

## **Synchronous and Asynchronous Electronic Learning and EFL Learners' Learning of Grammar**

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### **Abstract**

As a negative consequence of COVID 19, almost all students felt obliged to leave the universities and use electronic devices to learn. Some universities encouraged faculty members to use Electronic teaching as an alternative to traditional classrooms. Despite a large number of studies on different forms of electronic learning, the effectiveness of synchronous and asynchronous E-learning in teaching grammar to EFL learners has been neither investigated nor compared appropriately. Two intact classes of undergraduate students of English as a Foreign Language (EFL) from Farhangiyani university were selected. and each received the treatment through either synchronous or asynchronous E-learning activities. The same syllabus consisting of dependent Clauses, Appostive, infinitives, and gerunds were taught to the two groups. EFL learners' knowledge of grammar was measured by recognition and production tests. The two groups' scores were submitted to repeated measures ANOVA tests. The findings showed that both modes of E-learning greatly influenced the language learners' knowledge of grammar as measured by recognition and production tests. Results also showed that the interaction between electronic modes and grammar recognition and production tests was statistically significant. Therefore, it could be concluded that E-learning learning is useful, synchronous learning is more effective for improving the language learners' production, and asynchronous learning is effective for improving the skills and subskills which require reflection and comprehension.

**Keywords:** COVID 19, electronic learning, synchronous E-learning, asynchronous E-learning, grammar knowledge

## 1. Introduction

### *1.1. E-Learning*

E-learning adoption, also known as web-based learning, has been increasing in most institutions and universities all around the world (Greller & Drachsler, 2012; Kattoua, Al-Lozi & Alrowwad, 2016; Maqableh, Rajab, Quteshat, Khatib, & Karajeh, 2015; McBrien, Jones, & Cheng, 2009; Perveen, 2016; Racheva, 2018; Somenarain, Akkaraju & Gharbaran, 2010, Swan, 2002). E-learning is known as the use of Information and Communication Technology (ICT) in education through which teachers and students are separated by time, distance, or both to enhance the students' performance and experience (Keller, et al., 2007; Tarhini et al., 2016). It is defined as an instruction delivered via a set of electronic media like the internet, extranets, and intranets (Horton, 2011). Therefore, by eliminating time and distance barriers and constraints, students can take charge of and handle their lifelong learning (Almajali et al., 2016; Bouhnik & Marcus, 2006; Fletcher, 2005).

However, before the global spread of COVID 19 (Corona Virus), offering electronic learning by schools and universities was not compulsory, despite the fact that universities and schools were encouraged to offer online courses (Perveen, 2016; Racheva, 2018; Smith, 2009; Somenarain et al., 2010).

However, very recently, there has been a global compulsory shift from traditional face-to-face language classes to online learning classes. That is, due to the negative consequences of the COVID 19, all educational institutes were obliged to teach the students to use either offline or online electronic classes. The review of the related studies shows that electronic learning environments have been divided into three types: synchronous, asynchronous, and blended learning environments (Alibakhshi & Mohammadi, 2016; Perveen, 2016; Salmon, 2013). According to Salmon (2016), Synchronous Electronic Learning

Environments (SOLMs) are collaborative, provide real-time interaction, and incorporate the instructors' lectures with questions-answer sessions run by teachers and the students. Synchronous E-learning requires simultaneous student-teacher presence. In contrast, Asynchronous Electronic Learning Environments (AELEs) are not time-dependent, and students can work on instructional activities at their own pace. A Blended Online Environment (BOE) blends an asynchronous set of electronic activities with synchronous sessions.

With the global spread of COVID 19, schools and universities required instructors to either use online learning systems such as Adobe connect or Big Blue Bottom software to teach the students which is called online learning or use offline electronic platforms such as Telegram, WhatsApp, or YouTube, which is called asynchronous E-learning. This study aims at investigating the impact of Synchronous and Asynchronous E-Learning environments on teaching grammar (most particularly dependent clauses: noun clauses, adjectival clauses, and adverbial clauses) to the undergraduate students.

### ***1.2. Purpose of the Study***

Electronic learning models and the impact of each model on the students' academic uptake have been studied to a great extent since a couple of years ago (Alenezi et al., 2015; AL-Syaidh et al., 2015; Alibakhshi & Mohammadi, 2015; Hajir et al., 2015; Perveen, 2016). Since a couple of decades ago, three e-learning models have been developed, and nowadays, theoretical and experimental studies on their pedagogical values still continue. Smith (2009) argued that E-learning is one of the most recently used types of education systems, which attracted the educators' attention in the world. As Arasteh et al. (2014), Draghici et al. (2014), and Mustea et al. (2014) state, E-

learning is an innovative teaching medium through which individuals most particularly students are allowed to take courses from anywhere, as they can have access to the internet, among other platforms such as web-services. Moravec et al. (2015) stated that there were various studies, which investigated how E-learning instruments affected the students' academic progress. For example, Faith Baris and Tosun (2013) investigated the impact of using e-tools on high school students' achievement and found that E-learning tools positively influence the students' achievement. Furthermore, the E-learning platforms can allow the users/students to receive information on their own computers and mobile devices (Almajali et al., 2016; Hubackova & Golkova, 2014; Zamfiroiu & Sborá, 2014).

Although electronic learning has been among the concerns of researchers in higher education, the number of studies on the use of asynchronous and synchronous e-learning in EFL and most particularly teaching dependent clauses is scanty. In other words, it is not known whether E-learning platforms can be used for teaching grammar of English language.

Therefore, this study aimed at investigating whether asynchronous and synchronous E-learning environments have a statistically significant impact on the language learners' grammar knowledge as measured by recognition and production tests. It also aimed at delving into the interaction between modes of E-learning and the language learners' performance on recognition and production tests.

### ***1.3. Research Questions***

To see whether asynchronous and synchronous E-learning environments have a statistically significant impact on the language learners' grammar

knowledge as measured by recognition and production tests this study tries to answer the following questions were stated:

1. Do synchronous and asynchronous E-learning environments have a statistically significant effect on EFL learners' grammar measured by a recognition test?
2. Do synchronous and asynchronous E-learning environments have a statistically significant effect on EFL learners' grammar measured by a production test?
3. Is there any significant interaction between types of e-learning and the language learners' grammar measured by recognition and production tests?

## 2. Review of the Literature

The related studies were divided into two sections: studies on synchronous E-learning and the studies on asynchronous E-learning.

### *2.1. Synchronous E-Learning*

Synchronous computerized instructions in general and asynchronous E-learning in particular, have been studied since a couple of years ago. Martin, Parker, and Deale (2012) define synchronous learning as a real-time, teacher-led online learning activity in which all students and the instructor can log on simultaneously and have direct communication with each other. "These systems allow real-time communications in which multiple users can simultaneously interact with each other via the Internet to conduct meetings and seminars, lead discussions, make presentations and demonstrations, and perform other functions" (Martin & Parker, 2014, p.193). Synchronous online environments help students to, without physical travel to traditional

classrooms, learn from anywhere (Morrow, Phillips, & Bethume, 2007). A voice element, when added into synchronous electronic classes, causes increased learner-learner and learner-teacher interaction (Martin et al., 2012).

It has also been predicted that synchronous communication can increase learners' psychological arousal. In the electronic learning environment, the instructor can maintain control of the interaction with all the students in the class. He/she is also able to call on the participants. Moreover, Mc Brien, Cheng, and Jones (2009) have analyzed the impact of synchronous classrooms on students' learning and have argued that it could be an appropriate instrument for reducing the distance in electronic education. These online E-learning environments help the students and teachers to communicate synchronously through text chat, audio, video, application sharing, and interactive whiteboards. BigBlueBotton, Blackboard Collaborate, Teamlink, Adobe Connect, Saba Centra, and WebEx are synchronous electronic classrooms that are most prevalently used in higher education. As Martin and Parker (2014) state:

Most virtual classroom technologies have a content frame to share the instructor's files, an electronic/interactive whiteboard for instructors and students to write or draw breakout rooms for group activities, text chat to interact using words and emoticons, and audio chat to talk via a microphone or telephone with the instructor and other students. Instructors can administer student polls, share their desktop, or have the students share their own desktops through application sharing. Websites can be displayed for students, and with stable Internet bandwidth, webcams can be used so students and instructors can see each other. The entire virtual classroom session can be archived for later use (p.193).

Wong (2020) in his study on the total of 118 school students used a validated questionnaire and 36 of them joined an individual in-depth interview. He aimed to examine whether students' basic learning needs could be met when teaching and learning can only be conducted through online mode. The study found the online learning could meet the basic learning needs of autonomy and competence, but not relatedness. Relatedness was found not to be met because the conventional roles and nature of peers and friendship had been changed due to the ongoing development of information technology and its increasing significance in human lives. It is therefore significant to examine and develop an effective learning model to meet the trend of social and technological development.

Martin et al. (2012) have highlighted the importance of interaction in a synchronous virtual classroom. They found that live communication and interaction in a synchronous virtual classroom certainly prompt interaction. In line with, LaPointe et al. (2004) who have suggested that visual and audio components in synchronous systems seem to be useful in creating communities of practice and the bridging cultural difference. Cook et al. (2011) argued for the use of synchronous text chat and audio chat in their study. Similarly, Reushle and Loch (2008) concluded that the web conferencing tool could help students and instructors to engage actively from different locations. They provided postgraduate students opportunities to connect globally to communicate via text, audio, video, and shared whiteboard. They also viewed web conferencing technology as a student-centered approach, which caused flexibility for student participation.

Cao et al. (2009) found that synchronous interaction could raise student satisfaction very effectively. In addition, Motteram (2001) suggested, "synchronous tools are more effective for the 'social' side of education" (p.

131). It is also believed that synchronous virtual environments provide immediate feedback, enhance dynamic interactions among participants, strengthen social presence, and foster the exchange of emotional supports and supply verbal elements (Park & Bonk, 2007). In addition, it has been claimed that synchronous web-conferencing is an “enhancement to learning in the online environment” (Lietzau & Mann, 2009, p. 116). Lietzau et al. (2009) reported that students learn more and earn higher marks when they are engaged in synchronous electronic environments, which offer them a great chance to interact with teachers and other students and offer them the opportunities not always available in traditional face-to-face classrooms. Synchronous learning environments can also provide rooms for multiliteracy because through this learning mode people can opt for multiple communication ways through different media which are connected to a multiple world in different ways (Stein & Newfield, 2006). This expanding learning mode has become important for learning English as an international or global language (Crystal, 2012), because synchronous E-learning can provide a comprehensive environment for teaching English.

Asynchronous learning/teaching is the most prevalent type of online teaching because of its high rate of flexibility (Hrastinski, 2008; Parsad & Lewis, 2008).

Asynchronous environments offer the students instructional materials which are available as handouts, articles, audio/video lectures, and PowerPoint presentations. The students can have access to the instructional materials anytime and anywhere via the Learning Management System (LMS) or other learning channels (Watson et al., 2009). In asynchronous learning/teaching environments, learners are not time-bound and they can respond at their leisure. “The opportunity of delayed response allows them to use their higher-



order learning skills as they can keep thinking about a problem for an extended time period and may develop divergent thinking” (Perveen, 2016, p.22).

Synchronous learning environments can lead to an independent, self-paced, and student-centered learning (Murphy et al., 2011). They can also scaffold the learners’ previous knowledge with new concepts (Lin et al., 2012). They help the students to build deep learning and critical thinking, because the students have more opportunities to discuss with peers and are less reliant on memory and notes (Huang & Hsiao, 2012).

Rika and Sulistyani (2020) in their study highlighted the application of blended modes in synchronous and asynchronous online platform. They found that introducing combination discussion board and content materials board can have positive effects. The finding is in line with (Methaneethorn, n.d.) that the students’ attitudes were positive with the writing tools and they felt satisfied with E-learning and it suitable with the current condition. The strong correlation between virtual classroom using zoom which structured learning experiences within flexible online learning spaces and asynchronous exercises suggest that there are many engaged students who are taking advantage of the affordances of the combined platform in order to participate in new ways.

Through asynchronous E-learning, all L2 teaching methods can be incorporated, and the students’ responses as well as the teachers’ feedbacks can be delayed. Through asynchronous language learning, language learners are more encouraged to ask long and open-ended questions (AbuSeileek & Qatawneh, 2013). Written nature of the instructional materials gives the language learners greater opportunity to think about, reflect on the materials, and expresses their ideas and perceptions more freely than in real face-to-face oral communication. Furthermore, language learners have enough time to reflect on their classmates’ language production and produce language very

carefully and precisely. Similarly, it has been argued that asynchronous communication because of its written communication nature is useful for the students who are passive readers and do not participate in written discussions actively (Hubackova, 2015). However, in comparison with synchronous mode, asynchronous E-learning is less effective in providing immediate interaction and direct feedback.

Shaqqi and Soleimani (2019) found that the type of corrective feedback provided had a significant effect on the participants' grammatical accuracy. The findings of this study seems to provide further support that computer-mediated instruction is a critical factor in development of grammatical accuracy of L2 learners' verb tense use. Also, a crucial issue might be for L2 researchers and teachers to investigate the effect of different types of corrective feedback and identify factors like L2 learning context (i.e., EFL and ESL). They also proved that both types of written corrective feedback (WCF) resulted in the improvement of the participants' verb tense accuracy, the effect of computer-mediated asynchronous feedback on the use of verb tense was more profound. In a conclusion, WCF had a significant effect on the verb tense accuracy of intermediate L2 learners.

### 3. Methodology

The researchers employed a quasi-experimental research method to investigate the impact of synchronous and asynchronous learning on improving graduate students' recognition and production of dependent clauses. The researcher selected two intact classes at Allameh Tabataba'i University. At the onset of the study, a test consisting of two sections was developed by the researcher. The students who scored +1 Standard deviation above and below the mean were excluded from the final analysis, but not excluded from the

intact classes. The participants recruited for the final analysis were 60 (28 in class A, and 32 in class B). They were all taking a grammar course. The grammar syllabus consisted of noun clauses, adjective clauses, adverb clauses, gerunds and infinitives. A researcher developed test consisting of open-ended questions and multiple-choice items was administered to the two groups at the onset of the study to check their homogeneity. Teaching processes were explained to all the students. Having checked the initial homogeneity of the two intact classes, the researcher developed and administered the first grammar test to all participants. Then, one class received the treatment synchronously through online learning environments such as Adobe Connect and the BigBlueBotton application, while the other class received the materials asynchronously. In the 10th session, the second grammar test was developed and administered.

### ***3.1. Instruments***

The researchers developed two grammar tests to collect the required data: pretest consisting of recognition and production sections, and an achievement test (recognition and production test. The recognition section consisted of 30 multiple-choice items (each correct answer=1 point) and the production test consisted of 15 open-ended questions (each item=2 points). The reliability of the test was estimated through Kurder and Richardson -21 (KR-21). The reliability was reported to be 0.87 which seemed to be acceptable. The achievement test was administered when the treatment was over. It consisted of two sections: recognition and production test. Test content delineated the learners' recognition and production of noun clauses, adjective, and adverb clauses. The reliability of the two sections was estimated through

running KR\_21. The reliability indices of the two sections were 0.86 and 0.83, which seemed to be acceptable.

### ***3.2. Procedure***

The researcher used a two-way repeated measure ANOVA (two-factor repeated-measures ANOVA, or within-within-subjects ANOVA) to compare the mean differences between the groups. The researcher wanted to know whether synchronous and asynchronous E-learning environments had the same impact on EFL learners' recognition and production of clauses. Therefore, 60 participants took part in the experiment. The two treatments, known as "conditions", are "synchronous" (treatment A) and "asynchronous" (treatment B). Both programs lasted 8 weeks. The dependent variable was achievement test, while the two factors are the conditions (i.e., two groups: synchronous and asynchronous) and time (i.e., grammar score at two-time intervals: at the beginning and at the end of the treatment). At the end of the experiment, the researcher used two-way repeated-measures ANOVA to determine whether the changes in the learners' grammar knowledge (i.e., the dependent variable) were the result of the interaction between the "type of treatment" (i.e., the synchronous or asynchronous) and test-type (i.e., the second factor) or not.

## **4. Results**

After checking the initial homogeneity of the two groups and the assumptions of the two-way-measures ANOVA test, such as homogeneity of the variances, sphericity condition and normality distribution of the scores, the researcher submitted the groups' scores on both recognition and production tests of the grammar to two-way repeated-measures ANOVA. Results,

including descriptive statistics and ANOVA, as well as the profile of the means, are presented in the following Tables and graph.

**Table 1**

*The Groups' Mean Scores on Pretests and Posttests*

Conditions	Tests	Pretest mean	Posttest mean
synchronous	recognition	10.00	18.33
	Production	10.4	23.16
Asynchronous	recognition	10.46	22.90
	Production	10.3	18.80

As shown in Table 1, the mean scores of the synchronous group on recognition grammar test on the onset and after the treatment were 10 and 18.3, respectively, suggesting that the synchronous E-learning significantly improved the language learners' knowledge of grammar as measured by a recognition test. It can also be seen that the grammar knowledge of this group as measured by production test before and after being exposed to synchronous E-learning were 10.5 and 23.16, respectively, indicating that synchronous E-learning made a significant contribution to the EFL learners' production of the grammatical structures. Moreover, it can be seen that there was a fluctuation in the mean scores of the students who received asynchronous E-learning on both the recognition (10.46 versus 23.16) and production (10.32 versus 18.80) tests, indicating that asynchronous E-learning activities are effective in improving the language learners' knowledge. However, in order to compare the effects of synchronous and asynchronous E-learning environments, after checking the required assumptions (linearity, sphericity, homogeneity of the variances), the participants' scores were submitted to a two-way-repeated measures ANOVA. Results are presented in Tables 2, 3, and 4.

**Table 2***Mauchly's Test of Sphericity for the Storytelling Group Scores on Vocabulary Tests*

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.	Epsilon		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
factor1	.926	4.38	5	.49	.951	1.00	.33

As it is shown in the above table, the Sphericity assumption was not violated ( $X^2(3)=5.3$ ,  $p=0.19>0.05$ ). Therefore, the researcher was on a safer ground to assume that covariance of the three levels of the test was identical, and the data presented in the first row were reported. The results are presented in the following table.

**Table 3***Results of Repeated Measures ANOVA*

Source		Type III Sum of		Mean Square	F	Sig.
		Squares	df			
factor1	Sphericity Assumed	6588.179	3	2196.060	620.929	.001
	Greenhouse-Geisser	6588.179	2.854	2308.727	620.929	.000
	Huynh-Feldt	6588.179	3.000	2196.060	620.929	.001
	Lower-bound	6588.179	1.000	6588.179	620.929	.001
factor1 * conditions	Sphericity Assumed	636.679	3	212.226	60.006	.001
	Greenhouse-Geisser	636.679	2.854	223.114	60.006	.001
	Huynh-Feldt	636.679	3.000	212.226	60.006	.001
	Lower-bound	636.679	1.000	636.679	60.006	.001
Error(factor1)	Sphericity Assumed	615.392	174	3.537		
	Greenhouse-Geisser	615.392	165.509	3.718		
	Huynh-Feldt	615.392	174.000	3.537		
	Lower-bound	615.392	58.000	10.610		

It can be seen in Table 3 that the sphericity condition was met, and there was a significant main effect of treatment condition (synchronous vs.,

asynchronous E-learning) on the participants' scores on the grammar knowledge tests and the interaction between the participants' performance on the tests and treatment conditions ( $F(3,174)=.001, p>.05$ ) is significant. In the following table, the results of multiple comparisons are shown.

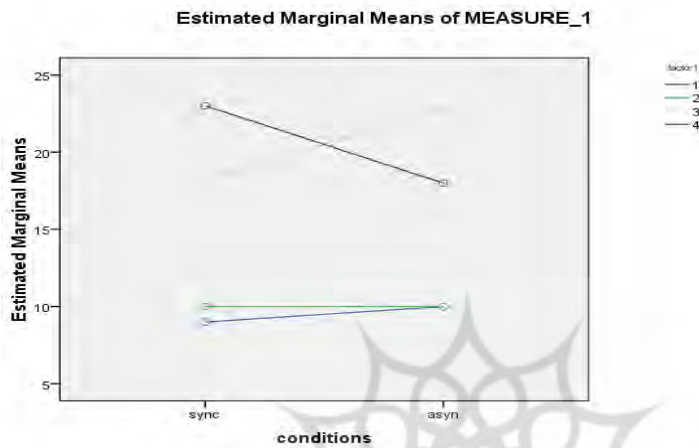
**Table 4**

*Multiple Comparisons between the Participants' Scores on the Tests*

(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig. <sup>a</sup>
Recognition 1	Production 1	-.317	.312	.315
	Recognition 2	-10.517*	.343	.001
	Production 2	-10.750*	.340	.000
Recognition 2	Production 1	-10.200*	.378	.001
	Production 2	-10.433*	.315	.001
Production 1	Production 2	10.517*	.343	.001

Table 4 shows that the difference between the participants' mean scores on recognition test 1 and production test1 was not significant ( $p=0.315> 0.05$ ).

However, the mean scores on recognition test 1 and the other two tests (recognition 2 and production 2) were statistically different, favoring the tests administered after the treatment ( $p=0.001>0.05$ ). It is also seen that the groups' mean scores on recognition test1 and the other two tests of production are statistically different ( $p=0.001$ ). Finally, results indicate that the mean scores on the production test 1 and 2 are statistically different, favoring the production test 2 ( $p=0.001>0.05$ ). The following graph shows that the participants' scores on different tests are not the same; however, the conditions (synchronous and asynchronous learning were somehow the same).

**Figure 1***The Profile of Interaction between Treatment Modes and Grammar Tests*

## 5. Discussion

The first objective of the present study was to investigate whether the synchronous and asynchronous E-learning environments affect the language learners' knowledge of grammar as measured by recognition and production tests. The researcher, after estimating the initial homogeneity of the intact groups, used two types of electronic learning modes to teach dependent clauses to the undergraduate students. Detailed analysis of the two groups' mean scores on the recognition and production tests and the results of repeated measured ANOVA showed that there was a significant difference between the two groups' mean scores on the recognition and production tests administered prior to and posterior to the synchronous and asynchronous E-learning [( $F(3, 174) = 620.929, p = 0.001$ )]. More specifically, it was found that the mean scores of the synchronous and asynchronous E-learning on the recognition pretest were 10 and 10.46, respectively; whereas, their mean scores on the recognition



posttest were 18.33 and 22.90, respectively suggesting that both synchronous and asynchronous E-learning modes had a significant impact on improving the learners' grammar as measured by a recognition test.

With regard to the second research question, it was found that the mean scores of the synchronous and asynchronous groups on the production pretest were 10.4 and 10.3. However, their mean scores on the production posttest were 23.16 and 18.80, respectively verifying that both modes of E-learning environments significantly contributed to the language learners' knowledge of grammar as measured by production tests.

Accordingly, it can be argued that there was a significant difference between the two groups' mean scores on the production tests administered before and after being exposed to the synchronous and asynchronous E-learning environments. That is, synchronous and asynchronous E-learning modes have a statistically significant impact on improving the language learners' knowledge of grammar as measured by recognition and production tests. This finding is in line with the results of a number of studies on synchronous and asynchronous computerized instruction in EFL classrooms (Abraham, 2008; Al-Qumoul, 2005; McGlenn & Parrish, 2002; Shang, 2007; Son, 2008) which indicated that computerized language instruction can significantly affect the language learners' language proficiency. As Gündüz et al. (2019) argue, the use of E-learning allows the students to be more active in the teaching and learning process, and it gives them more time for active student participation in the classroom. Moreover, classroom time is used more creatively and effectively. Another justification for this finding is that in electronic classrooms, students have greater flexibility during both in-class and online sessions.

With regard to the third research question, it was found that the interaction between E-learning modes and grammar test was statistically significant. That is, while the language learners exposed to the synchronous E-learning had a better performance on the production test than the recognition test, the participants in the asynchronous E-learning class had a better performance on the recognition test. Therefore, in line with Hrastinski (2008) and Robert and Dennis (2005), it can be argued that synchronous E-learning enables monitoring the students' reaction to a message, which makes them more motivated to read and answer the message. Learners, in Synchronous E-learning, respond quickly because they do not need to interrupt the conversation. One possible postulation for the superiority of asynchronous E-learning in improving the learners' recognition knowledge is that while communicating asynchronously, the receivers/students have much more time to think about the message and comprehend it since the teachers do not expect the students to respond immediately (Robert & Dennis, 2005; Perveen, 2016; Alibakhshi & Mohammadi, 2016). Thus, synchronous e-learning increases arousal and motivation, while asynchronous E-learning increases the ability to process information. Results are also compatible with several related studies (Rezaei & Zafari, 2010), as they found that synchronous electronic learning promotes the language learners' oral proficiency. One possible explanation for the outperformance of synchronous E-learning is that through sync-computerized instruction, language learners have opportunities to negotiate with teachers as well as each other to remove the initial ambiguities and misconceptions. In fact, the recruited participants had more time to ask questions, negotiate with each other, and to co-construct the meaning.

Another reason is that synchronous E-learning better supports personal participation and asynchronous E-learning better supports cognitive

participation. Also, synchronous language learning seems to look like the communicative method of language teaching with video chat, whiteboards, or voice chat, which provide immediate feedback with the language learners and help them develop their language skills and sub-skills. Therefore, the face-to-face real-time classroom can be duplicated (Keegan et al., 2005). Pfister (2005) also has argued that in synchronous learning environments, teachers' and fellow students' immediate feedback, quick creation of the contents in the classroom, and synchronous net-based discourses significantly contribute to the language learners' understanding of complex issues. As a result, non-native language learners can outperform face-to-face language.

The findings can implicitly indicate that a combination of synchronous and asynchronous E-learning can be useful to positively contribute to the language learners' receptive and productive language skills. The combination of E-learning modes supports different ways learners and teachers use to exchange information to know each other. As mentioned above, many learners enroll in online courses due to their asynchronous nature, which needs to be addressed. For discussing complex issues, synchronous E-learning through instant messaging, videoconferencing and face-to-face meetings might be necessary as a support to the students to know each other and plan the tasks. However, when discussing complex issues, in which time for reflection is needed, it seems preferable to switch to asynchronous E-learning and use media such as e-mail, discussion boards, and blogs.

Moreover, in keeping with the findings of the present study and the review of the literature, it could be concluded that the use of effective teaching through multimedia (Kim & Gilman, 2008) and educational technology such computer and internet in language learning (Tabatabae & Heidari Goojan,

2012; Traxler, 2006) can be useful in teaching English to EFL learners and the language learners can have effective and fast access to the teaching syllabus.

## 6. Conclusions

In line with the findings of the study, it could be concluded that, as COVID 19 closed all face-to-face classes at universities and educational centers all over the world, a radical shift from traditional learning to electronic learning is unavoidable. As both modes of electronic learning turned out to be effective and synchronous E-learning is more effective for production and asynchronous E-learning activities more positively affect recognition skills, it can be concluded that asynchronous learning mode can be used in teaching reading and listening skills. However, for teaching speaking and writing teachers are suggested to use synchronous E-learning activities. More importantly, it can be argued that a combination of synchronous and asynchronous E-learning activities as a part of the English language pedagogy seems to be more comprehensive than the use of one single E-learning mode. However, it is of importance to, through a qualitative case study, delve into the perceptions of the language learners, teachers, and the other stakeholders about the challenges, feasibilities, merits, and demerits of E-learning in general and synchronous, asynchronous, and blended approaches of E-learning. This study was limited to clauses as a part of grammar. Therefore, further studies on the use of E-learning in other language areas such as listening, speaking, and reading skills seem to be needed.

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