learning environment. Studies exploring L2 speaking in online learning environments have revealed that it is advisable to provide students with some creative content to stimulate motivation and interest, as virtual environments can pose additional challenges and constraints in terms of adaptation (Russell, 2018). Accordingly, Yaşar and Atay (2022) argue that online learners need to be ready to break out of their comfort zone and become more independent learners if they are to deal with problems such as lack of self-efficacy, low self-control, low self-esteem, low self-confidence, and negative sense of the technological tools.

False beliefs such as wanting to prove oneself, to always be right, not wanting to be caught making mistakes, or the anxiety some learners have for loss of face, restrain online learners from practising speaking in a foreign language and learning correct pronunciation; for example, some learners might falsely think that they should refrain from speaking in the target language until they learn to speak and communicate effectively in a foreign language (Horwitz, 1988). Hence, fear of making mistakes would lead to more mistakes among L2 learners (Russell, 2020). As a result, fear of making mistakes can be considered among the most anxiety-provoking factors in the online learning environment (Chametzky, 2013).

In parallel with this, peer criticism, strict formal learning settings and lack of immediate feedback from instructors may result in students' developing more negative attitudes about themselves and their learning experience. In this regard, Goertler (2011) recommend that instructors should assist learners in using the online instructional technologies, exploring their potentials, becoming more autonomous learners, and engaging in independent learning, because most learners get overwhelmed if they don't receive the help they need from their teachers. Hence, empowerment for self-regulated learning is an absolute precondition for successful online learning (Yaşar & Atay, 2023).

Pichette (2009) also found that using debate techniques during online EFL instruction can solve problems concerning speaking a foreign language, as online

debating has a statistically significant effect in diminishing online EFL students' L2 speaking anxiety levels. Yaşar and Atay (2022) also indicate that online debating offers additional benefits such as the development of a positive mindset towards making mistakes, the feeling of solidarity, effective collaboration, lower levels of stress, and the development of favorable attitudes towards L2 speaking in virtual settings. The researchers also recommend that shy students' camera off preferences should be tolerated, and their self-reflection on their own performances should be ensured so that they can identify their weaknesses and strengths, thereby redefining their L2 communication strategies. The researchers finally suggest that organising asynchronous lessons in addition to synchronous online sessions might decrease the feeling of pressure especially among shy students and enable them to exercise some control over their social interactions in case of appearing incompetent speakers in the eyes of their instructors and peers.

Some blended learning models in higher education have been developed around MOOCs, which have been used less as a replacement and more as an addition to the traditionally taught courses (Swinnerton et al., 2017). As a result, there is a growing interest for exploring how MOOCs can be used effectively to enhance flipped learning among higher education students (Wang & Zhu, 2019). In view of this, the MOOC-based FC model will be described in more detail in the next sections. It would be helpful, however, to provide more information about the concept of flipped learning in the following section.

2.5 Flipped Learning (FL)

In 2007, two high school chemistry teachers, Jonathan Bergmann and Aaron Sams, developed a solution to address the issue of students missing classes due to sports events. This solution, known as 'flipped learning,' has since attracted the attention of a diverse range of research studies. It is remarkable to observe how this approach to education is capturing the imagination of researchers who recognize its potential to revolutionize the way we learn (Merrill, 2015).

As a recent instructional approach, flipped learning empowers teachers to design pre-class study materials, freeing up valuable face-to-face time for interactive and collaborative activities (Amiryousefi, 2019). It allows students to consume learning

materials before class, so that valuable classroom time can be spent on practical, hands-on activities (Yaşar & Polat, 2021). In view of this, flipped learning aligns with the modern educational system's values of putting the student at the centre of the learning process (Kusuma, 2020).

Flipped learning is a type of blended learning that combines interactive methods to enhance the learning experience (Xinying, 2017). With the FC approach, students have access to e-learning materials outside the classroom, allowing them to learn at their own pace and with their preferred learning style (Yeo, 2018). The classroom serves as a place for discussions and collaborative projects. In traditional classes, however, students rely solely on classroom teaching sessions and teachers for their learning materials and support (Tucker, 2012).

Furthermore, with the integration of technology, the FC model has evolved to become more interactive and dynamic than ever before, providing students with the tools they need to succeed in the digital age (Hung, 2017). The adoption of technology has also ushered in a new era of learning, where students are no longer passive recipients of knowledge but active participants in their own learning journey (Bishop & Verleger, 2013). Likewise, with the evolution of the FC approach, a more collaborative and engaging learning environment has been created for students that encourages active participation and fosters critical thinking (Overmyer, 2012).

Today, with the integration of MOOCs, the flipped classroom approach has transformed into a technology-based instructional method, empowering students to take control of their own learning (Wang et al., 2022). Although a relatively new phenomenon in higher education, the MOOC-based FC model combines the traditional face-to-face classroom with online and in-person learning components (Jitpaisarnwattana et al., 2019). By integrating MOOCs into the learning experience, this approach revolutionizes the traditional classroom approach and creates a more engaging and innovative learning environment (Yaşar & Polat, 2021).

In this study, whether the implementation of self-made videos as a pre-class activity in a MOOC-based FC model can promote pre-service ELT teachers' SRL, speaking performance and course achievement is explored, so it would be beneficial to include additional details about the MOOC-based FC model in the following

section.

2.6 MOOC-based Flipped Classroom (FC)

The MOOC-based Flipped Classroom (FC) model is a form of blended learning, which combines flipped learning practices with MOOCs (O’Flaherty & Phillips, 2015). It merges traditional classroom instruction with e-learning coursework, offering learners access to high-quality online resources as well as supporting learning at their own pace (Hoffman, 2014). The literature on this educational model suggests that it has several benefits, including increased student engagement in learning activities, improved critical thinking skills, problem solving, creativity, teamwork, better retention of course content, and intercultural and communication skills (Hung, 2017).

Moreover, studies have shown that the MOOC-based FC model can contribute to the development of more student-centred learning and better academic achievement when compared to traditional classroom teaching methods (Wang & Zhu, 2019). Rather than relying solely on instructor-led content, the classroom training sessions are supplemented by easily accessible online learning materials that are already available on a MOOC (Glance et al., 2013). This reduces the workload on instructors, as they merely need to review, validate and complete the information that has been imported from a MOOC, which can be used in class or by students at home (Yaşar & Atay, 2023).

Furthermore, the MOOC-based FC model is gaining increasing importance as it combines classroom instruction with practical training modules and course materials provided on MOOCs, enabling the exploration of varied perspectives and materials (Yaşar, 2020). However, as Yaşar and Polat (2021) point out, the integration of MOOCs in a FC requires the consideration of a multitude of factors in cooperation with the students, including careful planning, implementation, monitoring, evaluation, student motivation and engagement.

Furthermore, MOOCs typically demand a significant level of autonomy from learners in managing their own learning process (Allen & Seaman, 2016). Self-regulating their learning, however, is often a challenging task for MOOC learners (Jansen et al., 2020). As one of the aims of this study is to investigate the effectiveness of self-made videos as a pre-class activity on pre-service ELT teachers’ self-regulation

in online learning, there is a need to further investigate MOOC learners' SRL strategies. Therefore, SRL strategies of learners in MOOC environments are to be further described in the following section.

2.7 SRL Strategies in MOOCs

SRL theorists often argue that SRL comprises meta-cognition, behaviour, and motivation (Pintrich, 2000). Referring to them as the behavioural elements of the SRL theory, Zimmerman (1989) noted that SRL strategies are “actions and processes directed at acquiring information or skill that involve agency, purpose, and instrumentality perceptions by learners” (p. 329). Hence, various SRL strategies such as meta-cognitive activities, goal setting, task strategy, persistence, self-evaluation, help-seeking, perceived effectiveness, environment structuring, and time management were identified as determinants of SRL (Lee et al., 2020). In this regard, students who struggle with implementing SRL strategies are experiencing challenges in regulating their own learning, thereby reducing their overall success in MOOCs (Gan et al., 2022).

Similarly, previous research found that the inability to perform SRL strategies can cause reduction in learning satisfaction, decreased creativity, lowered motivation, and quick and prolonged tiredness among MOOC learners (Reparaz et al., 2020). Previous research findings also suggested that SRL strategies significantly predicted student satisfaction and perceived effectiveness in MOOC environments (Gan et al., 2022). However, this research findings are limited to fully online MOOC settings. Therefore, there is a need to further examine the effects of SRL strategies in a MOOC-based FC model, which is within the scope of the present study.

In addition, as MOOC learners often find it difficult to engage in self-regulated learning, an intervention is implemented in the present study. The intervention consists of participants' self-made videos as a pre-class activity to improve their self-regulation in a MOOC-based FC model. Therefore, it would be helpful to present studies conducted on self-made videos.

2.8 Studies on Self-made Videos

The use of video-making has become prevalent in EFL classrooms, as evidenced

by several studies in the literature (Naqvi & Al Mahrooqi, 2016; Sun & Yang, 2013; Yeh, 2018). For instance, Sun and Yang (2013) explored the impact of student-generated videos on 14 EFL undergraduate students' oral communication skills. The researchers found that student-produced videos improved students' oral communication skills and confidence in public speaking. Likewise, Naqvi and Al Mahrooqi (2016) carried out a student-centred digital video-making project in EFL classrooms to examine its effects on 58 EFL undergraduate students' language development, research and analytical skills. The results showed that student-produced videos enhanced their analytical skills and research capacities, as well as their speaking, vocabulary and writing skills. In a similar vein, Yeh (2018) conducted a study with 72 EFL undergraduate students, which investigated the effects of multimodal video-making on their multi-literacy development. The results revealed an improvement in their translation, vocabulary, speaking, and writing skills.

According to Shih (2010), video-based learning is an effective tool for improving speaking skills in blended learning. In his study, the researcher found that students' self-made videos were instrumental in helping them improve their speaking skills as well as their knowledge of specific elements of the language, such as facial expression, articulation, posture, and gestures. Encalada and Sarmiento (2019) also found in their study that self-made videos provide opportunities for learners to practice theories and knowledge gained in the classroom. They highlight that self-recording videos help students assess their own didactic competences and encourage them to practice speaking English without anxiety through improvisation. This supports the statement of Shofatunnisa et al. (2021) that using technology helps students improve their ability to speak, understand grammatical structures, and use them in conversation. Similarly, Sun and Yang (2015) reported that self-made video tasks enabled EFL learners to monitor their progress and develop their learning processes and strategies.

A study conducted at department of English language education at a university in Aceh by Mazrida (2019) found that imitating a native speaker's manner of pronunciation in self-made videos greatly supported students in learning pronunciation and motivated them in their English language learning. The participants who were required to generate three self-made videos in three weeks range by imitating a native

speaker's audio supported the effectiveness of this approach. According to Ahmadi (2018), making self-made videos allows EFL learners to practice their target language with less anxiety as they can rehearse, make any necessary adjustments, and record outside of the classroom.

In another study on cultural representations of Germany that are included in self-produced autobiographical documentary films, Cremona (2023) conducted the analysis of the student self-made documentary films made by adolescents learning German as a foreign language (GFL) in Germany compared to those learning German in Malta. The comparison revealed a lack of critical cultural awareness in the Maltese GFL learning context. The results, however, indicated that self-produced autobiographical documentary films could enhance critical cultural awareness in the GFL learning contexts based on the insights obtained from the content of the self-made films.

Another study was carried out by van Wyk and van Reyneveld (2021), reporting on students' self-generated videos and their experiences of using videos as a learning tool at a South African university. The students made videos of lectures as part of their learning material and later reflected on the course content to learn new information or skills. They constructed their own meaning from generating videos before attending classes. Hinting at the power of student-generated videos in achieving deeper learning, the participants reported that self-made videos enabled them to form a clear picture of the subject-matter in their mind as they displayed their knowledge or skill, watched, reflected on and integrated the course content into their videos.

Azis et al. (2022) investigated the impact of students' self-videos on their ability to comprehend the concept of function. It involved 40 students studying Mathematics Education at Universitas Muhammadiyah Sumatera Utara. The participants were divided into two groups, where one group received standard practical teaching and the other group was given the task of carrying out a self-video task with strategic reflection on performance upon instruction. An objective structured examination was utilized to assess the students' conceptual understanding. The results revealed that the use of self-video task as a supplement to teaching resulted in significantly higher scores for students in their examination. The researchers concluded that the use of student self-

video tasks in addition to regular teaching leads to greater skill acquisition compared to regular teaching alone.

According to Weinstein (2006), video-making can assist students in documenting their language learning progress and the different functions they can perform with language. Gareis (2000) referred to video-making as an ideal method to integrate skills practice with a focus on accuracy, authentic communication, and process-oriented group activities, with a high level of student involvement that is difficult to achieve through other media.

In another study, Rebong (2022) examined whether self-made videos would enhance Junior High School students' academic achievements and improve their learning motivation at San Francisco Integrated National High School than the Traditional Powerpoint Presentation. Results indicated that self-made videos make a significant difference and improves learners' learning in science. The results suggest that students can make the most of what they have learned through video clips and cover all of the key points in the teaching materials, thereby mastering all of the key points covered in each phase of the learning process.

Similarly, several studies have endorsed the use of multimodal resources such as video-making (Freyn & Gross, 2017; Hsu, 2014) to promote metacognitive skills (Kim, 2019), learner autonomy (Rochmahwati, 2015), and language proficiency (Larsen-Walker, 2020) among students. During self-video generation process, students cognitively engage in seeking information and synthesizing knowledge, which enables 'a self-structured and self-motivated process of knowledge construction', wherein a learner is positioned as 'a self-governed creator of knowledge' (Rüschhoff & Ritter, 2001, p. 231). Therefore, many researchers support video-making as an effective pedagogy to promote language learning, idea expression, autonomy, and engagement (Ho, 2011; Meyer & Forester, 2015; Yang & Yeh, 2021).

A study conducted by Nagy et al. (2020) examined the effectiveness of video-based methods among primary school children. The results showed that despite not being the best option, the video-based training based on self-instruction proved to be popular with young learners as it provided them with different and non-conventional ways of learning, improving their theoretical knowledge and self-efficacy.

Furthermore, regarding the development of thinking skills into higher levels, Haryanti (2019) noted that for language learning the process of making a video would help language learners to be more creative, independent, and responsible. The act of presenting their knowledge construction products to others beyond the classroom inspires additional motivation and autonomy among students (Meyer & Forester, 2015). By figuring out how to transfer their knowledge into practical applications, students become active decision-makers and disseminators of knowledge, rather than passive recipients (Yang & Yeh, 2021).

In his research study conducted with sixty-eight German high school students, Barton (2019) also reported that self-made videos are an effective way to foster students' self-regulation of emotions, resulting in procedural autonomy support, where students can choose and handle their own experimental materials, and cognitive autonomy support, where students may find multiple solutions to their problems through the re-evaluation of their errors.

These findings suggest that video-making can be an effective tool for teaching and learning language skills in EFL classrooms. Besides, they indicate that engaging in video production can support the development of students' language skills. The findings also demonstrate that self-made videos can support the development of students' self-regulated learning and help them regain a sense of achievement and self-confidence. Research and analysis of the MOOC integrated FC model will be presented below based on recent scientific research.

2.9 Studies on MOOC-based Flipped Classroom Model

A rich variety of studies investigating the effects of MOOC and flipped instructions on learning certain English language skills and subskills, such as reading, writing, speaking skills, vocabulary, learning management, learning model, self-regulation, and self-efficacy have been found in the literature (Ahmed et al., 2022; Castro et al., 2022; Gimeno-Sanz, 2023; Huang et al., 2022; Liu et al., 2022; Niu & Gao, 2022; Wu & Sun, 2022; Zhang, 2022). Similarly, a series of studies on the various aspects of the MOOC-integrated FC approach show that this model is increasingly intended to combine theoretical knowledge and practice, thereby enhancing the development of practical skills, self-regulation and creativity among learners (Pérez-

Sanagustín et al., 2021; Qian et al., 2022; Thongkoo & Daungcharone, 2022; Wang et al., 2022; Wang & Zhu, 2019; Wu & Luo, 2022).

In their study where they compared the academic performance of 335 students in the 19th grade who used MOOC resources in a flipped classroom setting with the academic performance of 354 students in the 18th grade who received instruction through a traditional teaching model, Liu et al. (2022) found that the teaching mode of MOOC and flipped classroom had significant positive effects on the learning attitudes, resource settings, abilities, realization paths, and cognitive levels of the students. The researchers highlighted that MOOC and flipped classroom teaching model can be promoted as it is beneficial to the improvement of teaching effectiveness.

Similarly, based on their research findings, Wu and Sun (2022) noted that as a new teaching pattern, flipped classroom which is based on a MOOC focuses on practical applications rather than spending a lot of time on theory in the textbook. As learners complete the corresponding chapter on the MOOC before class, they are encouraged to attend and actively participate in the course interaction, ensuring the teaching effectiveness and the user-friendliness of teaching material in the educational environment. The researchers also highlight that teachers can monitor students' learning progress through statistical measurements on the MOOC.

Ahmed et al. (2022) also examined the effects of MOOC and flipped instruction on Iranian EFL learners' reading comprehension. The findings revealed that the MOOC-based FC model can be effective for learners who have limited exposure to authentic language in traditional classrooms. This research suggests that MOOC and flipped instruction can lead to better educational outcomes, while facilitating the exchange of learning content and enabling learners to monitor their own learning processes.

In another study, Wang & Zhu (2019) aimed to evaluate the effectiveness of MOOC-based flipped learning and provide guidelines for reusing MOOCs in traditional university education. Results indicated that students in the MOOC-based flipped classroom performed better on average than those in traditional classroom. However, no changes in self-efficacy and self-regulated learning were observed after the course. The research findings also suggested that most students had a positive

experience with the flipped classroom, citing benefits such as increased student interaction, access to learning materials, and active learning outcomes.

Huang et al. (2022) carried out a study to explore the use of social media tools to support student MOOC learning in a flipped classroom. They conducted a quasi-experimental study design, comparing the MOOC-based FC approach based on WeChat with the conventional MOOC-based FC approach. The findings suggest that although it did not significantly enhance student learning performance compared to the conventional MOOC-based FC approach, the use of WeChat in a MOOC-based FC approach led to better performance in terms of completing the obligatory exercises and watching the course videos before the class. Overall, the study highlights the potential benefits of integrating social media into MOOC-based FC learning.

Another study, piloting a flipped MOOC in an undergraduate online course on renewable energy, at several universities in Jordan was conducted by Castro et al. (2022). The researchers highlighted that flipped MOOCs provide a learning model that is convenient to learners at different levels of education. They also indicated that to keep up with technological advancements, higher education institutions should consider adapting their teaching methods and pedagogies to the evolving learner needs, using flipped MOOCs as they are interactive and engaging learning media for students and teachers. The researchers went on to say that since they bring about new collective behaviour patterns, flipped MOOCs can open innovative ways to pursue collaborative activities and help instructors to create opportunities to exchange information on their experience. They can also help learners create a learning culture and connect to profound sources of creativity.

In another study on the perceptions of both students and instructors about the incorporation of MOOCs in students' blended learning experience, Wu and Luo (2022) indicated that while the MOOC-based flipped learning engaged students in online discussions, it did not encourage them to actively participate in classroom discussions. They also noted that most of the students reported a richer learning experience and better understanding of the content, but only a lower percentage reported better academic achievement. Based on this, the researchers suggest that reducing in-class time and increasing online learning may better motivate and enhance learning. They

also recommend considering replacing at least one-third of normal face-to-face time with online learning based on the positive perceptions of blended learning by the students.

Wang et al. (2022) conducted a research study to investigate how learners perceive learning, cognitive, social, and teaching presences in MOOC-based flipped learning, aiming to identify characteristics related to the value and challenges of MOOC-based flipped learning. The study highlights the need for scaffolding in planning, group cohesion, design, and organization to improve the implementation of MOOC-based flipped learning. The researchers emphasized that providing scaffolding to enhance learner motivation could merge online and in-person learning and increase students' satisfaction with online participation, leading to improved use of MOOC learning in the context of the flipped classroom.

Pérez-Sanagustín et al. (2021) assessed the impact of a self-regulatory learning technological scaffold, which provides students with feedback on their activity in the MOOC, on student engagement and performance in a course that utilizes a MOOC-based Flipped Classroom approach. The results showed that the SRL scaffold improved students' time management and strategic planning, and positively correlated with their engagement with the course. While no significant differences were observed in the final grades between the experimental group and the control group, the SRL scaffold helped regular-performing students to engage more with the course content. The study suggests that the technological scaffold can improve students' accuracy in strategic planning and help maintain their activity in the MOOC.

In another study, Thongkoo and Daungcharone (2022) designed online learning activities for 40 university students, using active learning strategies in a flipped classroom model through MOOCs. The results indicated that many students were able to pass the tests and were satisfied with the learning environment. Using flipped classroom through MOOCs with an active learning approach was found to be effective in promoting efficient learning and encouraging critical thinking and participation both inside and outside the classroom. According to the research, the MOOC-integrated FC model allows learners to individualize their studies and encourages them to reflect on their newly learned information and skills, increasing their capability to work

independently and under their own responsibility.

Similarly, Zhang (2022) found, in his study at the School of Sports and Leisure at Chinese Sichuan Tourism University, that the use of MOOC-based FC promotes autonomous learning as it meets individual needs in a flexible manner. It also inspires enthusiasm for knowledge and learning through the easy-to-use collaboration in MOOCs, which improves learning and enables a richer academic environment overall. The researcher recommends promoting this teaching approach to more schools to enhance the quality of teaching.

Gimeno-Sanz (2023) examined the perceptions of learners of English for Specific Purposes (ESP) who experienced a flipped classroom practice, combining content delivery by means of a MOOC and in-depth classroom tuition through a Debate project. Surveys were administered before and after the online course and the Debate project to explore learners' expectations and perceptions. The results showed that the learners had high expectations and were positive about the autonomous online learning outside the class and the collaborative work with their team members in the class. The pre- and post-course surveys were largely aligned, suggesting that learner needs had been met.

Qian et al. (2022) conducted a study, using a flipped classroom based on MOOCs to predict learning achievement by big data analysis. The results of the study demonstrated that establishing a reporting system and fostering open communication so that learners can track their progress and development can improve students' self-regulation skills. Based on this, the researchers noted that as self-regulation involves setting and managing one's own goals, students who frequently use self-regulation strategies tend to perform better academically.

The MOOC-based FC had previously gained attention as an alternative option to numerous blended learning programs, resulting in several studies and scientific debates. The following are some highlighted examples of such earlier studies.

Bruff et al. (2013) experimented on a blended course design, experienced by students from Vanderbilt University. Overall, students reacted favourably to the MOOC blend, finding it to be useful because of its flexibility and accessibility. In general, they were satisfied with the blended approach of the MOOC and rated it

higher in satisfaction than the traditional courses, however they also recognized the need for self-motivation and determination to achieve their learning goals.

Griffiths et al. (2015) conducted a study comparing the use of MOOCs in blended learning programs with traditional face-to-face courses. Although no significant statistical difference was found between final scores, the blended-learning program was perceived to have a higher value of classroom instruction. MOOC users reported higher levels of satisfaction and achieved better learning outcomes, with added benefits such as exposure to different teaching styles, different points of view, improved teaching and learning processes, along with relevant, relatable, and sometimes controversial topics and improved social and critical analysis skills.

The study by Ghadiri et al. (2013) explored a blend of MOOC and on-campus learning at San José State University. Students watched MOOC video lectures individually and then met with specialists in class to discuss the concepts. The results showed a high success rate with 90% of participants passing the final exam, when compared with 55% in the traditional classroom of the past year, obviously showing a large degree of academic achievement. However, there were still some issues with lack of interaction and integration between the MOOC platform and the campus LMS, as well as the lack of interaction between students and the video content.

Yousef et al. (2015) identified several limitations of MOOCs, such as lack of effective assessment and feedback and absence of face-to-face interaction. However, their research study on a MOOC-integrated flipped classroom at Fayoum University revealed that integrating MOOC into the traditional courses can overcome these limitations. Participants in the study agreed on the benefits of MOOC integration.

The study by Song et al. (2015) found that using a MOOC-based FC model improved students' problem-solving, innovative thinking, independent study, and team cooperation skills in college English teaching in China, but effective monitoring methods should be implemented by instructors to ensure course success.

Israel (2015) conducted a review of blended MOOC models in traditional face-to-face settings to assess their impact on learning outcomes. The study found that the success rates of students in blended MOOCs in traditional classrooms were either equal to or slightly higher than those of students receiving traditional face-to-face

instruction alone, and MOOCs have the potential to provide high-quality e-content. However, the study identified challenges in integrating MOOCs into on-campus LMS and synchronizing them with traditional courses.

Xinying (2017) conducted a study with 800 students at Shenzhen University, investigating their perceptions of a MOOC embedded flipped classroom model in a Level-A college English Reading and Writing course. The results showed that participants highly valued the flipped model, which provided a good blend of web-based and face-to-face teaching, promoted collaborative learning skills and student-centered learning environments, and extended learning outside normal class hours, indicating convincing evidence in favour of the flipped model.

Orsini-Jones et al. (2017) conducted a study at Coventry University where a FutureLearn MOOC was integrated into the curriculum of the Master of Arts in ELT program. The study involved 12 self-selected participants who took part in an enhanced blend of face-to-face workshops, a virtual learning environment on Moodle, and the MOOC with thousands of participants globally. The MOOC was found to be an effective open educational addition to the Moodle, with participants indicating a positive view of the MOOC blend experience. While most students recommended that MOOCs should be made more broadly accessible and integrated into more modules, the large number of postings after each topic was reported as a negative aspect.

All in all, these findings suggest that the MOOC-based FC learning design has been found to be helpful in providing learners with various sorts of assistance, including the ability to reflect on one's own learning, choosing appropriate strategies for solving problems, stimulating self-awareness and achieving higher consciousness. The findings also indicate that the MOOC-based FC is beneficial for students' language learning as it promotes student engagement, motivation, self-confidence, a sense of achievement, and produces better learning outcomes. However, to provide a more comprehensive picture of additional aspects of the MOOC-based flipped learning, whether engaging in video production can support students' development of self-regulated learning and academic achievement and the interrelation between SRL and L2 speaking in a MOOC-based FC model should also be examined. Therefore, the investigation and the effect of self-made videos as a pre-class activity on the SRL, L2

speaking and course achievement levels of trainers using the MOOC-based FC Model in a freshmen year ELT undergraduate program are within the scope of the current study.



Chapter 3

Methodology

This chapter presents the outline of the research methodology, explains the reasons for the research design and the framing of the research questions, and

categorizes them with reference to the nature and administration process of the present research. Besides, it describes the setting, the participants, the sampling method, the data collection tools, the data analysis, and the data collection procedures. The chapter lastly provides detailed information about the MOOC, the pilot study, the implementation process, the pre- and post-testing phases as well as the reliability, validity, and limitations of the study.

3.1 Research Design

An explanatory sequential mixed-methods research design was used in the present study, involving two distinct phases conducted in a sequential manner. The initial quantitative phase starts with quantitative data collection and then follows up with the phase of qualitative data collection, thus combining the strengths of both quantitative measurement and qualitative exploration (Creswell, 2014). The strength of the explanatory sequential mixed-methods design lies in the fact that it provides a complete understanding of a research problem through these two separate phases that are built upon each other via different modes of analysis (Creswell, 2015). The analyses of the quantitative data were carried out to examine Research Question 1, 2 and 3, while the qualitative data were gathered and analysed to investigate Research Question 4 and further explain and interpret the quantitative data for Research Question 1.

The quantitative model adopted in the present study was a pretest-posttest quasi-experimental design, involving the administration of pre-tests, an intervention, and post-tests. The study was carried out in two class sections. To address the threat of researcher bias, the participants were assigned randomly into an experimental and a control group. Similarly, to deal with selection bias and to ensure there were no significant differences between the experimental group (implementing self-made videos) and the control group (not implementing self-made videos), tests and instruments were administered to both groups before treatment as pre-tests, because there were some irregular students and some students had failed the previous year and decided to retake the same course for the second time. After eight weeks of

intervention process was over, the same tests and instruments were administered to both groups as post-tests.

Mixed methods are useful, especially when some research questions are necessarily of quantitative nature, so that both approaches will complement each other (Dörnyei, 2007). In this regard, a mixed methods research design was used in this study to facilitate triangulation by analysing quantitative data with open questions. Table 2 below includes information on the design of the research study.

Table 2

Research Design of the Study

	Experimental Group	Control Group
Pre-tests	X	X
Treatment	X	
Post-tests	X	X
Semi-structured Interviews	X	
Focus Group Interview	X	

3.2 Setting and Participants

3.2.1 Setting. This study was conducted at a state university in Turkey. The accessible population consisted of pre-service English language teachers enrolled in the *Listening and Pronunciation I* course in the fall semester of 2022-2023 academic year. The population consisted of two cohorts of freshmen who were studying in the ELT program, which is responsible for training teachers of English in the Department of Foreign Languages Education (FLE) at the Faculty of Education. The participants were in either of the two sections of the said course, which included two classes that were selected and treated randomly as the experimental group and the control group. Being one of the obligatory courses in the first year of the ELT curriculum in Turkey, the *Listening and Pronunciation I* course covers the fundamentals of listening and phonetics such as segmental and suprasegmental features of English phonology, vowels, consonants, stress in words, macro and micro listening skills, speech organs, IPA symbols, the practice of phonetic alphabet, and strategies to develop listening

comprehension skills for learning and production purposes. The course is offered 2 hours a week for 14 weeks.

The medium of instruction in the ELT department requires students to meet English proficiency standards set by the Council of Higher Education (CoHE). To qualify for the program, students must provide a valid International English Proficiency exam score or achieve a score of 70 on the proficiency exam administered by the university's School of Foreign Languages. Those unable to meet these requirements must enroll in the English Preparatory Program, offered by the School of Foreign Languages, for a maximum of four semesters until they demonstrate the necessary qualifications to study in the ELT department. Students who cannot pass the proficiency exam within the allowed time frame are expelled from the institution.

The primary goal of the ELT program offered by the department of FLE is to train competent English language teachers by providing them with the necessary theoretical, practical, and field-specific knowledge. The program emphasizes the development of individual capabilities, independent learning and work, the use of a variety of teaching methods, practice-orientation, and personal learning competencies, as well as core competencies in communication, socialization, and specialization. Starting from the third semester, students begin taking field-specific courses (i.e., ELT Methodology, Curriculum Development, Approaches to ELT, Instructional Technologies and Material Design, Technology-Enhanced Language Teaching Materials Adaptation and Development, Testing in ELT, Teaching English to Young Learners, Teaching Language Skills), and from the sixth semester onwards, they gain practical experience by observing and teaching in real educational settings at practicum schools for a total of three semesters.

Moreover, the ELT program aims to provide students with the latest in equipment and up-to-date methods by fostering independent and responsible use of resources and technology. The program also promotes a critical use of technology in learning, helps students adapt to the latest developments in technology-based learning, and makes sure that they can benefit from a favourable environment in terms of infrastructures, services and content at all levels. The university's technologic services provide students with round-the-clock internet access, which is essential for the MOOC-based

FC model that requires both in-class and out-of-class activities, making it possible for students to engage in continuous learning.

Two classes, which were taking the compulsory *Listening and Pronunciation I* course, were selected from the context and randomly designated as the experimental and the control group. Both groups were instructed in a MOOC-based FC model. Together with their traditional face-to-face course, the participants in both groups also participated virtually in a MOOC which was offered by FutureLearn. The MOOC blend utilized in this study corresponds to the 'MOOC 3.0' or 'distributed flip' model, as defined by Sandeen (2013). In this model, the educational institution does not create the MOOC content itself; instead, it is sourced from an external network of suppliers and integrated into the core curriculum. The MOOC which was offered online via FutureLearn was *English Pronunciation in a Global World* (Futurelearn, 2023).

The content of the MOOC was closely aligned with the course curriculum, ensuring consistency with the course book (Hewings, 2004). The content was structured in such a way that coherence was assured within the total course curriculum, in the various phases of the curriculum, and the separate chapters. In this regard, the FutureLearn MOOC *English Pronunciation in a Global World* was integrated into the compulsory *Listening and Pronunciation I* course curriculum for both groups. A MOOC-based FC model was implemented during the course period. The MOOC required maximum four weekly hours of work during the eight weeks of implementation.

The course typically included weekly lectures (two hours), one mid-term exam, one final exam, and weekly individual presentations. The participants of both groups were required to independently process the online learning contents via the MOOC at home with less support by the researcher and more contact with each other. Throughout the treatment process, they were required to engage in active participation by collaborating on tasks, watching video lessons, completing online exercises and learning activities, and regularly sharing their coursework and reflections on the university's Open Moodle Platform.

Each lesson with both groups followed a blended instruction, which is required by the FC model. As a combination of online learning and complementary classroom

instruction, students in both groups were required to study the course content individually on the MOOC first. And later, the complementary face-to-face instruction was undertaken by the researcher of the study. In contrast to the control group, the students in the experimental group had the additional responsibility of creating self-made videos as a pre-class activity on weekly basis, following prompts provided by the researcher. The purpose of this intervention was to investigate the effect of self-made videos by comparing the SRL, L2 speaking and course achievement scores of two classrooms in a MOOC-based flipped learning environment. The participants in both groups were tested at the end of the eight weeks of implementation. The results of the course achievement tests were evaluated over 100 points.

3.2.2 Participants. The participants were freshmen pre-service English language teachers enrolled in the *Listening and Pronunciation I* course, including two classes that were selected and treated randomly as the experimental and the control group. Their ages ranged between 21 and 24 years. Initially, the study comprised a total of 85 students who constituted the sampling of the study. However, 20 participants were excluded from the study because they failed to take part in some of the treatment, sampling or data collection processes. As a result, the experimental group consisted of 33 participants (18 female and 15 male), while the control group comprised 32 participants (22 female and 10 male). Due to a decline in the number of participants, the total number of students in both groups was reduced to 65 participants. The students in both groups could be considered technology-aware learners due to their familiarity with the Internet technology thanks to the experience they gained during the covid lockdowns. Despite this, though, only a few of the participants have reported taking a MOOC course before.

Owing to its suitability in examining the differences between two groups when considering the effects of an intervention, the sampling strategy used for the present study was convenience sampling (Gliner et al., 2011). Convenience sampling, which is a non-random sampling method, was appropriate for the current study, as indicated by Dörnyei (2007) in his statements on convenience sampling, positing 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). As a result, because the subjects were readily available and homogenous, and based on factors such as motivation, accessibility, availability, readiness and willingness, the participants of the present study were selected through convenience sampling.

The two sections of the *Listening and Pronunciation I* course at the ELT department were chosen for this study. The students were randomly divided into two groups: experimental and control. On the first day of the course the students were told by the researcher that the implementation will be carried out on two days: Tuesday and Friday. During the implementation phase, the experimental group attended the class on Tuesdays, while the control group attended on Fridays. The students in both groups were instructed with a MOOC-based FC model. All students in both groups were required to enrol in a free MOOC and continue their online studies alongside traditional classroom training for eight weeks, thus combining online training sessions and classroom training sessions in a blended learning format. The only difference between the experimental and the control group was that the experimental group was additionally assigned the task of producing their own videos on a weekly basis before class time regarding the content in the MOOC, using prompts given by the researcher. The *English Pronunciation in a Global World* MOOC, hosted on FutureLearn, was developed by Vrije Universiteit Amsterdam (VU) (Futurelearn, 2023).

In the first week, after approval to conduct the research was granted, the first meeting was held with students, and they were asked to complete the consent form upon being informed about the study’s background and the completion of the work during the intervention process. For the quantitative part of the study, pre- and post-tests were given to both groups by the researcher. The pre-tests took place in the second week before the intervention, and the post-tests, which were identical to the pre-tests, were conducted after the intervention, which lasted eight weeks.

As regards the qualitative data collection, semi-structured and focus group interviews were carried out with the participants in the experimental group only. Semi-structured interviews were carried out right after the implementation process. The

participation having been on a voluntary basis, out of thirty-three experimental group participants, twelve participants accepted to participate in the semi-structured interviews. After filling out the online consent form, the volunteers willing to participate were interviewed through Zoom as it allowed for flexible scheduling and comfort of their own homes. The participants' responses to the interview questions were recorded, transferred, and analyzed using thematic analysis. The answers were then categorized based on the emerging themes.

Focus group interview took place two weeks after the completion of the implementation process, following the analyses of the semi-structured interviews. Focus group interview was undertaken with a total of six participants from among the participants who joined the semi-structured interviews. Focus group interview was conducted through purposive sampling, as it promotes careful selection of the individuals from whom "one can learn a great deal about issues of central importance to the purpose of the research" (Patton, 2002, p. 46). The maximum variation (heterogeneity) sampling approach, as described by Patton (2002), to select the interview population from among various strategies for purposive sampling was used to explore the phenomenon in detail and gain a deeper understanding of it. In this regard, the participants for the focus group interview were selected according to different criteria such as individuals with diverse interests, genders, success rates, and other relevant factors. First, the participants were selected from high and low performing individuals. Next, they were selected according to their genders. Third, their positive or negative opinions on the self-made videos and the MOOC-based FC model were used as a major factor to reach maximum variation in the formation of the focus group interview sampling. Their diverse linguistic and cultural backgrounds were also used to determine the participants of the focus group interview. Overall, the mean scores of the post-test results, ranging from 50 to 90 (out of 100-point), were used to ascertain the participants of the focus group interview. The final number of the participants in the sampling was determined to be 6 (3 female and 3 male). The participants were coded as P1 (Participant 1) or P2 (Participant 2), considering the need for simplified procedures to facilitate the definition of all participants. The specifics about the data collection instruments, sampling, and participants are

presented in Table 3. Likewise, the sampling criteria for determining the participants for the focus group interview are shown in Table 4.

Table 3

Overview of the Participants and Data Collection Instruments

Data Collection Tools	Number of participants	
	Experimental	Control
Pre- & Post-Tests	33	32
Semi-structured interviews	12	-
Focus Group Interview	6	-

Table 4

Overview of the Qualitative Data Sampling (Focus Group Interview)

Participants	Gender	Post-test Scores	Opinion on self-made videos	Opinion on the MOOC-based FC model
P1	F	90	Positive	Negative
P2	M	88	Negative	Positive
P3	M	84	Negative	Negative
P4	F	75	Positive	Positive
P5	M	60	Negative	Positive
P6	F	56	Positive	Negative

3.3 The FutureLearn MOOC

The chapters of the MOOC were timetabled in accordance with the course book Hewings (2004) so that the eight-week implementation period could be successfully completed within certain deadlines defined by the researcher of the study during the eight weeks of the intervention period. As the content of the MOOC was closely aligned with the existing *Listening and Pronunciation I* course curriculum, coherence was assured within the various phases of the implementation. Also, continuous progression was made regarding the subject-specific competences that are required by the course curriculum in terms of knowledge, understanding and skills. Table 5 presents the schedule and topics in the FutureLearn MOOC, *English Pronunciation in a Global World* on weekly basis (Futurelearn, 2023).

Table 5

Schedule and Topics of the English Pronunciation in a Global World FutureLearn MOOC

Week 1 What is important in English pronunciation?		Week 3 English vowels 1	
1.1.	Brainstorming about English pronunciation in a global world - Discussion	3.1.	Introduction to week 3: vowels - Video (06:37)
1.2.	Introduction to week 1 - Video (05:48)	3.2.	Brainstorming about vowels and intelligibility - Discussion
1.3.	English pronunciation features: intelligibility, credibility and identity - Article	3.3.	English vowels: intelligibility, credibility and identity - Article
1.4.	Sharing our English accents - Exercise	3.4.	The feature of vowel length explained - Video (01:16)
1.5.	Sharing our experiences speaking English - Exercise	3.5.	Different pronunciations of vowel length analysed - Discussion
1.6.	What English pronunciation features are difficult for you? - Exercise	3.6.	Minimal pairs with long and short vowels - Exercise
1.7.	What are your needs regarding English pronunciation? - Quiz	3.7.	A listening exercise on vowel length (before voiced/voiceless consonants) - Exercise
1.8.	Setting personal goals regarding English pronunciation - Discussion	3.8.	The TRAP vowel - Video (02:01)
	Making a recording of your English pronunciation – Assignment		Different pronunciations of the TRAP-vowel analysed – Discussion
Week 2 What is important in English pronunciation?		Week 4 English vowels 2	
2.1.	The word list and the reading passage for the recording - Article	4.1.	Minimal pairs with the vowel DRESS [e] and TRAP [æ] - Exercise
2.2.	Peer Assignment Review assignment - Review	4.2.	Listen and repeat: 55 words with the NURSE-vowel - Video (02:24)
		4.3.	Different pronunciations of the NURSE-vowel analysed - Discussion
2.3.	Peer Review Reflection assignment - Reflection	4.4.	Pronunciation and language change: the STRUT-vowel - Video (04:58)
2.4.	The notion of rhoticity explained - Video (05:16)	4.5.	Listen and repeat: 85 words with the STRUT-vowel - Video (02:42)
		4.6.	Different pronunciations of the STRUT-vowel analysed - Discussion
2.5.	The word list in a non-rhotic and in a rhotic accent - Exercise	4.7.	Drag & drop: which vowel? - Exercise
2.6.	The reading passage in a non-rhotic and in a rhotic accent - Exercise	4.8.	Listen and repeat: LOT words [ʊ] and THOUGHT-words [ɔ:] in British English (and American English) - Video (03:05)
2.7.	Words in a rhotic accent and in a non-rhotic accent - Exercise	4.9.	Different pronunciations of the diphthongs FACE and GOAT analysed - Discussion
2.8.	A fun exercise for practising (non)rhoticity - Discussion	4.10.	Listen and repeat: FACE and GOAT - Exercise
2.9.	Ask your education questions online - Discussion	4.11.	Reflection - Discussion
Table 5 (cont.d)			
Week 5 English consonants 1		Week 7 Suprasegmental features in English 1	
5.1.	Introduction to week 5: consonants - Video (12:28)	7.1.	Introduction to week 7: suprasegmental features - Video (09:16)
5.2.	Brainstorming about consonants and intelligibility - Discussion	7.2.	Suprasegmental features in English: intelligibility, credibility and identity - Discussion
5.3.	English consonants: intelligibility, credibility and identity - Article	7.3.	Stress - Video (02:59)
5.4.	Consonant clusters - Video (01:52)	7.4.	Stress-timed versus syllable-timed stress - Discussion
5.5.	Different pronunciations of consonant clusters analysed - Discussion	7.5.	Listen and repeat: contrastive stress 1 - Audio
5.6.	Minimal pairs with consonant clusters - Exercise	7.6.	A quiz on stress - Quiz
5.7.	Aspiration - Discussion	7.7.	Stress analysed in commonly mispronounced words in English - Discussion
5.8.	Minimal pairs with and without aspiration - Video (01:33)	7.8.	Analysing and practising intonation - Discussion

		The phenomenon of linking discussed - Discussion
5.9.	Clear and dark L - Video (01:48)	7.9.
5.10.	A different pronunciation of clear L analysed – Discussion	Week 8
		Suprasegmental features in English 2
		8.1. Practising fluency - Discussion
	Week 6	8.2. Analysing the reading passage - Test
	English consonants 2	
6.11.	Why are letters sometimes silent in English? - Article	8.3. Assessing your English pronunciation (British) - Exercise
6.1.	Which letter is not pronounced? - Exercise	8.4. Assessing your English pronunciation (American) exercise
6.2.	Listen and repeat: 55 words with 'ch' - Video (02:03)	8.5. Making a second recording of your English pronunciation - Assignment
6.3.	The deletion of words endings analysed - Discussion	8.6. The word list and the reading passage for the second recording - Article
6.4.	Listen and repeat: words with 1-4 final consonants - Video (03:13)	8.7. Peer Review Assignment - Review
6.5.	Different pronunciations of 'th' analysed - Discussion	8.8. Peer Reflection assignment - Reflection
6.6.	Listen and repeat: words and phrases with 'th' - Video (02:44)	8.9. Reflection - Discussion
6.7.	Listening exercise: /g/, /ʒ/ or /dʒ/? - Exercise	
6.8.	Listen and repeat: 50 items with /f/ and /tʃ/ - Video (02:59)	

The course was designed to enable students to progress at their own pace in the subjects through the MOOC, and it was supplemented by weekly classroom-based phases to check participants' acquired knowledge. The MOOC offers great opportunity for the participants to make new contacts, exchange good practice, and identify their priorities. It also creates a favourable environment for the learners to learn from each other and meet other cultures in the broadest sense of the word. Figure 1 illustrates the topics, features, and course team of the MOOC. Throughout the MOOC, participants were expected to explore a variety of different English accents, have a greater understanding of some of the rules of English pronunciation, and feel confident about speaking English in different contexts.

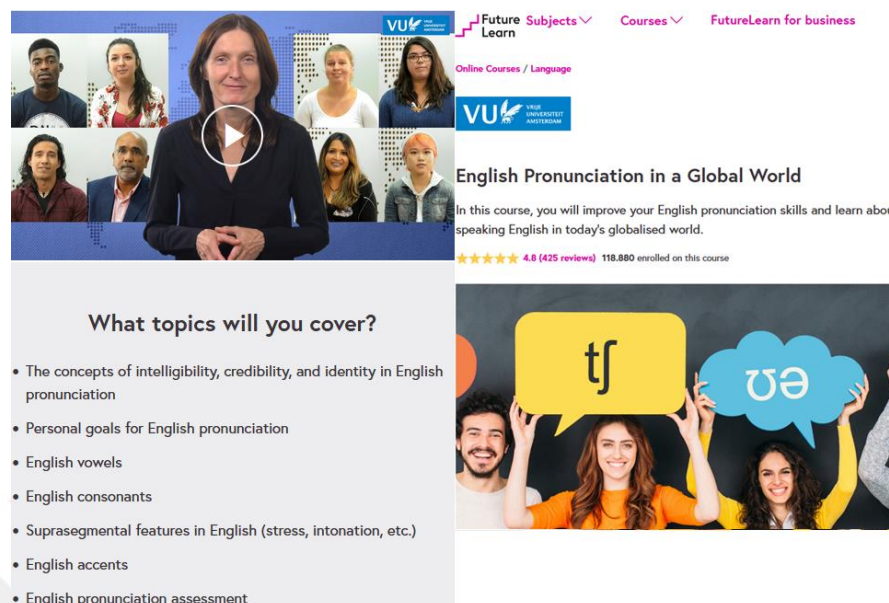


Figure 1. Topics and course team of the *English pronunciation in a global world* futurelearn mooc (futurelearn, 2023)

Certificates of achievement were given at the end of the course by Vrije Universiteit Amsterdam to those who had covered the relevant hours (80% of the course time) and pass the required tests in the MOOC. The MOOC was used as a free, online learning platform to foster knowledge transfer by means of a wide range of teaching materials and hands-on experience. Students were required to perform tasks, participate in a variety of different activities, experience a virtual classroom environment, interact with the educators and their classmates, engage in discussions, and listen to and respond to various opinions shared in the MOOC. The participants were expected to gain insights into the applicability of massive, open, online knowledge models, which cannot be provided by single face-to-face classroom instruction only.

Participants in the experimental group are required to study the MOOC and integrate the MOOC content into their self-made videos as a pre-class activity in a MOOC-based FC model. The next section, therefore, provides detailed information about the concept of self-made videos and the pedagogical model on which the implementation of the present study is based.

3.4 The Pedagogical Model for Self-made Videos

At the heart of the constructivist approach to language learning is the idea that learners are most successful when they are engaged in self-directed learning (Stoller, 2006). In accordance with this proposition, video-making aligns with the constructivist approach to language education, which emphasizes the importance of experiential, individual and autonomous learning and enables learners to make full use of their own potential (Brydon-Miller & Maguire, 2009). In parallel with this, the pedagogical paradigm has undergone a significant shift in the field of language teaching. Instead of relying on a traditional, prescriptive approach to teaching, educators are increasingly embracing a more constructivist methodology (Lantolf & Thorne, 2006). As part of this shift, video-making has emerged as a valuable tool for language learners (Rüschhoff & Ritter, 2001).

The implementation of self-made videos in this study is based on a pedagogical model that includes four stages: *presentation, personal reflection, peer reflection, and refinement*. These stages are designed to help pre-service teachers learn the content independently and construct their own meaning from generating videos as a pre-class activity, improve their communication skills by practicing, reflecting on their strengths and areas for improvement, receiving feedback from peers, and making adjustments based on that feedback (Bower et al., 2011).

This study will utilize self-made videos designed to enhance pre-service teachers' understanding of communication, ability to analyse and interpret communication, and ability to present content effectively. Bower et al. (2011) outlined the principles of his pedagogical approach as follows:

- (1) Performing the presentation allows pre-service teachers to practise and develop their behavioural communication competence.
- (2) Reflecting on their presentation behaviour provides the opportunity for pre-service teachers to develop their cognitive understanding of communication (with relation to self).
- (3) Reflecting on the presentations of others enables pre-service teachers to compare communication actions, supporting abstraction of communication knowledge (further enhancing cognitive communication competence).

- (4) Communication knowledge (cognitive ability) acquired through self-reflection and peer feedback can be used to improve behavioural performance in future presentations.

Reflective thinking is a deliberate and active process in which new information is transformed into new understandings that lead to change (Gelter, 2003; Schoffner, 2008). It is beneficial for pre-service teachers as it helps them recognize, analyse, and manage the various complex issues that arise in their classroom practice (Spalding & Wilson, 2002). Reflective thinking enables pre-service teachers to be more aware of the assumptions upon which their teaching decisions and actions are based and to make connections between theory and practice (Yost et al., 2000). However, some research suggests that pre-service teachers may find it challenging to develop a habit of self-reflection (Cavanagh & Prescott, 2010).

Teachers need to have a variety of communication skills, including listening, interpreting, writing, and presentation skills such as voice projection, body language, and gesture. Presentation is a crucial aspect of teacher communication as they often need to give instructions, explain concepts, express emotions, and demonstrate processes. To present effectively, the National Communication Association (1998) states that teachers need to be able to:

- identify the goal of their speech
- use appropriate words
- use smooth transitions
- vary the pace, tone, and volume of their voice
- speak clearly
- use language that is appropriate for their audience
- use nonverbal behaviour that aligns with their verbal message.

Despite the importance of presentation skills in teaching, there is a lack of research on how to improve them. This study examines how using self-made videos as a pre-class activity can help pre-service teachers develop their speaking performance as well as their self-regulated learning, using a techno-pedagogic framework to support the development of communication competence and self-regulation (Bower et al., 2011). In summary, to develop pre-service teachers' cognitive and behavioural capabilities,

stages between video presentations and iterative cycles of practice will be utilized with the aid of technology. The pedagogical model for the self-made videos is framed around the three domains outlined by Morreale et al. (1993), which are the cognitive, behavioural, and affective domains.

Within *the cognitive domain*, one must possess knowledge and comprehension of the communication process, along with the various elements that constitute any act of communication. By observing their own as well as their peers' video presentations, learners can enhance their cognitive skills, critical thinking, negotiation, and cognitive understanding of communication. *The behavioural domain* is essentially about the individual's ability to communicate effectively. When giving a presentation, pre-service teachers can practice and improve their behavioural communication competence. *The affective domain*, lastly, is about individual's motivation, feelings, attitudes, confidence, and enthusiasm to engage and communicate. Within this domain, learners are required to make reflective commentaries on their self-made videos, addressing a set of questions, such as: What am I learning? They reflect on their own as well as their peers' performance and learning content.

Cavanagh et al. (2014) summarizes the process of the techno-pedagogical framework of the self-made videos with two phases as follows: In the first phase, the pedagogical model for the self-made videos requires the learners to record their presentations regarding the course content individually, using a webcam and any application available for them. They display their knowledge by integrating the course content into their videos. In the second phase, they are expected to upload their recordings to the LMS system of the university, wherein they can review their own, along with their peers' self-made videos, and provide comments on them. This is the pedagogical model for the self-made videos to be implemented in the present study. It would be relevant, at this point, to provide a detailed description of the assessment method to be used in this model.

3.4.1 Assessment method of the pedagogical model for the self-made videos.

The pedagogical framework of the self-made videos used in the present study offers the pre-service teachers the opportunity to view, rate and reflect on their own

presentations, and those of their peers. In order for the pre-service teachers to summatively reflect upon what they had learnt and to evaluate their performances, an online questionnaire adapted from Bower et al. (2011) was administered each week. It consisted of the following 5 questions:

- (1) How would you rate your previous presentation out of 10?
- (2) What did you notice about the way you communicated from reflecting on the video of your previous presentation and how you might improve?
- (3) How would you rate your present presentation out of 10?
- (4) What improvements were you able to make for the present presentation?
- (5) What improvements would you still like to be able to make in future presentations?

Additionally, each presentation is rated by the researcher according to the following criteria designed by Cavanagh et al. (2014):

- (1) The quality of overall presentation performance
- (2) The quality of body-language
- (3) The quality of voice
- (4) The quality of words used
- (5) The alignment between body-language, voice and words
- (6) The confidence of the presenter
- (7) The clarity of the presenter
- (8) The extent to which the presenter was engaging
- (9) The appropriateness of the presenter's presentation (p. 6).

The *body-language*, *words*, *voice* and *alignment* variables are categorised as the **Modes of Communication**, while the *confidence*, *clarity*, *engagement* and *appropriateness* variables are categorized separately as the **Constructed Impressions**. Prior to the rating of each specific performance criteria, an overall score is awarded first, based on the evaluation of the presentation as a whole, so that the researcher's first impression of the performance is not influenced by the component scores. To develop standardised conceptions of the nine criteria, a mark from zero to ten is allocated for each criterion based on specific characteristics of poor and excellent performance presented in Table 6 below.

Table 6

Characteristics of Poor and Excellent Communication Performance for the Modes of Communication and Constructed Impressions

Modes/Characteristics		
Communication	Poor Performance	Excellent Performance
Body Language	• Moving around too much • Shuffling • Slouching • Rigid stance • Withdrawn posture • Defensive arm positioning (folded arms, hands in pockets) • Flapping hands • Wandering eyes • Shoulders hunched • Head down • Distracting/unclear gestures • Stiff gestures • Cold/unexpressive facial expression	• Natural • Appropriate volume/projection • Melodic variety/intonation • Clear enunciation • Appropriate pace
Voice	• Contrived • Too loud/soft • Monotone • Stammering • Unclear enunciation (e.g., heavy accent, mumbling) • Too fast/slow	• Natural • Appropriate volume/projection • Melodic variety/intonation • Clear enunciation • Appropriate pace
Words	• Unexpressive • Negative • Poorly organized/structured • Confusing meaning • Not inclusive • Inappropriate slang (e.g., kids, dropping 'g', gunna, you know) • Too many pausing/filling words ('ums' and 'ahs') • Poor use of humour	• Colourful/expressive language • Positive • Structured/organised • Clear meaning • Inclusive • Register relevant to audience • Positive use of humour • Use of strategies (such as rhetorical questions) to engage
Alignment	• Disparity between message and body/voice/words • (Messages mixed)	• Congruence between body/voice/words • (Messages aligned)
Constructed Impressions	Poor Performance	Excellent Performance
Confidence	• Appears anxious or apprehensive • Manner conveys nerves, lack of authority or connection • Inflexible – working from fixed script	• Appears relaxed and stable • Speaker manner conveys their knowledge and authority, their relationship with audience • Flexible
Clarity	• Meaning difficult to understand	• Meaning easily understood
Engagement	• Appears uninterested in presentation/lacks enthusiasm • Impression that audience would be bored, unmotivated, easily distracted, even alienated • Lacks impact • No interaction/does not connect	• Interested and enthusiastic • Anticipate that audience would likely be engaged, interested in presentation • Makes an impression • Interacts/connects
Appropriateness	• Content and delivery unsuitable • Talking to wrong level of audience (context)	• Content and delivery (language register) both suitable for a particular audience • Talking to the level of the audience and situation (context)

Marks for each criterion are averaged to give a final score out of ten for each presentation.

In each video recording, trainers are also required to provide formative evaluation of their experience. They are required to integrate the course content, reflect on their previous video presentation, and review a peer's video. This process includes engaging in critical self-reflection, responding to peer feedback, and viewing and reflecting on peer video presentations, all uploaded to the blogging tool provided by the school. This allows participants to analyze and evaluate their knowledge content and notice some aspects of their communication style to be more prepared for future presentations. The review-reflection phase takes place after trainers view the video presentations of their peers and engage in the reflective blog posts in the blogging tool. The pedagogical model for the self-made videos is based on the pedagogical cycle shown in Figure 2 below.

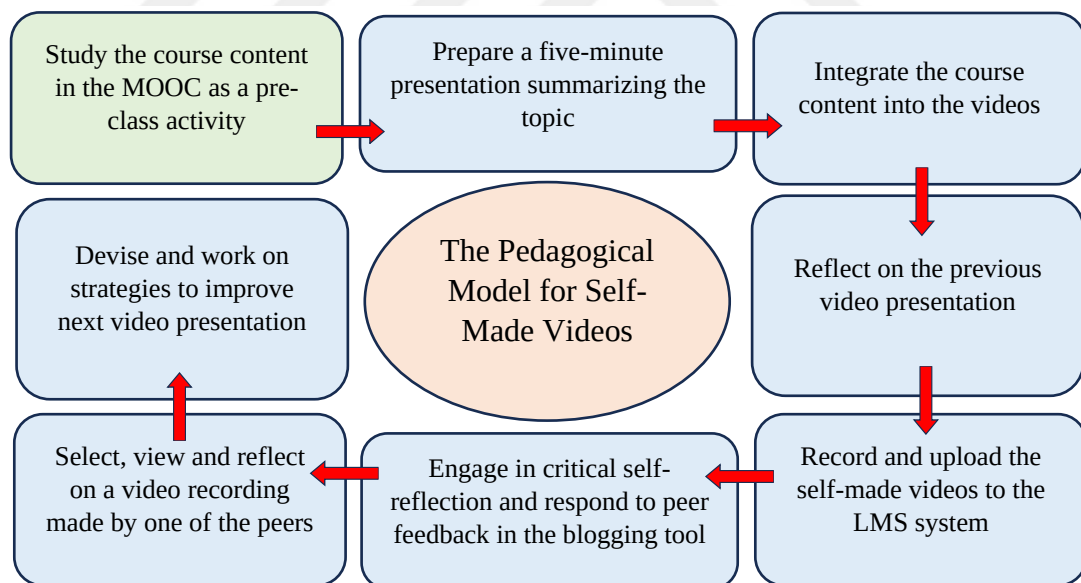


Figure 2. The pedagogical cycle used for the self-made videos

This pedagogical model and assessment method for the self-made videos is to be implemented in the current study, so it would be relevant, at this point, to present studies that have been carried out on self-made videos and MOOC-based FC model.

3.5 Procedures

This part of the study respectively presents the data collection instruments, the data collection procedures, the data analysis procedures along with the pilot study, the treatment process, the validity, reliability, and limitations of the study.

3.5.1 Data collection instruments. As an explanatory sequential mixed-methods research design was used in the present study, two distinct phases were conducted in a sequential manner, combining both quantitative and qualitative data collection instruments. As regards the quantitative part of the study, an intervention was conducted to determine whether or not the implementation of self-made videos would lead to a significant improvement in the test scores (SRL, L2 speaking and course achievement) of the experimental group (implementing self-made videos) over the control group (doesn't) in a MOOC-based flipped learning environment. To this end, quantitative data were collected through a quantitative review of the Self-Regulated Online Learning Questionnaire (SOL-Q) (Appendix A), IELTS Speaking Band Descriptors Rubric (Appendix B), and the achievement test of the *Listening and Pronunciation I* course (Appendix C). As for the qualitative data collection, semi-structured and focus group interviews were carried out with the participants in the experimental group only. Both quantitative and qualitative data collection instruments are described in more detail below.

3.5.1.1 Self-regulated online learning questionnaire (SOL-Q). The revised version of the Self-Regulated Online Learning Questionnaire (SOL-Q-R) developed by Jansen et al. (2018) was used to measure MOOC learners' SRL strategies in this study. Janssen et al. (2017) developed the initial version of the SOL-Q to measure the SRL strategies of learners in MOOC environments. This questionnaire was preferred due to its detailed items questioning self-regulated learning and analysing it from various angles. The SOL-Q consists of seven 42 items and subscales: (a) meta-cognitive activities before learning (MABL), (b) meta-cognitive activities during learning (MADL), (c) meta-cognitive activities after learning (MAAL), (d) time management (TM), (e) environmental structuring (ES), (f) persistence (PER), and (g)

help-seeking (HS). The items are rated on a 7-point Likert scale ranging from “not at all true for me” (=1) to “very true for me” (=7). The reliability score of the revised version of the scale with Cronbach’s alpha is .93, indicating a high level of reliability.

3.5.1.2 IELTS speaking band descriptors. IELTS Speaking Band Descriptors (British Council, 2023) is used to score candidates’ speaking performance in tests. It consists of four dimensions: fluency & coherence = Dim 1, lexical resource = Dim 2, grammatical range & accuracy = Dim 3, and pronunciation = Dim 4. Each dimension consists of nine bands, where zero characterizes students not attending the exam, while 9 characterizes participants with highly developed sub-skills in all four dimensions. Participants are assessed on a descriptive scale based on their scores in these dimensions. These scores aim to describe the communication skills of individuals at a given level of English. The dimensions are simply referred to as dim1, dim2 etc. Two experts were assigned to rate the participants’ performance using the IELTS speaking band descriptors.

3.5.1.3 Achievement test. The course achievement test (Appendix C) was prepared by the researcher following the objectives of the *Listening and Pronunciation I* course, the content of the MOOC and the course book (Hewings, 2004). The test consists of 50 multiple-choice questions that cover the concepts of intelligibility, credibility, and identity in English pronunciation, vowels, consonants, suprasegmental features in English (stress, intonation, etc.), and various English accents. Each question was graded on a scale of 0 to 2, with 100 being the best grade.

3.5.1.4 Semi-structured and focus group interviews. Semi-structured and focus group interviews were conducted to obtain qualitative data for the study. The data collected in both types of interviews allow to further confirm the quantitative data that were collected earlier (Creswell, 2014). Besides triangulation purposes, face-to-face interviews establish a relation between the interviewer and the respondents, increase the response rate, let the interviewer ask follow-up questions, or revise a question for additional information (Banerjee, 2019). According to Seidman (2006), semi-

structured interviewing can be described as a way of “understanding the lived experience of other people and the meaning they make of that experience” (p. 9). Focus group interviewing, on the other hand, is an interviewing technique in which participants are selected because they are representative of a specific population, allowing them to share and argue collectively and assert their opinions based on their common experiences (Barbour & Schostak, 2005). Therefore, to elicit pre-service teachers’ perceptions on the MOOC-based FC model in-depth and to investigate how they use and perceive their self-made videos to improve their self-regulation, both semi-structured and focus group interviews were conducted. The interview questions were prepared and revised by the researcher according to two different expert opinions in the light of the study and within the scope of the research questions (see Appendix D).

3.5.2 Data collection procedures. In this part of the study, the pilot study, sources of data, pre- and post-testing procedures, and the process in the experimental and control groups are described in detail.

3.5.2.1 Pilot study. Before the data collection process started, a four-week pilot study was conducted by the researcher in the fall semester of the 2021-2022 academic year with a group of freshmen pre-service English language teachers enrolled in the *Listening and Pronunciation I* course in the Department of Foreign Languages Education at the Faculty of Education at the same university where the main study would take place. In this regard, the same FutureLearn MOOC *English Pronunciation in a Global World*, which was to be used in the main study, was integrated into the course curriculum for four weeks. A MOOC-based FC model was implemented during this period. Participants were first required to individually study the course content on the MOOC at home, and then create their self-made videos and upload them to the university’s Open Moodle Platform as a pre-class activity on weekly basis, following prompts provided by the researcher. Last, they were required to participate and actively engage in the complementary face-to-face instruction offered in the classroom by the researcher, as required by the FC model.

The main objectives of the pilot study were a) to assess participants' perceptions of the MOOC-based FC model, b) to understand the training needs of the participants regarding how to generate their self-made videos and display their knowledge by integrating the course content into their videos, c) to find out any difficulties the participants might experience while uploading their recordings to the LMS system of the university, and d) to find out the reliability of the questionnaire that would be used in the study.

The pilot study revealed that the MOOC-based FC model was found to be satisfactory thanks in part to the positive atmosphere created by the modern e-learning methods (MOOCs) and the complementary classroom instruction, which enabled a mutual and individual learning environment, and largely covered nearly all components of cooperative and self-learning instruments. Although the participants had concerns about adapting to new challenges, increased responsibilities and dedication required by this new approach, they had favourable attitudes toward the MOOC-based FC model. However, from the experiences presented, it also emerged that searching, transferring, presenting and recording the MOOC content represented a particular challenge for the students. Therefore, the researcher recorded and shared an instructional video on how to organise and prepare presentations and supplied the participants with the necessary information regarding the recording tools and instructed them how to produce self-made videos for presentations. Another challenge for the participants was to upload their videos (self-created content) on the Open Moodle Platform. Thus, the researcher recorded and shared a short instructional video, illustrating the process of uploading their videos on the platform. As for the reliability of the revised version of the SOL-Q-R, it was pilot tested with 33 respondents and found to be reliable with the Cronbach's alpha coefficient .89, suggesting that the reliability of the instrument is quite high.

3.5.2.2 Data collection. As the study adapted an explanatory sequential mixed-methods research design, first the quantitative and then the qualitative data were collected in a sequential manner. The study began with the pilot study conducted between 4th -29th October in the fall semester of the 2021-2022 academic year. The

findings of the pilot study contributed substantially to the successful implementation of the main study and the reliable collection of data by shaping the phases of the actual study. The main study was conducted in the fall term of the 2022-2023 academic year. The data collection process started after obtaining the necessary permissions and getting the consent of the students via an informed consent form (Appendix E). Tests and instruments were administered to both groups before treatment as pre-tests. The same tests and instruments were later given to both groups as post-tests after eight weeks of intervention process was over.

To collect quantitative data, the SOL-Q, IELTS Speaking Band Descriptors Rubric, and the achievement test of the *Listening and Pronunciation I* course were administered to both groups as pre- and post-tests. Likewise, the classroom instruction and the complementary online course, the content of which was delivered in a MOOC, were given to both the experimental group and the control group, which is compatible with the MOOC-based FC model. Both groups followed the same curriculum for the course. The implementation process, however, the purpose of which was to examine the impact of a series of students' self-made videos as a pre-class activity, was applied to the experimental group only, to examine how students' self-made videos affect their SRL, L2 speaking performance and course achievement.

As for the qualitative phase of the study, semi-structured and focus group interviews were conducted to gather data from participants in the experimental group to explore how they perceive their self-made videos to improve their self-regulation during the implementation process. The qualitative phase provided significant, deep insights into the underlying factors influencing participants' self-regulation during the implementation process.

The study roughly proceeded in three phases: Pre-testing, Treatment, and Post-testing. The flow of the data collection procedures is displayed in figure 3 below.

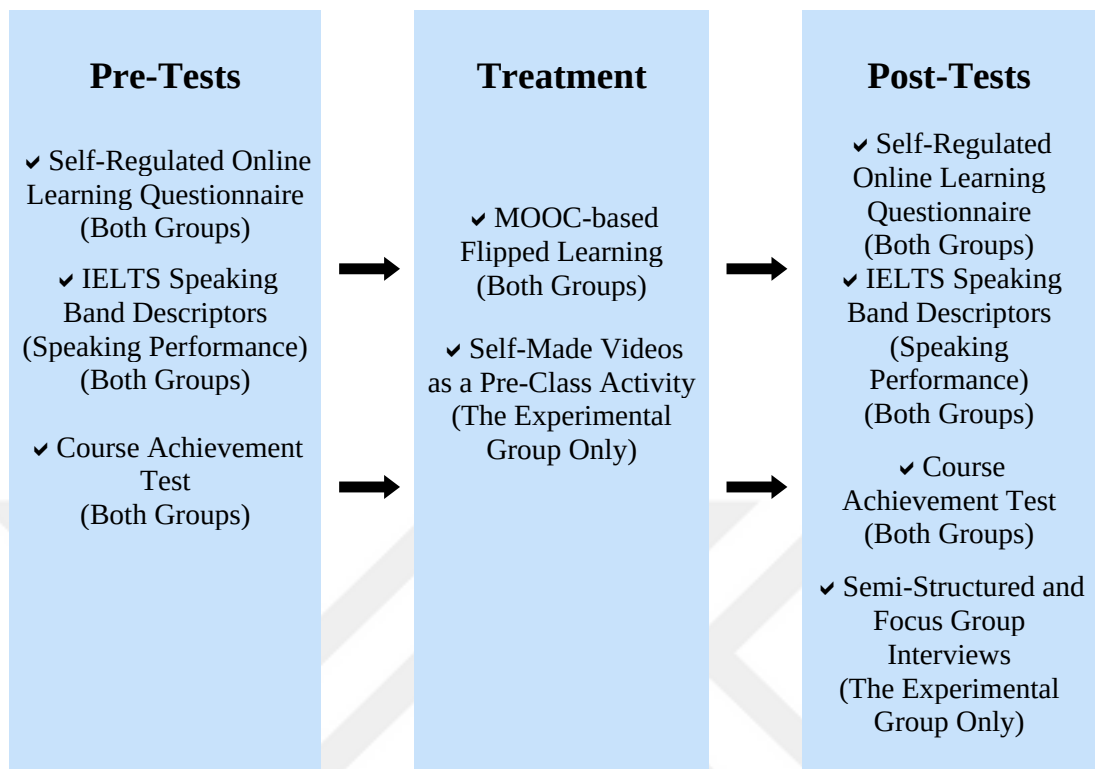


Figure 3. The flow of the data collection procedures

The data collection and treatment process started on October 3, 2022 and took 13 weeks to complete. In the first week, the participants were told about the details of the research, the importance of their participation during the implementation and their sincere answers on the questionnaire items. The participants in both groups were informed that a MOOC-based FC approach would be followed along the implementation process. Namely, they were told that the content delivery would happen through the MOOC at home, and the complementary face-to-face sessions would occur in the classroom, as required by the flipped learning approach. In the second week, the SOL-Q, IELTS Speaking Band Descriptors Rubric, and the achievement tests were administered to both the experimental group (implementing self-made videos) and the control group (not implementing self-made videos) as pre-tests over a period of five days. The same curriculum and the same mode of instruction, which is the MOOC-based FC model, were applied for both groups. However, the implementation process, which started in the third week on October 17, 2022, was applied to the experimental group only and lasted 8 weeks. In the tenth week on

December 9, 2022, the implementation process was over. In the eleventh week, on December 12, 2022, the same tests and instruments were given to both groups and again administered over a period of five days as post-tests after eight weeks of implementation. The semi-structured and focus group interviews took two more weeks to complete, and finally the whole data collection process ended in the thirteenth week on December 30, 2022. Procedural phases of the data collection and implementation process are presented in Table 7 below.

Table 7

Timetable of the Implementation and Data Collection Procedures (2022-2023, Fall)

Weeks	Data Collection	Experimental Group	Control Group
Week 1 (Oct, 3-7)	Introduction, Orientation and Pre-data Collection Stage	X	X
Week 2 (Oct, 10-14)	Pre-Tests (SOL-Q, Course Achievement Test and Speaking Test)	X	X
Week 3 (Oct, 17-21)	Implementation	X	
Week 4 (Oct, 24-28)	Implementation	X	
Week 5 (Oct-Dec, 31-4)	Implementation	X	
Week 6 (Nov, 7-11)	Implementation	X	
Week 7 (Nov, 14-18)	Implementation	X	
Week 8 (Nov, 21-25)	Implementation	X	
Week 9 (Nov-Dec, 28-2)	Implementation	X	
Week 10 (Dec, 5-9)	Implementation	X	
Week 11 (Dec, 12-16)	Post-Tests (SOL-Q, Course Achievement Test and Speaking Test)	X	X
Week 12 (Dec, 19-23)	Semi-Structured Interviews	X	
Week 13 (Dec, 26-30)	Focus Group Interviews	X	

As shown in Table 7 above, the data collection and implementation process took thirteen weeks to complete, including both the pre- and post-testing stages.

3.5.2.3 Pre-testing. Pre-testing process only included quantitative data collection and had two phases. First, the SOL-Q and the course achievement tests were

administered to both the experimental and control group respectively on the first day of the second week before the treatment process started. The link to the online questionnaire was sent through WhatsApp and the students were asked to fill out the online form using their smartphones. Then, the course achievement test was administered on the same day to both groups, and it took one hour to complete. Thus, the first phase of the pre-testing process was completed. As for the second phase, speaking tests were administered by two raters before the implementation. One of the raters was the instructor of the *Listening and Pronunciation I* course and at the same time the researcher of this study, while the other was an EFL instructor offering speaking and listening skills courses at the foreign language schools at a state university. Each participant in both groups had around 10 minutes to perform the speaking tests. The raters benefited from a list of TOEFL speaking questions adopted from AECC (2023) (Appendix F), using TOEFL exam's speaking topics (ETS, 2023). IELTS exam's speaking assessment rubric was used to evaluate participants' speaking performance. Thus, upon the completion of the pre-testing process, the eight-week implementation phase started on October 17, 2022.

3.5.2.4 Treatment. Both groups were instructed in a MOOC-based FC model by the researcher of this study. The treatment process, however, was only applied to the experimental group to explore how students' self-made videos affect their SRL, L2 speaking performance and course achievement scores. The treatment in the experimental group began with the participants being introduced to the digital video recording devices, the new procedures and technical support tools. The researcher also provided the students with four instructional training videos on 1) how to enroll in a MOOC, 2) how to organise and prepare presentations, 3) how to produce self-made videos using screen recording tools for presentations, and 4) how to upload these videos to the university's Open Moodle Platform. These instructional videos were saved and kept available to the students on the MOODLE in case they should need them for future events. The students were also informed that they could contact the researcher and receive all the support they might need during the treatment process.

During the eight-week implementation process, the students in the experimental group were given the task of producing their self-made videos on a weekly basis as a pre-class activity in a MOOC-based FC model. The treatment process was carried out in two phases: In the first phase, the students were required to record their presentations regarding the MOOC content using a webcam and any web tool available to them. They were expected to display their knowledge by integrating the MOOC content into their videos. In the second phase, they were required to upload their recorded videos to the LMS system of the university. They were also encouraged to review and comment on their own as well as their peers' self-made videos, following prompts provided by the researcher. The timetable of the treatment process, the topics in the MOOC, and the prompts given by the researcher are described in Table 8 below.

Table 8

Timetable, Topics in the MOOC and Procedures of the Treatment Process (2022-2023, Fall)

Weeks	Topics	Procedures
Pre-treatment (Oct, 3-14)	Training and Orientation Process	■ Integrating the MOOC content into their slides, the students made presentations on related topics on weekly basis displaying their knowledge and skills. ■ Using these presentations, every week during the treatment process, they recorded themselves and their screen using a webcam and any web tool available to them. ■ They were also required to integrate self-assessment, peer assessment, feedback and reflection talks as well as small learning and training units into their self-made video recordings. ■ Lastly, each week they were required to upload their self-made videos to the LMS system and were encouraged to show the ability of self-orientation in the face of new tasks.
Week 1 (Oct, 17-21)	What is important in English pronunciation? 1	
Week 2 (Oct, 24-28)	What is important in English pronunciation? 2	
Week 3 (Oct-Dec, 31-4)	English vowels 1	
Week 4 (Nov, 7-11)	English vowels 2	
Week 5 (Nov, 14-18)	English consonants 1	
Week 6 (Nov, 21-25)	English consonants 2	
Week 7 (Nov-Dec, 28-2)	Suprasegmental features in English 1	
Week 8 (Dec, 5-9)	Suprasegmental features in English 2	

Each week during the treatment process, the participants followed the same procedure as a pre-class activity. First, they completed every step in the MOOC content of that specific week. Second, they transferred the content into a presentation

summarising the topic they learnt in the MOOC and reflecting on their own video presentations as well as their peers' video presentations, which were presented in the previous week. Third, they recorded their presentations using a webcam and any available web tool. And last, they uploaded their videos to the LMS system of the university, following prompts provided by the researcher. Figure 4 describes the procedures followed each week along the treatment process.

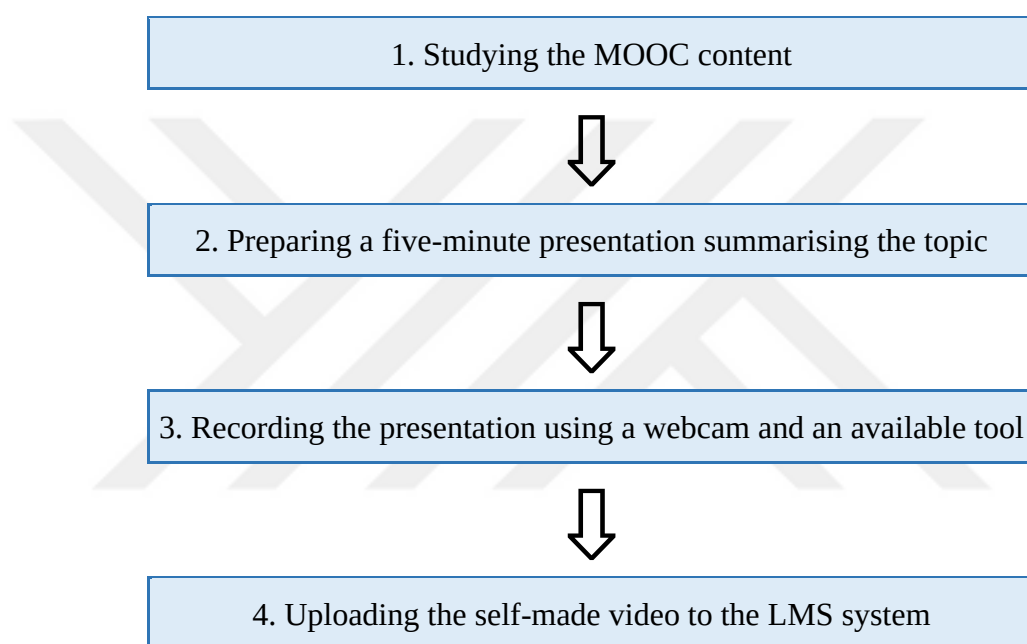


Figure 4. Procedures for each self-made video task

During the eight-week treatment process, each student made a total of eight videos by reflecting critically on his/her own learning, working autonomously, and seeking information and support when necessary. They were able to practice their L2 speaking skills through their self-prepared presentations in which they shared their own opinions and organized their own thoughts. They were also provided by the researcher with some useful tips and guidelines to help them design and create effective presentations, as well as organize their content. Moreover, they had the opportunity to observe and monitor themselves by watching their own videos, edit their videos using video editing software, and make some modifications if necessary, or alternatively they could re-record themselves after self-reflecting upon their performances or learning processes

before uploading their self-made videos to the LMS system. The treatment process ended once the students completed their self-made videos (each student/eight videos in total) in the pre-set time.

3.5.2.5 The process in the experimental and control groups. Pre-tests were administered to both groups before the eight-week treatment process started. Although the treatment was applied only to the experimental group, both groups were instructed in a MOOC-based FC model. The researcher combined classroom instruction with a MOOC, involving decentralized self-directed learning, which required the students in both groups to take initiative for their own learning and to take an active part in the learning process based on blended-learning concepts. Classroom instruction was complemented by virtual instruction, the content of which was delivered in the MOOC, which is compatible with the MOOC-based FC model. Each lesson was delivered in a blended learning approach in both groups.

All aspects of flipped learning were implemented along the course. The availability of the learning content and the use of interactive e-learning modules in the MOOC made it possible for the students to collaborate with other learners and interact with the learning content before classroom instruction. Theoretical knowledge was subsequently consolidated in the classroom instruction that follows. During classroom instruction, all subjects were reviewed, and the researcher was able to allocate more time to content-related classroom discussions because less time was needed for organizational purposes. The content learned and practiced at home was used as a basis for classroom discussions, and then consolidated by increasing student participation in the classroom activities in both groups.

Both groups followed the same instructional techniques, assessment methods, training, methodology, program, materials and curriculum. The only difference between the groups was that the treatment process was only applied to the experimental group, during which they were required to record and upload their self-made videos to the LMS system to be examined by the researcher if they had an effect on students' SRL, L2 speaking performance and course achievement scores.

In the experimental group, participants were required to display their knowledge

in each video recording by integrating the course content into their videos (see Appendix G), reflect on their previous video presentation (see Appendix H), and select and reflect on a video recording made by one of their peers (see Appendix H), which were uploaded to the LMS system of the university. Thus, the steps of viewing and reflecting on their peers' presentations, responding to feedback from peers and critical self-reflection were incorporated into the video-recording processes, allowing participants to analyze and evaluate the knowledge content and notice some aspects of their communication style to focus in preparing their subsequent presentations. The opportunity to view the videos as many as they wanted enabled learners to critically reflect on their own learning process, take the responsibility for their own learning, and provide feedback on their peers' presentations.

In the control group, on the other hand, the students were required to study the course content on a weekly basis at home and complete every step in the MOOC as a pre-class activity. They were also encouraged to actively engage in classroom activities and take part in content-related classroom discussions. To monitor their progress and to ensure that they are well prepared for classroom instruction, get maximum benefit from lessons, and gain a deeper understanding of the MOOC, they were required to prepare and submit reports to the LMS system on weekly basis in the form of presentations or reflections showing their work (e.g. comments, content images, fulfilled tasks, etc.) on the MOOC content. However, unlike the students in the experimental group, the students in the control group were not required to record self-made videos regarding the MOOC content. Figure 5 below describes the procedures in both groups.

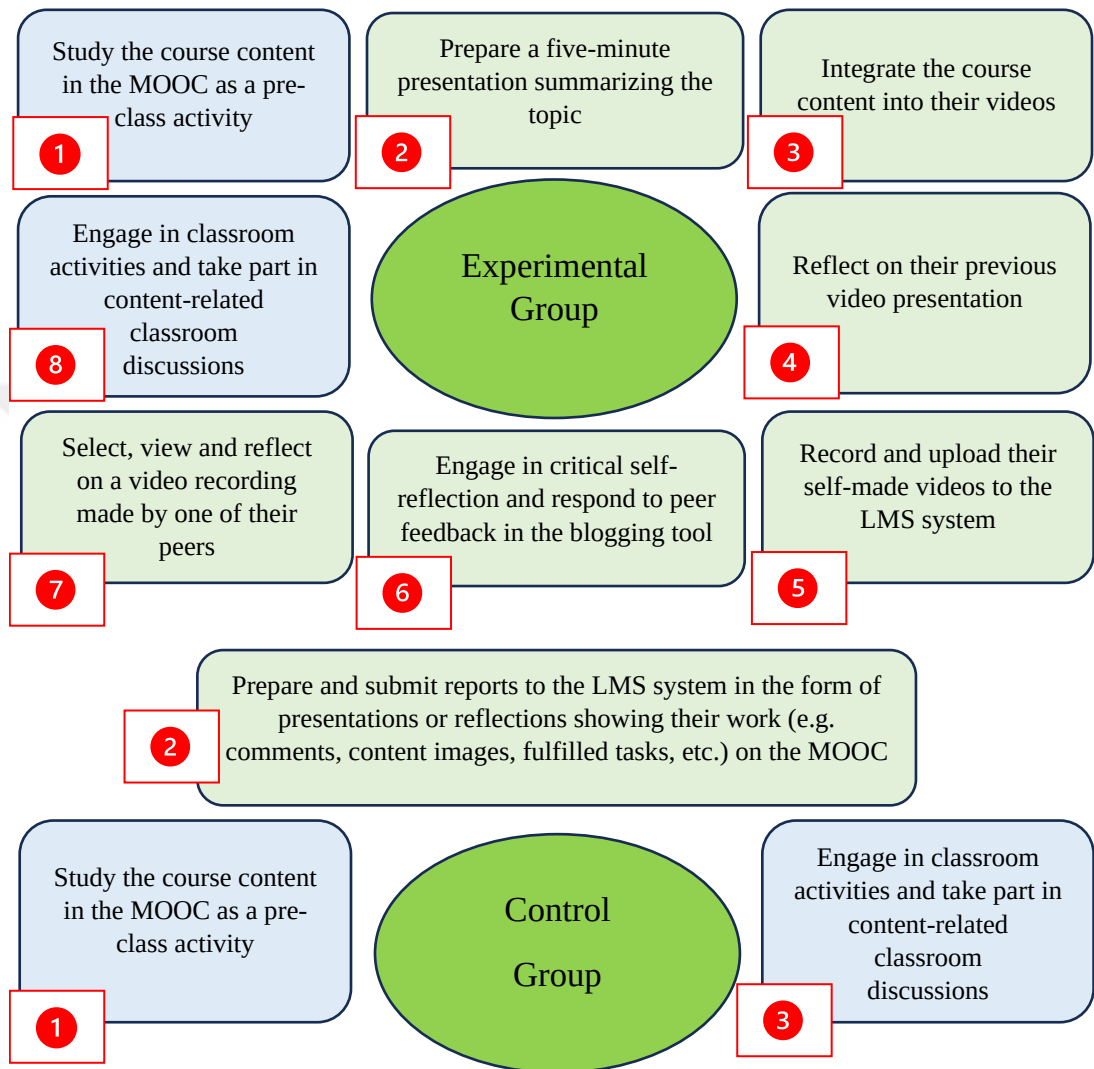


Figure 5. Procedures in the experimental and control groups

3.5.2.6 Post-testing. The post-testing process began with the quantitative data collection at the end of the treatment process. Post-tests were similar to the pre-tests applied before the treatment. First, the SOL-Q and the course achievement tests were administered on the same day to both groups. Then, the speaking tests were administered by two raters to both groups to examine the effect of a series of students' self-made videos as a pre-class activity on their SRL, L2 speaking performance and course achievement scores.

As for the post-testing of the qualitative data collection, it had two phases, gathered only from the experimental group, and took two weeks to complete after the completion of the treatment and the quantitative data collection process. First, semi-structured interviews and one week later upon the analyses of the semi-structured interviews, focus group interviews were conducted to gather data from the participants in the experimental group to explore how they perceived their self-made videos to improve their self-regulation during the implementation process. Out of thirty-three experimental group participants, twelve participants volunteered to participate in the semi-structured interviews. After filling out the online consent form, the respondents were interviewed through Zoom. The responses of the respondents were transcribed and analyzed using thematic analysis. Focus group interview took place following the analyses of the semi-structured interviews. It was undertaken with a total of six respondents from among the participants who joined the semi-structured interviews in a classroom using a Voice Recorder. The responses to the interview were then transcribed and transferred into an MS Word document to be analysed later. The qualitative data enabled useful information and detailed insights into the underlying factors influencing participants' self-regulation during the implementation process. The whole procedure followed in both groups is summarized in Table 9 below.

Table 9

The Chronological Order of the Procedures in the Research Study for the Experimental and Control Groups (2022-2023, Fall)

Weeks	Procedures	Experimental Group	Control Group
Week 1 (Oct, 3-7)	Introduction, Orientation and Pre-data Collection Stage	X	X
Week 2 (Oct, 10-14)	Pre-Tests (SOL-Q, Course Achievement Test and Speaking Test)	X	X
Week 3 (Oct, 17-21)	Implementation	X	
Week 4 (Oct, 24-28)	Implementation	X	
Week 5 (Oct-Dec, 31-4)	Implementation	X	
Week 6 (Nov, 7-11)	Implementation	X	
Week 7 (Nov, 14-18)	Implementation	X	
Week 8 (Nov, 21-25)	Implementation	X	
Week 9 (Nov-Dec, 28-2)	Implementation	X	
Week 10 (Dec, 5-9)	Implementation	X	
Week 3 (Oct, 17-21)	MOOC-based FC Instruction	X	X
Week 4 (Oct, 24-28)	MOOC-based FC Instruction	X	X
Week 5 (Oct-Dec, 31-4)	MOOC-based FC Instruction	X	X
Week 6 (Nov, 7-11)	MOOC-based FC Instruction	X	X
Week 7 (Nov, 14-18)	MOOC-based FC Instruction	X	X
Week 8 (Nov, 21-25)	MOOC-based FC Instruction	X	X
Week 9 (Nov-Dec, 28-2)	MOOC-based FC Instruction	X	X
Week 10 (Dec, 5-9)	MOOC-based FC Instruction	X	X
Week 11 (Dec, 12-16)	Post-Tests (SOL-Q, Course Achievement Test and Speaking Test)	X	X
Week 12 (Dec, 19-23)	Semi-Structured Interviews	X	
Week 13 (Dec, 26-30)	Focus Group Interviews	X	

3.5.3 Data analysis procedures. Both quantitative and qualitative data were collected in the present study. The quantitative data were gathered from three scales: SOL-Q, L2 speaking test, and course achievement test. The qualitative data, on the other hand, were collected through semi-structured and focus group interviews. The

analyses of the quantitative data were carried out using the pre- and post-tests results of the self-regulated online learning questionnaire, speaking test and course achievement test to respond to Research Question 1, 2 and 3. Qualitative procedures, on the other hand, were used to analyse the data for Research Question 4 and for further evaluation and interpretation of Research question 1.

3.5.3.1 Quantitative data analysis. The quantitative data analyses were conducted using Social Sciences Statistical Programme (SPSS) 22. The analyses of the quantitative data for the experimental and control groups' pre- and post-test results regarding the self-regulated online learning questionnaire, speaking and achievement tests were found to follow a normal distribution.

The items on the self-regulated online learning questionnaire were examined. Pre- and post-test test results of both groups were analysed to determine the suitability of the data set for parametric tests. The significance value of Shapiro-Wilk test was found to be below .05 for both groups, suggesting a non-normal distribution ($p < .05$). However, the results of Kolmogorov Smirnov test showed that the data were found to have a normal distribution ($p > .05$). Skewness and kurtosis values were also computed for both groups to confirm the normal distribution. As indicated in Table 10, the skewness and kurtosis values vary between -1.21 and 2.09. Since all the values remain in the band of ± 2 , it can be said that the data is distributed normally (Garson, 2012). The values within -2.58 and +2.58 are also deemed acceptable (Field, 2009).

Table 10

Test of Normality for Pre- and Post-test Scores (SOL-Q) of Both Groups

Tests	Groups	Kolmogorov-Smirnov ^a			Shapiro-Wilk			Skewness	Kurtosis
		Statistic	df	Sig.	Statistic	df	Sig.		
Pre-Tests	Control	.175	32	.14	.920	32	.021	-1.09	1.70
	Exp.	.138	33	.115	.932	33	.040	-1.08	2.02
Post-Tests	Control	.168	32	.23	.902	32	.007	-1.21	2.09
	Exp.	.110	33	.25	.948	33	.020	.22	1.26

As the data from both groups were found to follow a normal distribution, the parametric Independent Samples T-test was conducted to compare the differences in the scores of the self-regulated online learning levels of the two independent groups. Additionally, descriptive analysis was conducted for the subscales of the SOL-Q: (a) meta-cognitive activities before learning (MABL), (b) meta-cognitive activities during learning (MADL), (c) meta-cognitive activities after learning (MAAL), (d) time management (TM), (e) environmental structuring (ES), (f) persistence (PER), and (g) help-seeking (HS).

The items on the speaking test were also analysed. The data from both groups' pre- and post-test results were tested for normal distribution and significance value for Shapiro-Wilk test and Kolmogorov Smirnov test was found to be below .05 for both groups, suggesting a non-normal distribution ($p < .05$). However, the skewness and kurtosis values were acceptable for normality assumption, varying between -1.02 and .46 (see Table 11). As normality assumptions were supported with the speaking performance scores, the parametric Independent Samples T-test was applied to compare the speaking performances of the two independent groups. Sub-dimensions' scores were also calculated to measure the overall speaking performance of the participants.

Table 11

Test of Normality for Pre- and Post-test Scores (Speaking Test) of Both Groups

Tests	Groups	Kolmogorov-Smirnov ^a			Shapiro-Wilk			Skewness	Kurtosis
		Statistic	df	Sig.	Statistic	df	Sig.		
Pre-Tests	Control	.191	32	.004	.870	32	.001	.24	-1.02
	Exp.	.227	33	.000	.859	33	.001	.46	-.78
Post-Tests	Control	.188	32	.006	.932	32	.044	.36	.10
	Exp.	.225	33	.000	.874	33	.001	-.21	-1.02

After the normality tests for the speaking scores were assessed, the scores of the two raters were compared to calculate the correlation and see the level of agreement between them. The correlation between the two raters for the pre-test scores was

performed using the parametric Pearson Correlation Coefficient Test. The analysis revealed a strong positive linear correlation between the rankings of Rater 1 and Rater 2 for both the control group ($r = .80, p < .05$) and the experimental group ($r = .74, p < .05$), clearly proving a very high agreement between the two raters. The same analysis was conducted for the post-test scores. The calculated coefficient for the control group ($r = .75, p < .05$) and the experimental group ($r = .99, p < .05$) again suggests a strong positive linear relationship between the grades assigned by the two raters, indicating a considerable level of agreement between them. Based on the findings of Portney and Watkins (2009), coefficient values between .75 and .90 indicate a good level of reliability according to their established criteria for assessing the Pearson correlation coefficient. The average scores of two raters were calculated and the mean scores, calculated from the average scores of two raters, were adopted as the final grade to enhance the reliability of interpretation.

As for the achievement test, the data from both groups' pre- and post-test results were tested for normal distribution. The significance value for Shapiro-Wilk test and Kolmogorov Smirnov test was found to be above .05 for both groups, suggesting a normal distribution ($p < .05$). The skewness and kurtosis values were also found to be acceptable for normality assumption, varying between -1.17 and 1.07 (see Table 12).

Table 12

Test of Normality for Pre- and Post-test Scores (Achievement Test) of Both Groups

Tests	Groups	Kolmogorov-Smirnov ^a			Shapiro-Wilk			Skewness	Kurtosis
		Statistic	df	Sig.	Statistic	df	Sig.		
Pre-Tests	Control	.122	32	.200*	.962	32	.315	.11	-.86
	Exp.	.105	33	.200*	.965	33	.353	.32	1.07
Post-Tests	Control	.112	32	.200*	.970	32	.513	.07	-.50
	Exp.	.117	33	.200*	.947	33	.109	.07	-1.17

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

3.5.3.2 Qualitative data analysis. The analyses of the qualitative data were conducted to answer Research Question 4 and to interpret the quantitative data obtained from Research Question 1. Semi-structured and focus group interview data were coded and analyzed to examine the respondents' opinions about the underlying factors influencing their self-regulation regarding the implementation of producing self-made videos as a pre-class activity. To this end, thematic analysis was conducted following the stages described by Braun and Clarke (2006). To get a general overview of the data, responses to the interview questions that were recorded through Zoom (semi-structured) and Voice Recorder (focus group) were transcribed and transferred into an MS Word document. Every response was read repeatedly to highlight certain passages for coding. Then, the highlighted parts were examined again to formulate core themes for further analysis. Later, through sorting out, grouping and interpreting the statements, coded statements were grouped into several broad themes and identified as main themes. The main themes that come up during this process are described in the next chapter. Table 13 demonstrates the research questions, data collection and data analysis procedures followed.

Table 13

Overview of Research Questions, Data Collection and Data Analysis Procedures

Research Questions	Data Collection Instruments & Study Group	Data Analysis
1- Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' self-regulated learning?	Pre- & Post-Tests Self-Regulated Online Learning Questionnaire Experimental + Control Group	Inferential & Descriptive Statistics (means and standard deviations)
2- Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' L2 speaking performance?	Pre- & Post-Tests IELTS Speaking Band Descriptors Experimental + Control Group	Inferential Statistics (means and standard deviations)

Table 13 (cont.d)

3- Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' course achievement?	Pre- & Post-Tests Course Achievement Tests Experimental + Control Group	Inferential Statistics (means and standard deviations)
4- How do the pre-service ELT teachers perceive the implementation of self-made videos to improve their self-regulation in a MOOC-based FC model?	Semi-structured and Focus Group Interviews Experimental Group	Thematic Analysis

3.5.4 Validity and reliability. Ensuring the reliability and validity of quantitative methods and establishing trustworthiness for qualitative approaches are major challenges facing research and scientific studies. Validity can be referred to as the closeness of the statistical output to the true value of the variable that is being measured, while reliability can be defined as the consistency of test results (Creswell, 2014). To generate reliable and valid results, Heigham and Crocker (2009) suggest examining each component rigorously and implementing the best procedures that align with the principles of each research tradition.

Confidence in the data delivered by a high-precision process can be gained through proven measurement reliability in quantitative research. Three quantitative measurement instruments were used for this study. A Self-Regulated Online Learning Questionnaire, IELTS Speaking Band Descriptors and a Course Achievement Test. The questionnaire was administered to 65 participants in both groups and two Cronbach alpha internal consistency tests were conducted for both stages (pre- and post-tests). The reliability with Cronbach's alpha value was measured .86 for the first stage and .92 for the second stage, indicating a high level of reliability (see Table 14).

Table 14

Cronbach's Alpha Reliability Values of the Questionnaire (SOL-Q) for the Pre- and Post-Test Results

Test	Cronbach's Alpha	N of Items
Pre-Test	.86	42
Post-Test	.92	42

As for the IELTS Speaking Band Descriptors, the pre and post-tests were administered by two raters to ensure interrater reliability. The analysis of Spearman rank correlation coefficient also revealed a very high agreement between the two raters, thereby indicating a high level of reliability. The Course Achievement Test, on the other hand, was reviewed by an expert at the Department of Assessment and Evaluation at a state university. The expert affirmed that the achievement test was appropriate for the aims of this study. Additionally, the validity of the course achievement test was ensured by two outside experts in the field of ELT.

With respect to the qualitative data, the primary concern of qualitative research is to ensure trustworthiness, which is maintained through credibility, transferability, confirmability, and dependability (Lincoln & Guba, 1985). Data collection triangulation, researcher triangulation and member checking techniques were used to address credibility in the present study. Based on the recommendations of Merriam (2009), interview data were used to enhance the analysis of the quantitative data and focus group and semi-structured interviews were used to triangulate the qualitative data. Thus, data and methodological triangulation was done to ensure trustworthiness of the study. Moreover, to increase the credibility of the study, member checking techniques were implemented by seeking feedback and validation from the respondents to allow for a comprehensive discussion on their answers to the interview questions.

Regarding transferability (external validity), the degree to which the results could be generalized for other cases or transferred to other contexts or settings (Brewer, 2000), this study described the research context and the participants in detail via thick description so that it could provide useful insights and recommendations to other researchers who might consider replicating the study. Confirmability, which is about

the objectivity of the research (Patton, 2002), was maintained by shaping the qualitative data based on the participants' views rather than the views of the researcher to eliminate biases and presuppositions. Confirmability was also established through a detailed examination of data and multiple sessions of member checking validation stages. In terms of dependability, which is concerned with the question of whether the same results can be achieved if the same thing can be observed on two separate occasions (Tobin & Begley, 2004), the researcher aimed to establish it by thoroughly documenting the entire research process and seeking an external expert's evaluation to ensure the credibility and accuracy of the research methodology and findings.

3.6 Limitations

This study has achieved its goals of addressing the shortage of studies conducted on the established weaknesses of MOOCs and flipped learning in lacking the capability of autonomous learning and independent learners by offering evidence-based guidance for this promising teaching and learning approach. Besides, the study has yielded significant findings and has offered some useful tips to frequently asked questions about whether the implementation of self-made videos as a pre-class activity in a MOOC-based FC model can promote learners' autonomous learning, L2 speaking performance and course achievement. However, the study has some limitations that are also worth mentioning. First, it was limited to eight-week treatment of MOOC-based flipped instruction. An extended duration of treatment could have resulted in a greater impact on the participants' self-regulation and speaking performance. The second limitation was related to the relatively small sample size of the participants (a total of 65 students in both classes). The results could have been more reliable and generalizable with a larger sample size. Third, the study was conducted with two sections but one course only and based on a flipped classroom approach in both sections. A more differentiated, more inclusive and multi-dimensional study could have more reliable and comparable results. Finally, classroom dynamics such as the readiness of the individuals to use new educational technologies (MOOCs) as a pedagogical tool, the availability of resources in the classroom and at home, students' orientation processes towards developing new teaching and learning methods, and lastly students' motivation and constancy of their participation to the orientation

processes might have an impact on how they are going to perceive their self-made videos to improve their self-regulation during the implementation process.



Chapter 4

Findings

This chapter presents the findings of the current study based on the explanatory sequential mixed-methods research design. Therefore, the findings are grouped under quantitative and qualitative data respectively. The chapter provides detailed results of the quantitative data using the pre- and post-tests results of the self-regulated online learning questionnaire, speaking test and course achievement test to respond to Research Question 1, 2 and 3. Qualitative data, derived from semi-structured and focus group interviews, on the other hand, are used to analyse the data for Research Question 4 and for further evaluation and interpretation of Research question 1.

The first research question aimed to investigate the effect of the self-made videos as a pre-class activity on the self-regulated learning of the students in a MOOC-based FC model, while the second research question sought to examine the effect of the self-made videos as a pre-class activity on students' L2 speaking performance. The third research question, on the other hand, intended to explore whether the implementation of self-made videos as a pre-class activity affected students' course achievement in a MOOC-based FC model. Finally, the fourth research question, aimed to find out pre-service English language teachers' overall perceptions towards the implementation of self-made videos as a pre-class activity and its impact on their self-regulation in a MOOC-based FC model. The results of the quantitative and qualitative data are respectively presented in the following sections below.

4.1 Quantitative Findings

In this part of the study, the first, second, and third research questions are addressed through the quantitative analysis of the pre- and post-test results of the SOL-Q, speaking test and course achievement test, using SPSS 24. The findings of each quantitative analysis related to each research question are explained below.

4.1.1 Findings related to the 1st research question. Descriptive analyses were conducted for the subscales of the SOL-Q. Pre- and post-test results of both the experimental and the control group regarding the SOL-Q were also examined in relation to the first research question below.

1st Research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' self-regulated learning?

To investigate the effect of self-made videos as a pre-class activity on the self-regulated learning of the students in a MOOC-based FC model, the first research question explored whether there was a statistically significant difference between the post-test scores of the participants in both groups. However, to gain a thorough understanding of self-made videos' effect on students' self-regulated learning, subscales of the SOL-Q were first calculated, using descriptive statistics, to compare the progress each group made by evaluating the mean difference between the pre- and post-tests of each group in terms of each subscale. Figure 6 below describes the mean difference between the pre- and post-tests scores of each group based on the following subscales of the SOL-Q: (a) meta-cognitive activities before learning (MABL), (b) meta-cognitive activities during learning (MADL), (c) meta-cognitive activities after learning (MAAL), (d) time management (TM), (e) environmental structuring (ES), (f) persistence (PER), and (g) help-seeking (HS).



Figure 6. Pre- and post mean scores of the subscales of the SOL-Q

Before each subscale of the SOL-Q was analyzed, it was also important to see whether the students in both groups were similar or different in terms of these subscales prior to and following the treatment. For this reason, the subscales of the SOL-Q were calculated to compare the progress each group made by evaluating the mean difference between the pre- and post-tests of each group. In addition, an Independent Samples T-test was also conducted to determine whether the differences between the pre- and post-test scores of both groups were statistically significant or not. Table 15 below describes the results of the Independent Samples T-test of the pre- and post-test carried out to both groups.

Table 15

Comparison Between Pre- and Post-Test Results of Both Groups in terms of SOL-Q Subscales

Pre/Post Tests	Group	N	M	SD	p
Pre-MABL	Control	32	4.55	.96	.757
	Experimental	33	4.62	.96	
Pre-MADL	Control	32	4.90	.69	.529
	Experimental	33	5.02	.88	
Pre-MAAL	Control	32	5.07	.75	.842
	Experimental	33	5.12	.98	
Pre-TM	Control	32	2.88	.62	.001
	Experimental	33	4.87	.76	
Pre-ES	Control	32	5.29	1.37	.221
	Experimental	33	4.85	1.51	
Pre-PER	Control	32	4.91	1.35	.590
	Experimental	33	5.07	1.06	
Pre-HS	Control	32	4.98	1.31	.304
	Experimental	33	4.65	1.24	
Post-MABL	Control	32	4.67	.97	.075
	Experimental	33	5.06	.76	
Post-MADL	Control	32	4.84	1.02	.380
	Experimental	33	5.03	.70	
Post-MAAL	Control	32	5.01	.93	.004
	Experimental	33	5.60	.63	
Post-TM	Control	32	4.73	.77	.001
	Experimental	33	6.02	.56	
Post-ES	Control	32	5.19	1.18	.924
	Experimental	33	5.22	1.50	
Post-PER	Control	32	4.98	1.40	.553
	Experimental	33	5.17	1.25	
Post-HS	Control	32	4.52	1.32	.342
	Experimental	33	4.86	1.56	

Independent Samples T-Test

As seen in the table, students' pre- and post-test scores in each group were compared to test the effectiveness of the treatment and see the differences between groups. Test results show that there were statistically no significant differences between the pre-test scores of both groups ($p > 0.05$) in terms of all the subscales prior to treatment except for the time management (TM) subscale, which seems to be in favor of the experimental group ($p = .001$, $p < 0.05$). However, test results regarding

other subscales provide enough evidence to suggest that students' levels of self-regulated learning in both groups were statistically similar prior to the treatment.

As for the post-test scores, descriptive analyses indicate that the mean scores of the experimental group in each subscale is higher than those of the control group. Table 15 also indicates that although the post-test scores in each subscale increased in favour of the experimental group, they did not statistically differ after the treatment ($Sig > 0.05$), except for the meta-cognitive activities after learning (MAAL) ($p = .004, p < 0.05$) and time management (TM) ($p = .001, p < 0.05$) subscales. However, it can be concluded that the experimental process contributed to the participants' self-regulated learning skills. The descriptive analyses reveal that participants used meta-cognitive activities before learning, meta-cognitive activities during learning, meta-cognitive activities after learning, time management, environmental structuring, persistence, and help-seeking strategies more after the implementation when compared to before the experimental process.

To investigate the effect of self-made videos as a pre-class activity, further examination was done, using inferential statistics to compare the total mean scores of each group before and after the intervention. To ensure more reliable results in this regard, first, the pre-test scores of both groups were calculated and statistically analyzed before the implementation process started. As indicated in Table 16 below, the control group has got a mean score of 4.68, with a standard deviation of 0.51, while the experimental group's mean score is 4.89, with a standard deviation of 0.68. These results indicate that the differences between the groups are rather small at the beginning of the treatment.

Table 16

The Means of the Pre-test Scores of Both Groups

Group	N	M	SD
Control	32	4.68	.51
Experimental	33	4.89	.68

Furthermore, the pre-test scores of the control and the experimental group were compared through a parametric Independent Samples T-test to find out whether there was a statistically significant difference between the groups in terms of their self-regulated learning before the treatment. Table 17 below shows that although the pre-test mean value of the experimental group was slightly higher than that of the control group, there were statistically no significant differences between the pre-test scores of the groups ($p = .157$, $p > 0.05$), suggesting that students' levels of self-regulated learning in both groups were statistically similar prior to the treatment.

Table 17

Comparison Between Pre-Test Results of Both Groups in terms of SOL-Q

Test	Group	N	M	SD	p
Pre-Test	Control	32	4.68	.51	.157
	Experimental	33	4.89	.68	

Independent Samples T-Test

To ascertain the effect of the self-made videos as a pre-class activity on the self-regulated learning of the students, experimental and control groups' SOL-Q post-test scores were analyzed, using descriptive statistics. Figure 7 below presents the mean pre- and post-test scores of both groups.

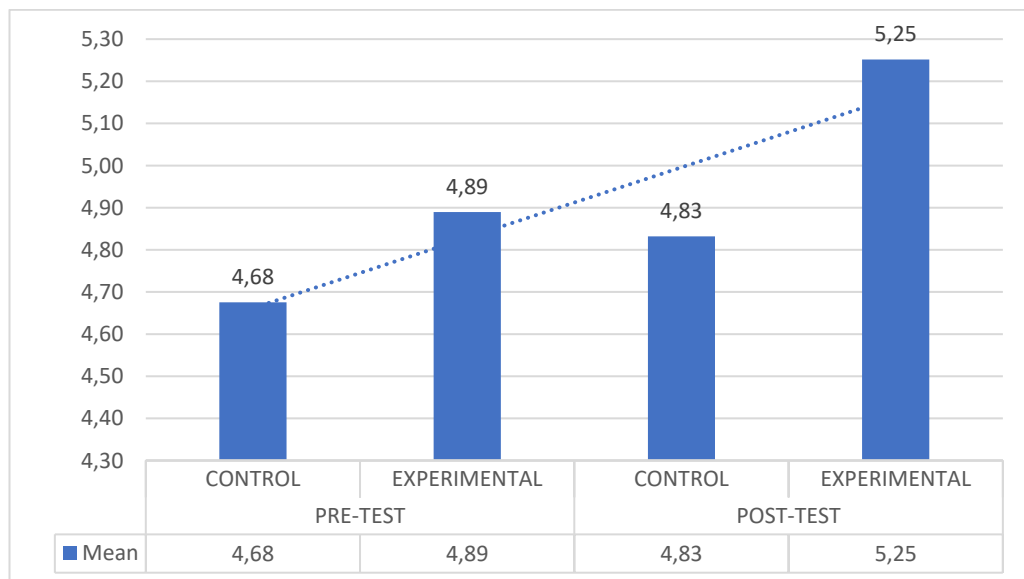


Figure 7. Mean scores of both the experimental and the control group in terms of SOL-Q

As shown in Figure 7 above, the mean score of the experimental group ($M = 5.25$, $SD = 0.61$) is higher than that of the control group ($M = 4.83$, $SD = 0.81$) regarding the post-test scores. An Independent Samples T-test was also conducted to determine whether the difference between the post-test scores of the two groups was statistically significant or not. Table 18 below shows the results of the Independent Samples T-test of the post-test carried out to both groups.

Table 18

Comparison Between Post-Test Results of Both Groups in terms of SOL-Q

Test	Group	N	M	SD	P
Post-Test	Control	32	4.83	.81	.021
	Experimental	33	5.25	.61	

Independent Samples T-Test

Table 18 indicates that there is a statistically significant difference between the post-test scores in favor of the experimental group ($t = -41.996$; $p = .021$, $p < .05$). Thus, as regards the first research question “Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers’ self-regulated learning?”, the test results show that the implementation has a significantly positive effect on students’ self-regulated learning in a MOOC-based FC model.

All in all, the findings of the questionnaire support the results of the subscales, suggesting a statistically meaningful difference in mean values in favor of the treatment group. Hence, with respect to the first research question: “Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers’ self-regulated learning?”, it can be suggested that the implementation of self-made videos has a significantly positive effect on students’ self-regulated learning in a MOOC-based FC model. However, the subscales of meta-cognitive activities after learning (MAAL) and time management (TM) need to be further analysed in a qualitative manner as they hint at a statistically significant difference in the experimental group after treatment.

4.1.2 Findings related to the 2nd research question. Pre- and post-test results of both the experimental and the control group with regard to the speaking test were examined. Descriptive analyses were also conducted for the four dimensions of the speaking test with respect to the second research question below.

2nd Research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' L2 speaking performance?

To explore the effect of self-made videos as a pre-class activity on students' L2 speaking performance, the pre-test scores of both groups regarding the speaking test which was conducted as a pre- and post-test and administered by two raters were calculated and statistically analyzed before the treatment process started. To ensure more reliable results, the pre-test scores of the experimental and control groups' proficiency levels in speaking skills were analyzed through an Independent Samples T-test to determine whether there is a significant difference between the two groups. The total mean scores were calculated from the average scores of two raters. As indicated in Table 19 below, the control group has achieved a total mean score of 13.44, with a standard deviation of 2.44, while the experimental group's total mean score is 12.64, with a standard deviation of 3.09, suggesting a small mean difference in favor of the control group. Despite this difference, however, test results show that there were statistically no significant differences between the pre-test scores of both groups ($p = .696$, $p > 0.05$) prior to the treatment process.

Table 19

Comparison Between Pre-Test Results of Both Groups in terms of L2 Speaking Performance

Speaking Performance					
Test	Group	N	M	SD	p
Pre-Test	Control	32	13.44	2.44	.696
	Experimental	33	12.64	3.09	
Independent Samples T-Test					

To investigate the effect of the self-made videos as a pre-class activity on students' L2 speaking performance, experimental and control groups' pre- and post-test scores were calculated. Figure 8 below describes the total mean of the pre- and post-test scores of both groups.

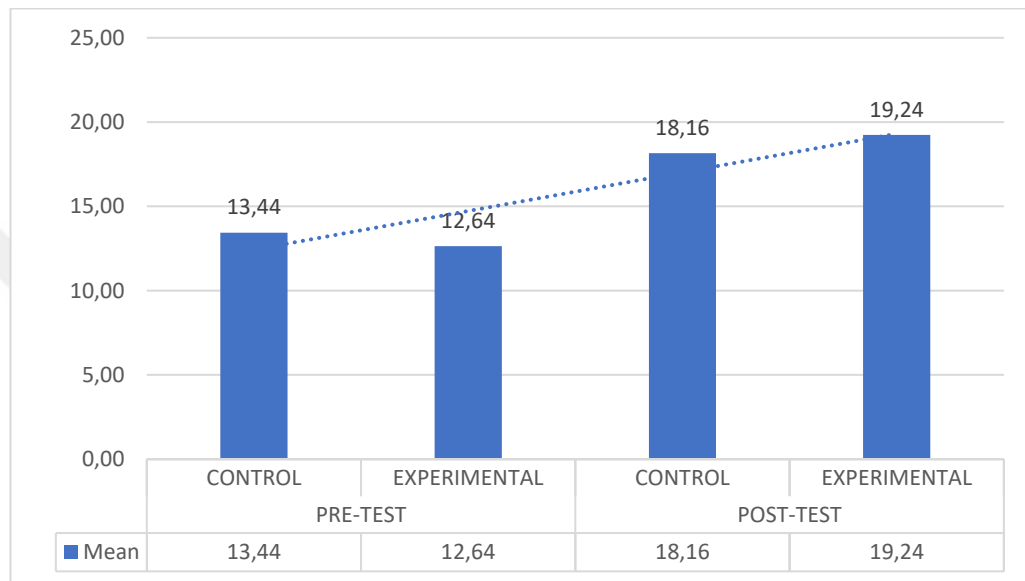


Figure 8. Mean scores of both the experimental and the control group in terms of speaking performance

As shown in Figure 8 above, the mean score of the experimental group ($M = 19.24$, $SD = 3.29$) is higher than that of the control group ($M = 18.16$, $SD = 3.09$) regarding the post-test scores. A parametric Independent Samples T-test was also conducted to determine whether the difference between the post-test scores of the two groups was statistically significant or not. Table 20 below shows the results of the Independent Samples T-test of the post-test carried out to both groups.

Table 20

Comparison Between Post-Test Results of Both Groups in terms of L2 Speaking Performance

Test	Group	N	M	SD	P
Post-Test	Control	32	18.16	3.09	.032
	Experimental	33	19.24	3.29	

Independent Samples T-Test

Table 20 indicates that there is a statistically significant difference between the post-test scores in favor of the experimental group ($t = -60606$; $p = .032$, $p < .05$). Thus, as regards the second research question “Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers’ L2 speaking performance?”, the test results suggest that the implementation has a significantly positive effect on students’ L2 speaking performance in a MOOC-based FC model.

Despite these results, though, to achieve a better understanding of self-made videos’ effect on students’ L2 speaking performance, a comparative analysis was conducted to determine the progress each group made by evaluating the mean difference between the pre- and post-tests of each group regarding the following four dimensions of the speaking test, which are simply referred to as dim1, dim2 etc.: a) Fluency & Coherence = Dim 1 b) Lexical resource = Dim 2 c) Grammatical range & Accuracy = Dim 3, and d) Pronunciation = Dim 4.

Hence, both groups were assessed on a descriptive scale based on their pre- and post-test scores in these dimensions. Moreover, an Independent Samples T-test was performed to compare and determine whether there is a significant difference between the pre- and post-test scores of both groups. The pre- and post-test scores were calculated from the average scores of two raters. Table 21 below shows descriptive analyses and the results of the Independent Samples T-test of the pre- and post-tests carried out to both groups.

Table 21

Comparison Between Pre- and Post-Test Results of Both Groups in terms of Four Dimensions of the Speaking Test

Pre/Post Tests	Group	N	M	SD	p
Pre-Dim 1 'Fluency & Coherence'	Control	32	3.25	1.02	.696
	Experimental	33	3.15	1.00	
Pre-Dim 2 'Lexical resource'	Control	32	3.25	.72	.353
	Experimental	33	3.06	.90	
Pre-Dim 3 'Grammatical range & Accuracy'	Control	32	3.47	.88	.126
	Experimental	33	3.12	.93	
Pre-Dim 4 'Pronunciation'	Control	32	3.47	1.05	.506
	Experimental	33	3.30	.95	
Post- Dim 1 'Fluency & Coherence'	Control	32	4.56	1.56	.032
	Experimental	33	5.24	1.06	
Post- Dim 2 'Lexical resource'	Control	32	4.34	.94	.071
	Experimental	33	4.64	.99	
Post- Dim 3 'Grammatical range & Accuracy'	Control	32	4.31	.97	.193
	Experimental	33	4.67	.98	
Post- Dim 4 'Pronunciation'	Control	32	4.94	.95	.487
	Experimental	33	5.09	1.23	

Independent Samples T-Test

As seen in Table 21 above, the experimental group outscored the control group in terms of the post-test scores and made better progress in each dimension when the progress each group made before and after the treatment is compared. However, the test results showed that although the post-test scores in each dimension increased in favour of the experimental group, they did not statistically differ after the treatment ($Sig > 0.05$), except for Dim 1 (Fluency & coherence) ($p = .032$, $p < 0.05$). However, it can be concluded that the implementation contributed to the participants' L2 speaking performance in each dimension, supporting the total mean scores of the speaking test as a whole.

As a result, in regard to the second research question: "Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' L2 speaking performance?", it can be suggested that the implementation of self-made videos has a significantly positive effect on students' L2 speaking performance in a MOOC-based FC model.

4.1.3 Findings related to the 3rd research question. Pre- and post-test results of both the experimental and the control group as regards their course achievement were investigated with respect to the third research question below.

3rd Research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' course achievement?

The third research question aimed to answer whether the implementation of self-made videos as a pre-class activity affect students' course achievement in a MOOC-based FC model. Like the first two research questions, the statistical data from both groups were also found to follow a normal distribution. Therefore, achievement scores were calculated and statistically analyzed using Independent Samples T-tests. To get more reliable results, the pre-test scores of both groups were analysed to see whether they were similar or different prior to the intervention. As indicated in Table 22 below, the mean score of the control group is 28.50 with a standard deviation of 11.00, while the mean score of the experimental group is 25.15 with a standard deviation of 7.98, showing a slight difference in favor of the control group prior to the treatment. However, as shown in the table, the results of the Independent Samples T-test indicate that there were statistically no significant differences between the pre-test scores of the groups ($p = .167$, $p > 0.05$), suggesting that students' course achievement levels were statistically similar prior to the treatment.

Table 22
Comparison Between Pre-Test Results of Both Groups in terms of Course Achievement

Pre-Test					
Test	Group	N	M	SD	p
Pre-Test	Control	32	28.50	11.00	.167
	Experimental	33	25.15	7.98	
Independent Samples T-Test					

To determine the effect of the self-made videos as a pre-class activity on the course achievement of the students, it was necessary to find out whether there was a significant difference between the post-test scores of the students after the treatment. Therefore, experimental and control groups' post-test scores were statistically analyzed using an Independent Samples T-test. Figure 9 below describes the mean pre- and post-test scores of both groups.

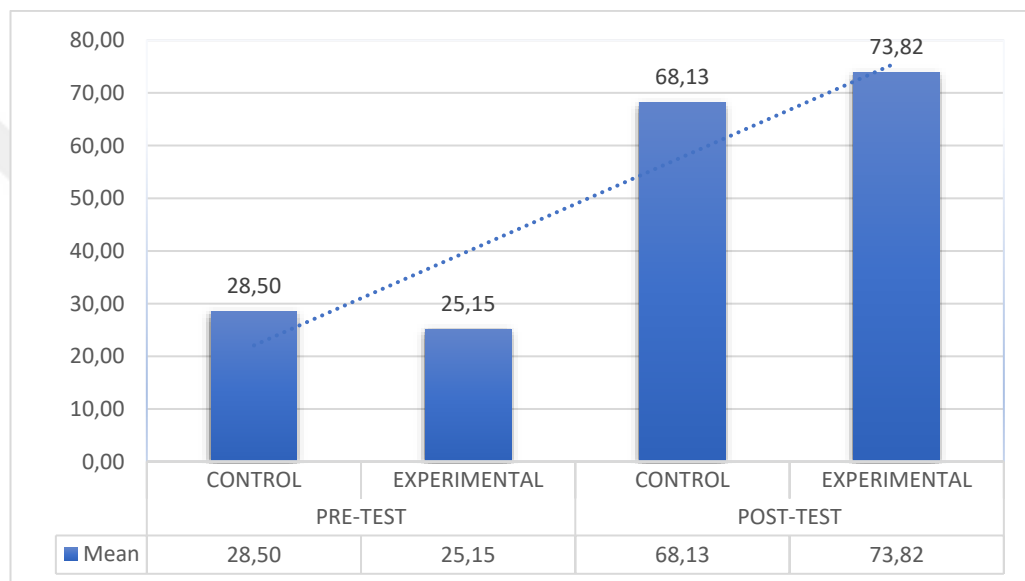


Figure 9. Mean scores of both the experimental and the control group in terms of course achievement

As indicated in Figure 9 above, the mean score of the experimental group ($M = 73.82$, $SD = 9.09$) is higher than that of the control group ($M = 68.13$, $SD = 10.55$) regarding the post-test scores. An Independent Samples T-Test was also conducted to determine whether the difference between the post-test scores of the two groups, which is in favor of the experimental group, was statistically significant or not. Table 23 below shows the results of the Independent Samples T-Test of the post-test carried out to both groups.

Table 23

Comparison Between Post-Test Results of Both Groups in terms of Course Achievement

Test	Group	N	M	SD	p
Post-Test	Control	32	68.13	10.55	.023
	Experimental	33	73.82	9.09	

Independent Samples T-Test

Table 23 shows that the difference between the post-test results of the experimental and control groups is statistically significant ($t = -2.334$; $p = .023$, $p < .05$). In this regard, with respect to the third research question “Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers’ course achievement?”, the statistical analyses of the test results suggest that the implementation of self-made videos has a significantly positive effect on students’ course achievement in a MOOC-based FC model.

4.2 Qualitative Findings

After the analyses of the quantitative findings were completed, these quantitative findings were supplemented by a comparative analysis of the qualitative analyses to critically reflect upon and assess the quantitative results. Qualitative analysis focused on Research Question 4 to provide a better understanding of the quantitative data obtained from Research Question 1. The data were gathered through semi-structured and focus group interviews that were conducted after the eight-week implementation and upon the completion of the quantitative analysis. The qualitative data were analysed to investigate the opinions of the respondents regarding the factors influencing their self-regulation in relation to their self-made videos as a pre-class activity. The results of the qualitative analysis in connection with the fourth research question are discussed below.

4.2.1 Findings related to the 4th research question. To gain a deeper understanding of the quantitative findings of the first research question, respondents were asked for more detailed information regarding their views on the implementation of self-made videos and its impact on their self-regulation. To be specific, qualitative evaluation of both the semi-structured and focus group interviews was made with regard to the fourth research question below.

4th Research question: How do the pre-service ELT teachers perceive the implementation of self-made videos to improve their self-regulation in a MOOC-based FC model?

To gain a better understanding of respondents' perceptions towards the implementation of self-made videos as a pre-class activity and its impact on their self-regulation in a MOOC-based FC model, the data collected through semi-structured and focus group interviews were systematically examined, revised, refined and analysed. Diverse views were identified upon being clustered to develop some key themes. Then common statements were selected and identified as main themes. Table 24 below outlines the core themes revealed during the qualitative data analysis together with some sample quotes indicating the perceptions of the respondents, the corresponding SOL-Q subscales, and the self-regulation strategies used by the respondents.

Table 24

Themes, Sample Quotes from Participants, and Matching SOL-Q Subscales and Self-Regulation Strategies

Themes	Sample Quotes	Matching SOL-Q Subscales	Used Self-regulation Strategies
Transition from memorization to understanding	“Before MOOC, we just read the information and try to memorize them, but after MOOC, thanks to video material and a lot of examples, we learned, not memorized.” (Participant 2) “I can say that if we didn’t have to shoot a video, I wouldn’t have tried so hard to understand the subjects. In order to make and shoot videos, you have to learn the content properly. You learn first and then shoot the video.” (Participant 1)	meta-cognitive activities before learning (MABL)	self-monitoring
Increased self-awareness	“I learned how to criticize myself and not to repeat the same mistakes. Also, it made me focus more on personal shortcomings in language learning.” (Participant 5) “I think that studying by always explaining the subject makes it easier to learn. Preparing everything on my own helped me become an independent learner.” (Participant 3) “I can learn better by myself using online sources. Since there were limited information, I had to do my own research.” (Participant 6)	meta-cognitive activities during learning (MADL)	self-reflecting on performance outcomes & self-instruction
Role transformation	“I personally learn better when I pretend to explain things to others. In this case while shooting the videos. If there wasn’t a video shooting, I don’t think I would put this much effort into learning. So, videos made me learn more since I had to explain it to someone else.” (Participant 1)	persistence	goal-setting
Reflective learning	“In the beginning, it took me a lot of time to learn, but gradually I was able to manage my time.” (Participant 4) “I created my video’s outline during MOOC study, I tried to plan my PPT files in logical order.” (Participant 2)	meta-cognitive activities after learning (MAAL) & time management	utilizing task strategies

4.2.1.1 Transition from memorization to understanding. When asked about their views on their weekly self-recorded video assignments, the respondents highlighted the impact of the video assignments in fostering a sense of order and enhancing their skills as independent learners. They added that the act of explaining concepts to others, particularly through video creation, served as a powerful motivator and learning tool as it helped them understand personal knowledge gaps and consider ways to enhance knowledge transfer to the audience. They also emphasized the role of self-made videos as an important self-learning process, which enables the shift of learning from memorization to a deeper understanding process, as indicated in the excerpts below;

[...] Normally I used to memorize the subject of the topic but now as I shoot a video, I realized that I understand it so well (Participant 4).

[...] It (self-recorded video) changed my studying style. Before I just read and tried to memorize. After MOOC, I start writing and presenting, so it makes the learning process easier (Participant 5).

When participants' views regarding transition from memorization to understanding are further evaluated, a high level of concordance between the *meta-cognitive activities before learning* sub-scale and *self-monitoring* self-regulation strategy seems to exist, suggesting that self-made videos stimulate mental functions such as memory training and creative thinking and thus ensure the development of a self-monitoring system for optimal learning performance. Hence, it can be suggested that a dynamic combination of self-monitoring, meta-cognitive skills and knowledge activated by self-made videos can lead to gains in self-regulation and provide a more complete and better understanding of the subject matter. Below are two excerpts hinting at the aspects mentioned above.

[...] We were asked to shoot a video every week. To do this, you have to work in a certain order. So, you become a better independent learner (Participant 6).

[...] I can say that shooting videos kept me organized and disciplined because it was not for just one time; we shoot our videos regularly (Participant 5).

4.2.1.2 Increased self-awareness. While responding to the question whether the self-assessment part of their videos changed any of their behaviors or habits, mostly the participants emphasized that it fostered critical self-reflection and led to increased self-awareness. They also stated that the self-assessment part of their videos helped them recognize their capability as an independent learner through reflective questioning, which helped them uncover skills that were previously unnoticed or taken for granted, as commented in the excerpt below;

[...] I'd say it changed somehow. Because as I evaluated myself, I saw my shortcomings that I was not aware of before and I tried to improve them (Participant 2).

[...] I had never felt the need to learn something independently before (Participant 4).

Moreover, students' increased self-awareness seems to bring about conformity between the *meta-cognitive activities during learning* sub-scale and the self-regulation strategies of *self-reflecting on performance outcomes* and *self-instruction*. During the self-instruction phase of the contents that are obtained in the MOOC, the students are required to reflect on their learning outcomes, resulting in continual stimulation of the meta-cognitive activities during the learning process. It seems that the self-instruction process promotes increased self-awareness, and the self-recorded videos create the preconditions for adequately reflecting the learning outcomes achieved in the context of MOOC-based flipped learning. Hence, it can be suggested that self-video recording along with a balanced mixture of self-reflection, self-instruction in the MOOC and discussions in the classroom could serve as effective means of self-regulation. These suggestions can be inferred from the excerpts below.

[...] Maybe, I wouldn't force myself to understand some pages if I didn't need to prepare a video about them (Participant 1).

[...] When studying from the MOOCs, the learning part is up to me (Participant 2).

[...] Yes. I searched the things I could not understand (Participant 5).

4.2.1.3 Role transformation. Many of the respondents described how the act of teaching while recording and presenting the content increased confidence and control over the subject matter. They also discussed the transformative experience of feeling like a teacher and the dual role of being both a student and a teacher in the learning process, emphasizing the multifaceted nature of their self-learning process and educational experience. Below is the statement of one of the respondents.

[...] After I started to shoot these videos, I slightly felt like a teacher, and this made me happy. Also, I decided to shoot them as natural as I can. In this way, I was able to see my natural situation in case it was a live performance (Participant 3).

Based on the statements of the participants, it can also be suggested that the *persistence* sub-scale is compatible with the *goal-setting* self-regulation strategy, suggesting that when they are part of a goal setting process, the students have a greater commitment to the accomplishment of those goals. The acts of teaching the content and self-video recording seem to have provided the conditions needed for developing the role of the teacher, thus enhancing the development of students' autonomy and self-regulated learning. Hence, it may be suggested that when practiced regularly, the self-made video activity could help individuals improve their study skills such as self-discipline, goal setting, persistence and self-regulation. These suggestions can be deduced from the statements below;

[...] Because there was a deadline, I wouldn't get up my desk until I finished the course (Participant 4).

[...] In addition to the role of a student, I also played the role of a teacher. ... I used a new learning method by pretending to teach or preparing to teach information to others helped me learn better (Participant 2).

[...] I can say that talking about the topic I learnt and creating a video to teach about it was informative, as creating knowledge requires knowing the topic. I was more active during learning because I was looking for key points for my video content (Participant 1).

4.2.1.4 Reflective learning. While interpreting the role of the self-generated videos and their experiences of using these videos as a pre-class activity for their learning, the participants stated that the self-generated videos enabled them to self-manage their learning effectively and guided them towards self-organised and reflective learning. They also commented that as well as reflective learning processes, self-made videos functioned as a trigger for creative thinking and self-directed learning. They concluded that the promotion of self-directed and self-organised learning, consequently, enabled them to control their own learning, define their learning objectives, develop learning strategies, and reflect on their own learning processes. See how these interpretations are displayed in the excerpts below;

[...] Now I don't have to rely on face-to-face teaching (Participant 4).

[...] While making PPTs I had to plan and organize the new knowledge about the course (Participant 3).

[...] We made presentations and it helped to make planning and setting goals. I needed to understand in detail the topics that I had to explain. It was hard for

me to shoot video and read the MOOCs at first, but it got better with the passage of time (Participant 6).

These qualitative findings support the results of the quantitative findings regarding the meta-cognitive activities after learning (MAAL) subscale, which got the second highest mean score ($M=5.60$) after the time management (TM) subscale ($M=6.02$), both hinting at a statistically significant difference after the treatment in favor of the experimental group. These findings indicate that self-made videos have the potential to contribute to the development of cognitive and meta-cognitive skills as they enable individuals to learn in a self-organised and critically reflective manner.

The participants also noted that they felt empowered to plan and implement their own individual learning processes independently as they learned how to manage their time and control their learning effectively and efficiently over time through the regular creation of self-made videos on weekly basis, as suggested in the comments below;

[...] Yes, because we shoot videos, and the video should not be boring, so it was beneficial in terms of time-management. When I start, I always try to finish that thing (Participant 2).

[...] I also planned my week and created times to study MOOC. Because no one would bother me whether I understood them or not. I must master the subjects to shoot a video which helps me focus better (Participant 1).

These qualitative findings support the results of the quantitative findings regarding the time management (TM) subscale, along with the meta-cognitive activities after learning (MAAL) subscale, wherein the construct of time management got the highest mean score ($M=6.02$), hinting at a statistically significant difference after the treatment in favor of the experimental group. These finding suggest that student-produced videos might enhance their time management and planning skills and support the development of their self-regulated learning.

Likewise, student-produced videos seem to have brought about better conformity between the self-regulation strategy of *utilizing task strategies* and *meta-cognitive activities after learning* and *time management* subscales, suggesting that reflective learning provides task strategies for developing cognitive and behavioural flexibility and thus can be used to help learners develop their own time management abilities. Hence, it might be argued that self-produced videos could promote reflective learning techniques and enable learners to self-manage their learning by providing opportunities to implement appropriate strategies quickly and efficiently.

Overall, analyses of the qualitative findings regarding participants' views on the implementation of self-made videos as a pre-class activity and its impact on their self-regulation revealed that it enabled them to manage their time, served as a catalyst for perseverance, and promoted intrinsic motivation for independent learning. All in all, the results of the qualitative analyses were in line with the quantitative data, suggesting that the implementation of self-made videos has a significantly positive effect on students' self-regulated learning in a MOOC-based FC model. They seemed very positive about the skills and knowledge they had acquired through the implementation process.

Chapter 5

Discussion and Conclusions

In this chapter, first the findings of each research question are discussed in the light of previous research and relevant literature. Second, conclusions are presented in detail. Third, pedagogical implications for practice are described. Finally, directions for future research are suggested.

5.1 Discussion of the Findings of the Research Questions

5.1.1 Discussion of the findings of the 1st research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' self-regulated learning?

The first research question aimed to investigate the effect of self-made videos as a pre-class activity on the self-regulated learning of the students in a MOOC-based FC model by assessing whether there was any statistically significant difference between the post-test scores of the students in the experimental and control group. The descriptive analyses conducted for the subscales of the questionnaire (see Table 15) and the post-test scores of the two groups (see Figure 7) were in favor of the experimental group. Similarly, the test results showed that there was a statistically significant difference between the mean scores of the students who implemented self-made videos as a pre-class activity and those who didn't (see Table 18), indicating that the implementation of self-made videos as a pre-class activity had a significantly positive effect on students' self-regulated learning in a MOOC-based FC model.

This outcome is contrary to the few studies which did not find any positive effect of self-made videos on the development of students' self-regulated learning in a MOOC-based FC learning model (Bruff et al., 2013; Wang & Zhu, 2019). However, it is in line with some of the previous studies which found that self-made videos can support the development of students' autonomy and self-regulated learning (Barton, 2019; Freyn & Gross, 2017; Haryanti, 2019; Ho, 2011; Hsu, 2014; Kim, 2019; Meyer & Forester, 2015; Rochmahwati, 2015; Yang & Yeh, 2021). The result is also in accord

with the results of some previous studies highlighting the potential benefits of using videos before class time with a view to fostering the autonomy of learners in a MOOC-based FC learning model (Gimeno-Sanz, 2023; Huang et al., 2022; Pérez-Sanagustín et al., 2021; Qian et al., 2022; Thongkoo & Daungcharone, 2022).

The positive self-regulated learning development of the students in the current study could be explained by the combined positive effects of the rich learning experience of the MOOC and the constant self-improvement by means of analytical self-observations enabled by the student-produced videos. This explanation is supported by some researchers who reported that self-made videos enhance students' problem-solving and analytical skills (Naqvi & Al Mahrooqi, 2016; Wu and Luo, 2022; Yeh, 2018). In the same vein, Qian et al. (2022) and Sun & Yang (2015) stressed that video making and the data analysis on the MOOC provide automatic, ongoing assessment through which learners can readily track their progress, helping them to find out more about their own pace of learning and improve their self-regulation skills. Besides, the studies conducted by Rüschoff and Ritter (2001) and Thongkoo and Daungcharone (2022) indicated that as they generate videos, students are motivated to use knowledge reflectively through the continuous construction of knowledge and training process. These continuous reflective learning practices could have encouraged autonomous learning among the students. The reason to this might lie in the fact that students' regular use of the MOOC in a flipped learning environment together with their routine video production might have promoted their self-regulated learning because it might have met their individual needs in a flexible manner. Zhang's (2022) opinions are also in line with this view, as he asserts that the MOOC-based FC model improves autonomous learning because it enables learners to self-manage their own learning through real-time communication and allows easy collaboration over the Internet and within the classroom.

The significantly positive effect of the self-made video implementation on students' self-regulated learning may be considered in accordance with the findings of some researchers, who support video-making as an effective pedagogy to promote metacognitive skills (Kim, 2019), learner autonomy (Rochmahwati, 2015; Yang & Yeh, 2021), engagement (Ho, 2011), and idea expression (Meyer & Forester, 2015)

among students. Alternatively, the finding of the current study could be considered in accordance with the findings of some studies, positing that content delivery through MOOCs and in-depth flipped classroom practices help improve autonomous online learning outside the class and promote a collaborative atmosphere in the class. (Gimeno-Sanz, 2023; Özdemir et al., 2021; Song et al., 2015; Sonyel & Sadaghiani, 2023; Turan & Yilmaz, 2024).

The implementation of self-made videos has had a significantly positive effect on students' self-regulated learning skills despite the challenges of orientation towards a new e-learning process adapted for self-study and the difficulty in making this new learning process a competitive advantage through self-made videos. Similarly, adjustment to new patterns of behaviours and changing established study habits could have caused emotional, cognitive, and behavioural difficulties for the students. Therefore, the significant improvement observed in the self-regulated learning of the students who implemented self-made videos represents an important and timely contribution of this study to the literature by providing a valuable framework to support the development of students' autonomy and self-regulated learning. The fact that this video-based and non-conventional way of learning based on self-instruction improved students' theoretical knowledge and produced significant improvements in their self-regulated learning could provide an impetus for reflecting on the learning progress as learning to learn and independent learning are essential and need to be encouraged as key skills in this age of information.

5.1.2 Discussion of the findings of the 2nd research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' L2 speaking performance?

The second research question sought to examine the effect of self-made videos as a pre-class activity on students' L2 speaking performance in a MOOC-based FC model by exploring whether there was any statistically significant difference between the post-test scores of the students in the experimental and control group. The test results revealed a statistically significant difference between the students who implemented self-made videos as a pre-class activity and those who didn't (see Table 20). Similarly,

the descriptive analyses (see Figure 8) conducted to determine the progress each group made by evaluating the mean difference between the pre- and post-tests of each group regarding the four dimensions (see Table 21) of the speaking test provided enough evidence to suggest a significantly positive effect of the implementation of self-made videos on students' L2 speaking performance in a MOOC-based FC model.

These results agree with the findings of several studies in the literature revealing that self-recording videos can generate positive effects on the L2 speaking performance of EFL learners (Encalada & Sarmiento, 2019; Naqvi & Al Mahrooqi, 2016; Shofatunnisa et al., 2021; Sun & Yang, 2013; Yeh, 2018). Similarly, a rich variety of previous research studies investigating the effects of MOOC and flipped instruction on L2 speaking performance found that the MOOC-based FC model can positively affect L2 speaking and communication skills for learners who have little exposure to a second language in traditional classrooms. (Ahmed et al., 2022; Castro et al., 2022; Gimeno-Sanz, 2023; Griffiths et al., 2015; Huang et al., 2022; Liu et al., 2022; Niu & Gao, 2022; Reparaz et al., 2020; Shih, 2010; Yaşar, 2020; Zhang, 2022).

Since L2 speaking requires a more synchronous, interactive and co-constructive practices which allow for more interpersonal communication and social dialogue, Russell (2018) recommends communication practices such as establishing contact through brief conversations or exchanging of information on familiar topics, which would stimulate interaction, creative participation, motivation and interest among learners. However, considering the lack of willingness to communicate and the high levels of L2 speaking anxiety among EFL students, as reported by Pichette (2009), it seems advisable to promote self-produced videos for L2 learners to diminish the levels of stress and constraints arising from interpersonal communication and L2 speaking anxiety.

Additionally, the positive effect of the self-made video implementation in the current study seems to have helped initiate some specific improvements that cannot be realised immediately. An even much broader effect could somewhat be restricted due to the limited period and small-scale implementation. Therefore, it seems that a more intensive implementation extended over a longer period would require a little more time and effort but would produce much better outcomes. Although the absence of

real-time, face-to-face interaction and an immediate feedback mechanism have been identified as several limitations of MOOCs by Song et al. (2015) and Yousef et al. (2015), the effect of the student-generated videos was satisfactory as they allowed learners to work at their own pace and improved their L2 speaking skills in a MOOC-based FC model.

It seems that the self-recording videos in the present study encouraged the students to practice L2 speaking through improvisation without causing any needless anxiety or inconvenience. Similarly, the student-produced videos seem to have been instrumental in helping students to speak at length with relative ease on familiar topics, as they were effective enough to bring about a statistically significant difference in favour of the experimental group. On the other hand, considering the relatively brief duration, the lack of two-way information flow, and the absence of interpersonal communication opportunities of the self-made video implementation, it could be argued that the significantly positive effect of the student-generated videos on the L2 speaking performance of the students was not in line with the extent of the short duration and low intensity of the implementation, which seems to be highly promising.

5.1.3 Discussion of the findings of the 3rd research question: Does the implementation of self-made videos in a MOOC-based FC model affect pre-service English language teachers' course achievement?

The third research question set out to explore the effect of self-made videos as a pre-class activity on students' course achievement in a MOOC-based FC model by investigating whether there was any statistically significant difference between the post-test scores of the students in the experimental and control group. The test results revealed a statistically significant difference (see Table 23) in favor of the experimental group, suggesting that the implementation of self-made videos had a significantly positive effect (see Figure 9) on students' course achievement in a MOOC-based FC model.

These results correspond to the findings of numerous previous studies in the literature indicating the positive effect of the self-made videos on students' academic achievement (Azis et al., 2022; Freyn & Gross, 2017; Gareis, 2000; Haryanti, 2019;

Hsu, 2014; Nagy et al., 2020; Rebong, 2022; Sun & Yang, 2015; van Wyk & van Reyneveld, 2021; Weinstein, 2006; Yang & Yeh, 2021). The positive effect of the experimental process on students' academic development is also supported by research studies that have compared different groups of individuals in a MOOC-based FC model (Ahmed et al., 2022; Ghadiri et al., 2013; Liu et al., 2022; Wang & Zhu, 2019; Xinying, 2017; Yaşar & Polat, 2021; Zhang, 2022). However, there are studies, comparing the use of MOOCs in blended learning programs with traditional face-to-face courses, whose results do not agree with the findings of the present study, suggesting that there is no statistically significant difference in student achievement between flipped and non-flipped classes (Griffiths et al., 2015; Pérez-Sanagustín et al., 2021; Wu & Luo, 2022).

The positive effect of the experimental process on the academic achievement of the students might be due to the fact that it helped them become aware of their own abilities as they played an active role in their own learning process through the self-recorded videos on regular basis. The content knowledge they acquired from the MOOC might have offered them opportunities to discover their capability to learn independently. Similarly, making independent decisions and being in control of their self-developed and self-constructed video content could have boosted their self-confidence and thus foster the development of skills inherent to self-regulated learning. As Zimmerman (1998) put it, taking an active and responsible role in one's own learning process could prove to have beneficial effects on learning. In a similar vein, Azis et al. (2022) found that displaying their knowledge by integrating the course content into their videos leads to students' greater skill and knowledge acquisition compared to regular teaching alone. Rebong (2022) also found that the use of self-video task as a supplement to teaching enhance students' academic achievements and increase their learning motivation. Ahmed et al. (2022) also indicated that MOOC-based FC model can lead to better educational outcomes as it enables learners to monitor their own learning processes. It seems that the self-recorded videos have helped to overcome the lack of motivation and guidance of students caused by the lack of physical presence of instructors in the MOOCs.

The improvement in the experimental group's course achievement might be

attributed to the intensive exchange of knowledge and experience in the MOOC, acting as catalysts for new ideas. As participants were continuously and consistently encouraged to practice and transfer these new ideas and knowledge into their self-made videos, it seems that the experimental process not only provided opportunities for acquiring fresh knowledge, but it also helped deepen the existing knowledge. This argument conforms to the findings of Encalada and Sarmiento (2019), who indicated that self-produced videos provide opportunities for learners to practice knowledge gained in the classroom. This supports the statements of Shofatunnisa et al. (2021) and Sun and Yang (2015), who reported that self-made video tasks enable learners to develop their learning processes and strategies. Encalada and Sarmiento (2019) also stated that self-made videos provide opportunities for learners to practice new theories and knowledge. In another study, Thongkoo and Daungcharone (2022) suggested that MOOC-integrated FC model allows learners to reflect on their newly learned knowledge gained in the MOOC and classroom.

Thus, it could be argued that the positive effect of the self-made video implementation in this study can possibly be explained by participants' growing perception of self-efficacy, which according to Bandura's (1986) social cognitive theory, is a fundamental precondition for operation of the learning process. Therefore, it is possible that the experimental process may have instilled the feeling of self-efficacy in the participants and thus contributed to the strengthening of their self-worth, which might have resulted in a significant increase in their academic achievement. Accordingly, Pajares (2002) stated that learners with a high expectation of self-efficacy tend to dedicate the time and effort needed towards achieving their personal and academic goals. Similarly, Moos and Bonde (2016) argued that a high sense of self-efficacy can make significant contributions to student learning by helping them apply more self-regulatory processes.

Finally, another factor which may explain the positive effect of the experimental process could be the continuous self-evaluation process that could provide the impetus for metacognitive strategies such as self-observation and self-evaluation of the thought and learning process. In this regard, the results of this study are in accordance with the findings of Flavell (1979), who highlighted that metacognition allows learners to plan

their learning strategies and assess their learning activities by reflecting on their learning process. Similarly, Pintrich (2000) and Zimmerman (1989) stated that the ability of cognition and self-evaluation process by itself help learners regulate their behaviours and enhance self-learning. Hence, it seems likely that the participants in the present study were empowered to plan and implement their own individual learning processes independently through the self-made video implementation, which might have helped raise their individual self-awareness and motivation for self-learning. In a similar vein, many researchers support video-making as an effective pedagogy to promote metacognitive skills (Kim, 2019), learner autonomy (Rochmahwati, 2015), and ‘a self-structured and self-motivated process of knowledge construction’ (Rüschhoff & Ritter, 2001, p. 231).

5.1.4 Discussion of the findings of the 4th research question: How do the pre-service ELT teachers perceive the implementation of self-made videos to improve their self-regulation in a MOOC-based FC model?

The fourth research question aimed to explore participants’ perceptions towards the implementation of self-made videos as a pre-class activity and its impact on their self-regulation. The core themes and analyses of the factors influencing participants’ self-regulation in relation to their self-made videos as a pre-class activity yielded positive results, offering guidelines for the development of self-regulation in a MOOC-based FC model.

One major element highlighted by the participants in relation to the role of self-made video implementation in enhancing their self-learning process was its impact in transforming their learning from memorization into a process of deeper understanding by ensuring the development of a self-monitoring system as a basis for self-regulated learning. A balanced combination of mental functions such as memory training, self-monitoring and critical thinking might have been activated by self-made videos, leading to gains in self-regulation and providing a better understanding of the subject matter. This is agreed by van Wyk and van Reyneveld (2021), who found that student-generated videos allow learners to form a clear picture of the subject-matter in their mind as they can display, reflect on and integrate the course content into their videos.

As stated by Öz and Şen (2021), the process of developing a higher-level mental functioning improves self-regulated learning skills, making a significant contribution to promoting course achievement.

The participants also reported that implementing new modes of knowledge transfer through self-video tasks enabled them to work out strategies to overcome learning barriers and embrace new challenges. They elaborated on the benefits and positive experiences gained by intentionally pushing themselves beyond their comfort zones, suggesting that discomfort can be a catalyst for perseverance and independent learning. These positive outcomes of self-video recording could be explained by the empowerment of self-regulated learning through a self-learning model that encourages learning with permanent incentives for self-training and enables learners to plan and implement their own individual learning process independently, thus raising their capability and readiness for self-learning. By the same token, Yang and Yeh (2021) pointed out that self-made videos sharpen learners' decision-making skills as they create conditions that encourage initiative and creativity, enabling them to reflect on their experience and gradually take responsibility of their own learning. This partly reflects Zimmerman's (1998) argument that self-regulation is a process requiring individuals to determine their own learning path and extend their knowledge of better decision-making processes.

Another finding that emerged from the views of the participants was that the self-instruction process based on the contents that were obtained in the MOOC, along with the self-recorded videos, fostered their critical self-reflection and led to increased self-awareness. The participants expressed their interest in the knowledge acquired by self-instruction during the self-video recording, which allowed them to control themselves better and build up their personal skills during self-instruction. It seems that self-video recording enabled participants to use mediation for increased self-awareness, which led to a higher level of self-regulation and better academic achievement. This assumption is supported by Rüschoff and Ritter's (2001) findings, suggesting that self-video generation supports active and independent knowledge construction by motivating learners to take responsibility for their own learning.

The participants also noted that self-video recording served as an external factor

that aroused intrinsic motivation for independent learning and reinforced the expectation of self-efficacy. This finding complies with the findings of Bandura (1986), Pajares (2002), and Moos and Bonde (2016), who revealed that boosting the subjective perception of self-efficacy can make a notable contribution to learning processes. Additionally, the participants acknowledged the importance of teaching others through video-shooting to enhance their success rate as a direct consequence of maximizing study efforts. Meyer and Forester (2015), too, reported that the act of presenting their newly acquired knowledge to others through self-made videos strengthens learners' theoretical knowledge and self-efficacy as well as promoting their autonomy and motivation. It could thus be suggested that the MOOC content which is reinforced with self-recorded videos on regular basis and consolidated through classroom discussions in a flipped manner could promote self-regulation, which seems to have contributed to the holistic process of course achievement along with a language skill by enabling learners to set personal goals, monitor their progress, and adapt their strategies to overcome challenges, thereby fostering a more active and engaged learning experience.

The findings also revealed that learning the content independently and presenting the content after constructing their own meaning through self-recorded videos enabled the participants to adopt the role of student and teacher at the same time, because they review the MOOC content intensively, present additional overview on complex issues in the subject area, make presentations to demonstrate their knowledge, and practice teaching skills in their videos. Thus, it could be suggested that presenting the content after constructing one's own meaning through self-recorded videos could serve as an opportunity for student teachers to find better ways to transfer knowledge as well as improving communication skills and reflective thinking. In this regard, it seems that the practice of self-made videos promotes reflective thinking as it requires self-reflection, which in return, facilitates reflective learning techniques and autonomous learning. This stance is supported by some research studies in the relevant literature, revealing that deliberate and careful observation is fostered by reflective thinking, which enables learners to manage their learning process and work through the content independently (Gelter, 2003; Schoffner, 2008; Spalding & Wilson, 2002; Yost et al.,

2000). Hence, it might be argued that self-made videos could help individuals develop a habit of self-reflection, which is a fundamental precondition for self-regulated learning.

Participants also highlighted the significance of self-made videos as a major driving force in strengthening the individual's autonomy by creating space for creativity and independent decision-making processes. It seems that self-recorded videos encourage self-regulated learning as they require and support independent responsibility and give freedom for creativity. As can be interpreted from the participants' statements, it can be suggested that the practice of video recording provides an important opportunity to exercise and explore self-reliant and self-initiated behaviour by encouraging individuals to take the initiative to search for and understand information independently, particularly in situations with limited self-directed learning resources, such as MOOCs. This finding reflects the views of Haryanti (2019), who reported that the process of making a video could play a major role in empowering individuals to become more self-reliant and help them to take charge of their own learning. Similarly, Barton (2019) argued that self-made videos could play an important role for self-regulated learning as they contain the conditions and elements required for the identification, analysis and evaluation of problems and their causes through the re-evaluation of students' self-learning experiences, during which they have time to reflect on their learning outcomes and develop solutions to their problems.

The present study significantly contributes to the literature by drawing attention to the potential benefits and providing new information about the use and effect of self-made videos on pre-service English language teachers' self-regulated learning in a MOOC-based FC model. The recurring themes obtained from the focus group and interview data as to the benefits of self-recorded videos were about their effect on learners' reflective learning, which enabled them to critically reflect on their experience and gradually take the responsibility for their own learning. Furthermore, comments in the focus groups indicated that self-made videos allowed learners to reflect on their learning objectives, plan their learning and learn independently. These findings suggest that self-made videos could contribute to the development of self-regulated learning and meta-cognitive skills as they encourage learners to self-manage

their learning in a critically reflective manner. All in all, the results showed that self-video recording could play a major role in helping students organise learning resources to accomplish tasks as it served as a stimulation to monitor their performances against deadlines. Hence, it might be argued that self-made videos could improve students' time management, self-efficacy, meta-cognitive and organisational skills, thus contributing to the development of their self-regulated learning in a MOOC-based FC model.

5.2 Conclusion

The purpose of the present study was to examine the effect of self-made videos as a pre-class activity on pre-service English language teachers' self-regulated learning, L2 speaking performance and course achievement in a MOOC-based FC Model. The study also set out to investigate how they perceived their self-made videos to improve their self-regulation during the implementation process.

The results of the study indicated that the implementation of self-made videos as a pre-class activity had a significantly positive effect on students' self-regulated learning, L2 speaking performance and course achievement in a MOOC-based FC model. These results suggest that self-recording videos seem to be effective enough to bring about a statistically significant difference in favour of the experimental group, yielding highly satisfactory results overall. These results suggest that using self-made videos as a pre-class activity in a MOOC-based FC model supports the view that learning is more effective when individuals become actively engaged in the subject matter and take more responsibility for their own learning.

The findings of the study also revealed that self-recording videos as a pre-class activity act as an incentive to encourage the shift of learning from simple memorization to reflective learning. The findings also indicated that self-made videos helped learners to recognize their capability as independent learners through reflective questioning and self-organised learning. Besides, the findings showed the implementation of self-made videos as a pre-class activity enabled learners to assume the dual role of being both a student and a teacher in the learning process, thus acting as a driving force for creativity and independent decision-making processes.

Hence, the present study significantly contributes to the literature by providing a valuable framework for learners to develop their self-regulated learning and organisational skills in a MOOC-based FC model by addressing the established weaknesses of MOOCs and FC in lacking the capability of autonomous learning. The contribution of this study has also been to provide evidence to support the implementation of self-made videos as a pre-class activity in a MOOC-based FC model can promote pre-service ELT teachers' self-regulated learning, L2 speaking performance and course achievement and offer evidence-based guidance for this promising teaching and learning approach. Unlike most previous video-based studies, which only investigated these variables distinctly with either traditional or flipped classroom instruction, the current study explored and extended the practice of self-made videos to the context of the MOOC-based FC model, thus highlighting the potential benefits of the MOOC-based FC model as a vision of the future in higher education, one major goal of which is to promote autonomous learning and autonomous learners, by putting the development of the individual at the core of the quest for knowledge in the face of the increased circulation of information technology along with a broad range of useful digital content and applications at home, universities, and in schools at all levels.

5.3 Pedagogical Implications

The present study has yielded several implications both for present and future practice. First, it supports the idea that in addition to the teaching of subject-specific knowledge, guiding students towards self-organised and reflective learning should be a central goal of the modern pedagogical methods and future education systems. It has highlighted the importance of self-video-recording and its potential to contribute to the development of self-regulated learning in view of the widespread use of video-sharing technology and global internet availability.

Second, the study points specifically to the necessity that today's educational systems must prepare individuals for the changing world by underscoring the need to combine various aspects of online and face-to-face teaching, as in the MOOC-based FC model. It offers evidence-based guidance and acknowledges the importance of this

new pedagogical method by demonstrating how could a MOOC blend, along with the implementation of self-made videos as a pre-class activity, help students creatively use knowledge from the MOOC, enhance autonomous learning, reinforce the subjects in the curriculum, and improve L2 speaking performance of individuals who have insufficient exposure to the second language in the classroom.

Third, the study has confirmed previous findings and provided further evidence that present day technologies and innovative pedagogical methods might require a radical reorganisation and a structural change of the education systems, which support the undertaking of learning as an active research process rather than as a passive reception of information in form of lectures. The current study presents one example of this techno-pedagogical framework through flipped learning approach in which classroom instruction, rather than solely relying on instructor-led content, is supplemented by online learning materials already available on a MOOC, and students are required to learn the content independently, construct their own meaning from the content, display their knowledge by integrating the course content into presentations, and generate self-made-videos as a pre-class activity. Combining classroom-based, MOOC-based, and video-based active learning processes, the study offers a new pedagogical framework to motivate learners to engage in more learner-centred activities and demonstrate their ability and creative potential by encouraging them to learn by their own independent exploration.

In conclusion, it is a well-known and strongly established fact that learning is no longer restricted to the classroom. Thanks to the widespread use of digital content and rapid advancement in information and communication technology, there is no division between distance and classroom education anymore. In this regard, this study offers teachers, practitioners, researchers, policymakers and other professionals an innovative pedagogical framework, in which classroom instruction, MOOCs, self-control and video-based active learning assume a special status for a more learner-centred and autonomous way of language learning.

5.4 Recommendations for Further Research

In the light of its findings and considering its limitations, the present study has

several recommendations for further research. First, it was limited to eight-week of implementation period, so each student made only eight videos in total. Conducting similar studies over a longer period of treatment could shed more light on the effect of self-made videos on students' self-regulated learning, L2 speaking performance and course achievement. Second, further experimental investigations can be carried out with different age groups, proficiency levels, in different contexts, on other language skills to examine the effect of self-made videos on other variables such as motivation, self-efficacy beliefs, metacognitive skills, goal orientations, emotional competence, willingness to learn in a MOOC-based FC modal. Future studies might also focus on using this methodological approach to see how it works in other courses in the ELT program and other teacher education programs in Faculties of Education. Third, other studies may be conducted to investigate new, appropriate and alternative assessment techniques, such as individual learning plans and formative assessment procedures, within the framework of this model. Fourth, focusing on specific study areas to explore the impact of self-made videos in enhancing learner autonomy to avoid dependency on teacher-centred lessons and increase student-centred learning model may reveal more information about the applicability of this pedagogical framework in different school levels. Finally, research based on a thorough needs analysis and focusing on the development and implementation of student-centred curricula based on the pedagogical model presented in the present study could greatly contribute to the field.

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