

## The implementation of bichronous online learning: EFL students' perceptions and challenges

Dias Tiara Putri Utomo<sup>✉1</sup>, Finaty Ahsanah<sup>1</sup>

<sup>1</sup>Universitas Muhammadiyah Lamongan, Indonesia

### Article Info

Article History:  
Received on 30  
January 2022  
Approved on 25 July  
2022  
Published on 31 July  
2022

Keywords:  
*bichronous online  
learning; asynchronous  
and synchronous;  
Edmodo; Zoom;  
COVID-19 Pandemic*

### Abstract

The COVID-19 pandemic has made online learning as a common instructional delivery today. Since various methods, approaches, and technologies are involved, it is important to understand students' perceptions for taking further decision in teaching. The current research aimed to investigate Indonesian students' perceptions of the implementation of bichronous online learning along with the challenges in the level of higher education. Bichronous online learning refers to the blending between asynchronous and synchronous online learning. In this study, asynchronous learning was carried out through Edmodo while the synchronous mode was implemented via Zoom. The participants were 57 first-year university students who experienced full bichronous online learning in the English for Specific Purposes class. This research applied explanatory sequential mixed-methods as suggested by Creswell (2014). The quantitative data were obtained by Likert-scale questionnaires while the qualitative data were acquired through interviews and observations. The results indicated that students had positive perceptions of bichronous online learning in terms of motivations, academic achievement, and communication and interactions. Bichronous online learning promoted students' engagement, active interaction, and feedback exchange which highly contributed to their learning outcome. However, technical issues such as poor internet connection and limited data plan were the biggest challenges faced by the students. It is expected that educators can adjust which online learning tools are convenient to use and cater to students' needs.

<sup>✉</sup>Correspondence Address:  
Universitas Muhammadiyah Lamongan  
Jalan Raya Plalangan KM 2  
Plosowahyu, Lamongan  
E-mail: diastiar@gmail.com

## INTRODUCTION

The immersion of online learning has indeed taken part in the level of higher education in the past decade, but the COVID-19 outbreak has made it a common instructional delivery today. Online learning is a very broad term to define, and educators or researchers may have diverse ways to name it. However, Martin & Oyarzun (2018) have brought up explicit definitions about various online delivery methods including asynchronous and synchronous online learning. The first term enables students to participate in a course anywhere and anytime without real-time online face-to-face meetings. Conversely, the second term is delivered through real-time online meetings and allows learners to get direct feedback. It is common for educators to integrate either asynchronous or synchronous online learning into face-to-face classroom meetings. This type of learning is called a blended mode or hybrid learning (El-Husseini, 2017; Martin & Oyarzun, 2018; Staker & Horn, 2012; Watson & Murry, 2014).

Several studies about the integration of asynchronous learning into face-to-face meetings have been carried out and resulted in various findings. Purnawarman et al., (2016) investigated Edmodo as a learning platform used in a blended learning setting for teaching writing. The study indicated that Edmodo promoted students' cognitive engagement by providing them opportunities to work independently. Besides, Edmodo as an asynchronous learning platform facilitated students to interact with other students, provided meaningful tasks, and promoted students' critical thinking skill. Another research conducted by Mindarta et al., (2020) measured the quality of asynchronous online learning using Edmodo in electrical engineering students during the COVID-19 pandemic. The results indicated that in terms of experts' perspectives, asynchronous online learning using Edmodo was categorized into "very high" while the students' satisfaction was in the "high" category. Asynchronous online learning offers students meaningful learning when it can facilitate students to actively communicate with the teacher or other participants (Georgouli et al., 2006; Pop, 2013; Shams-Abadi et al., 2015; Yamagata-Lynch, 2014).

On the other hand, educators also have introduced synchronous online learning into their brick-and-mortar classrooms. Perveen (2016) reported that synchronous sessions in E-Language Learning Activities encouraged students to provide immediate response and aided instructors to discover how deep the learning process had taken place. Furthermore, the findings suggested a blend of both asynchronous and synchronous to create an ideal teaching language. This is because blending asynchronous and synchronous could encompass all language teaching and learning methods. A study performed by Guzacheva (2020) explored Zoom as synchronous online learning tool. The study stated that Zoom was beneficial to explore as well as to assess students' four skills since it presented rich interaction between teachers and students. Additionally, a feature named "shared screen" enables teachers to display teaching media such as power point presentations, videos, and articles (Guzacheva, 2020) and makes it possible for students to give feedback to each other (Rahayu, 2020).

With the restriction of face-to-face meetings due to the pandemic, educators must rely on the implementation of a totally online mode. In the totally online mode, educators are completely engaged internet network to the learning process (Algahtani, 2011; Zeitoun, 2008). As a result, many educators incorporate various online learning tools into their educational systems (Ambarita, 2021; Mustakim, 2020; Retnaningsih, 2020; Utomo & Ahsanah, 2020; Yuliana, 2020) and apply bichronous learning (Sambeka & Rares, 2021). It was Martin et al., (2020) who have brought the term bichronous learning to the fore. They define bichronous learning as "the blending of both asynchronous and synchronous online learning", in which the materials or discussions are accessible for the students and instructors 24 hours per day during the asynchronous mode but then they can also participate in a real-time discussion during the synchronous part.

Unfortunately, the studies on bichronous learning are still uncommon because it is a brand-new term. However, some previous studies have actually explored the blending of asynchronous and synchronous online learning without addressing the term bichronous learning. Duncan et al., (2012) examined the relationship between students' performance and participation in two learning environments: synchronous forum through a chat room and asynchronous forum via a discussion board. The results revealed that high quality both asynchronous and synchronous forums could optimize students' performance. Another research conducted by Papadima-Sophocleous & Loizides (2016) figured out that the participants showed a positive response to the Curriculum Development and Evaluation module which was delivered asynchronously and synchronously. Additionally, the

combination of those two delivery methods increased students' clarity in understanding the lesson and developed a relaxing learning atmosphere.

In addition, some recent publications and research projects related to the blending of asynchronous and synchronous online learning were carried out to discuss the impacts (Peterson et al., 2018; Sambeka & Rares, 2021; Shahabadi & Uplane, 2015) and the effectiveness (Riwayatningsih & Sulistyani, 2020). Moreover, studies on the students' perceptions were also conducted worldwide (Malik et al., 2017; Rehman & Fatima, 2021; Rigo & Mikuš, 2021; Simbolon, 2021; Somenarain et al., 2010). While in Indonesia, a study on bichronous learning was initiated by Sambeka & Rares (2021). The study examined college students' achievement motivation in bichronous online learning during the COVID-19 pandemic. The findings revealed that students' achievement motivation was in the sufficient category, which meant bichronous learning did not decrease students' achievement motivation nor increased it.

Although many studies related to the blending of asynchronous and synchronous online learning has frequently been conducted, there are quite a few or no research that have been carried out to exactly determine university students' perceptions of bichronous online learning amidst the pandemic situation in developing countries like Indonesia. Therefore, the current research intended to investigate EFL students' perceptions of the implementation of bichronous learning along with the challenges in the level of higher education during the COVID-19 pandemic.

### **Asynchronous Online Learning**

Due to the study-at-home policy during the pandemic, education must be taken place in a totally online mode. Totally online mode is the most innovative mode that completely relies on the use of internet networks (Algahtani, 2011; Zeitoun, 2008). Algahtani (2011) divides totally online mode into asynchronous and synchronous based on the application of optional timing of interaction. In the asynchronous mode, teachers and learners do not have to be online at the same time (Algahtani, 2011), or called "pause and resume" learning. This mode enables students to participate in the online class from anywhere and for 24 hours a day, 7 days per week without having real-time online face-to-face meetings (Duncan et al., 2012; Martin et al., 2020). The main advantage of this mode is the flexibility. There will be no scheduling conflict because the mode is based on the students' own schedule (Martin et al., 2020). The frequent tools of this mode include pre-recorded videos or audios, self-guided modules, lecture notes, digital libraries, discussion boards, links to online sources, and assignments (Rigo & Mikuš, 2021). In their research, Georgouli et al., (2006) asserted that asynchronous online learning had proven to be a useful, adaptable, as well as an influential platform that could facilitate many educational tasks.

### **Synchronous Online Learning**

Unlike asynchronous online learning that occurs anytime, synchronous online learning happens in real-time. Synchronous mode opens opportunities for students to communicate and discuss the lessons directly with both the instructors and peers over the internet (Algahtani, 2011). As mentioned by Martin et al., (2020), synchronous online learning offers considerable benefits for the learning process such as providing immediate feedback, enhancing interaction among participants, being a part of audio-visual communications, and increasing motivation on doing tasks. However, as it happens in real-time, there will be a problem related to time schedules. Teachers and students require to set a specific time for having their online courses. In other words, this mode is possible to occur anywhere but not anytime (Riwayatningsih & Sulistyani, 2020). Frequent methods of synchronous online learning include video conference, teleconference, live chatting, and live-streaming lectures, and live chatting (Rigo & Mikuš, 2021). Research conducted by Rahayu (2020) indicated that more than 60% of the participants agreed synchronous e-learning provided good communication access between students-teachers and students-students.

### **Bichronous Online Learning**

The term bichronous online learning is initially introduced by Martin et al., (2020), which means the blending of both asynchronous and synchronous online learning. Figure 1 presents conceptual understanding of bichronous online learning as adapted from Martin et al., (2020).

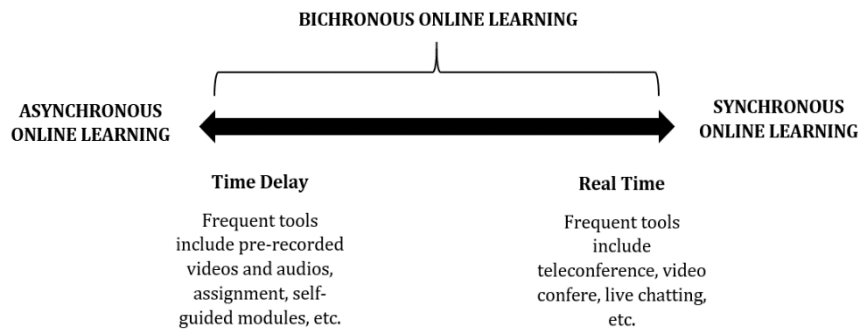


Figure 1. Conceptual understanding of bichronous online learning

If blended/hybrid learning combines asynchronous or synchronous online learning with face-to-face meetings, bichronous online learning combines asynchronous online learning with synchronous online learning. Bichronous learning enables students to participate in anytime and anywhere learning during the asynchronous mode and involve in real-time discussion during the synchronous mode. Bichronous online learning benefits students in terms of immediate feedback and interaction and opportunity for audio-visual communication, yet there is a possibility of a scheduling conflict and technical issues (Martin et al., 2020). Perveen (2016) indicated that a blend of asynchronous and synchronous online learning is more preferred by English language learners and can be an ideal manner for teaching language because the blending can incorporate various methods of language teaching and learning. Similarly, Rehman & Fatima (2021) revealed that the application of synchronous and asynchronous learning increased students' engagement and created interactive learning. Additionally, the students relished positive reinforcement from the facilitators.

**METHODS**

This research was carried out within a framework of mixed-method research, which integrates elements of both qualitative and quantitative approaches (Creswell, 2014). Furthermore, the research applied explanatory sequential mixed-methods because it was initially conducted with quantitative data in the form of questionnaire results, and then supported by qualitative data in the form of students' interview results and observation data from asynchronous and synchronous tools. The use of multi-method approaches considers being the appropriate method since it can support data analysis and data collection methods (Mahbub, 2020).

There were 57 first-year students, 10 males and 47 females aged 18-21 years, from the Faculty of Health in a private university in Indonesia who participated in the research. Most of the participants (77%) have been learning English for more than five years. They were attending English for Specific Purposes (ESP) class in the odd semester of the 2020/2021 academic year. The participants' demographic data can be perceived in Table 1.

Table 1. Participants' Demographic Data

	Category	Frequency	Percentage
Sex	Male	10	17.55%
	Female	47	82.45%
Age	18 years	10	17.55%
	19 years	23	40.4%
	20 years	10	17.55%
	21 years	14	24.6%
Length of learning English	1-5 years	13	22.8%
	6-10 years	16	28.1%
	11-15 years	28	49.1%

The participants experienced full bichronous online learning in their second semester since the government called on the society to implement public activity restrictions in the first half of 2021. In this research, the participants implemented bichronous online learning asynchronously through Edmodo and synchronously through Zoom. Edmodo was used because it had been proven to be an effective tool for either asynchronous online learning or blended learning (Enriquez, 2014;

Mindarta et al., 2020; Pop, 2013; Purnawarman et al., 2016; Shams-Abadi et al., 2015; Sumardi & Muamaroh, 2020). Besides, the lecturers have been familiar with Edmodo. Before the pandemic, they utilized Edmodo as a supporting tool for blending learning. Zoom was selected as a synchronous online learning tool because it was facilitated and annually paid by the university. Also, the questionnaire indicated that the majority of the students (82.5%) were accustomed to using Zoom.

There were three instruments used in this research: questionnaire sheets, interview guide, and observation sheets. The questionnaire was made electronically via Google form to obtain the necessary data. It was prepared and modified from some relevant research (Al-Said, 2015; Mahbub, 2020; Simbolon, 2021). The modifications included number of items, the name of the learning tools (Zoom and Edmodo), and the use of “bichronous” term which shifted online learning or blended learning. Statistical results of the validity and reliability of the questionnaire from the pilot study are presented in Table 2.

Table 2. The Results of Validity and Reliability Tests

Statement	r-Pearson Correlation Score	Validity Results	Cronbach' Alpha Score	Reliability Results
1	.656	Valid		
2	.912	Valid		
3	.865	Valid		
4	.858	Valid		
5	.830	Valid		
6	.934	Valid	.935	Reliable
7	.672	Valid		
8	.630	Valid		
9	.730	Valid		
10	.848	Valid		

The data on Table 2 show that the correlation value of r Count ranges from .630 to .934, and the r Table value for 21 respondents at the 95% significance level is 0.413. Since the value of r Count was greater than R table value, the questionnaire was considered valid. Besides, the results of Cronbach's Alpha value in table 1 scored .935, or higher than 0.7, which indicated that the questionnaire was reliable.

The questionnaire consisted of 2 main parts and was written in the participants' national language, Indonesian, to avoid any possible misunderstanding. The first part included open-ended questions to obtain students' demographic data and the second part was closed-ended statements to determine students' perceptions. The statements consisted of 3 items on students' motivation, 4 items on academic achievement, and 3 items on communication and interactions. Each item had four choices according to Likert scale from strongly agree to strongly disagree. The scores ranged from 1 to 4, and thus the mean of the perception scales was categorized into low (<2), average ( $\geq 2$  - <3), and high ( $\geq 3$ ). The positive perceptions were indicated by high scores mean while the negative perceptions were indicated by low scores mean. The questionnaire link was distributed online via Edmodo and filled individually by the students on August 13-14, 2021.

The second instrument, the interview guide, was performed after the researchers obtained questionnaire results. The results of interview were part of qualitative data in explanatory sequential mixed-methods and as suggested by the previous research (Enriquez, 2014; Mahbub, 2020). Fifteen students voluntarily participated in the interview. The interview was held on August 16, 2021 and delivered in Indonesian to minimize miscommunication. There were 3 primary questions in the interview: 1) Based on your experience, what are the overall advantages offered by bichronous online learning? 2) What are the challenges that you faced during bichronous online learning? and 3) Would you like to continue to implement bichronous online learning? The interview was conducted online via Zoom meeting so that the researchers could record the process. Finally, the observation sheet was used to document students' activities and interactions in the asynchronous mode via Edmodo and during the synchronous online learning via Zoom.

The analysis was performed based on the available data. The quantitative data from the questionnaire were analysed statistically by using SPSS 23 to obtain the descriptive statistics. The results of descriptive statistics were used to identify students' overall perception of bichronous online learning implementation. The qualitative data from interview and observation were analysed by

employing a framework of qualitative data analysis consisting of data condensation, data display, and conclusion drawing (Miles et al., 2014). For the interview data, the researchers watched the recordings and then wrote the transcripts from each respondent. During data display phase, the researchers classified respondents' answers into three sections in accordance with the interview question (advantages, challenges, and the willingness to implement bichronous online learning) in the form of a table. Meanwhile, data from observations were obtained by watching recorded meetings from Zoom and analysing Edmodo's account of the lecturer which included class home page, assignment section, and messaging. The researchers took notes on any activities and interactions made by the students and categorized them into two main sections: 1) between students and peers and, 2) between students and their lecturer. To support the notes, the researchers also took some photos. Finally, the data from the interview transcripts and observation notes were utilized to support the quantitative data.

## FINDINGS AND DISCUSSION

The research findings are divided into two main subsections including 1) students' perceptions of the implementation of bichronous online learning and 2) students' challenges of the implementation of bichronous online learning.

### Students' perceptions of the implementation of bichronous online learning

There are three fields of students' perceptions of the implementation of bichronous online learning which include students' motivation, academic achievement, and communication and interaction. The results of statistical analysis which displayed the means scores and standard deviations for the three fields can be perceived in Table 3.

Table 3. Mean and Standard Deviation of Each Field

No.	Field	N	Min	Max	Sum	Mean	Std. Deviation
1.	Students' Motivation	57	1	4	173.33	3.04	.50815
2.	Academic Achievement	57	1.25	4	182.50	3.20	.48743
3.	Communication and Interaction	57	1.33	4	174.33	3.06	.51993
	Overall Fields Mean					3.11	

As presented in Table 3, it can be perceived that all fields are in the high-level category since the mean scores are above 3 (High:  $\geq 3$ ), and students' perceptions of the academic achievement (M: 3.20) rank the highest among others. Furthermore, the mean score of overall fields is 3.11, which belongs to the high-level range (High:  $\geq 3$ ). Therefore, the results indicated that the students showed positive perceptions of the implementation of bichronous online learning especially in terms of academic achievement. In fact, students' positive perceptions of bichronous online learning may be affected by various plausible reasons. The elaboration of each field can be seen below.

### Students' Motivation

Data presented in Table 4 indicate students' motivation in learning English through bichronous online learning during the COVID-19 pandemic.

As presented in Table 4, the majority of the participants (89.1%) strongly agreed/agreed that they felt more motivated in learning English during the COVID-19 pandemic because of the implementation of bichronous online learning. The results also indicated that most participants (93%) enjoyed learning English from home during the pandemic. Finally, almost all the participants (98.2%) were interested in exploring their knowledge and skills because the course was held through bichronous online learning.

The above-mentioned findings are following the results of the interview. Some students mentioned that they were motivated in learning because bichronous online learning was not a monotonous delivery method and provided various techniques in teaching.

*"[the learning process] is more interesting because it is not monotonous". (Student 15, Male).*

*"I can easily understand the lesson because it [bichronous online learning] offers a variety of activities such as face-to-face meeting in zoom or doing a survey and quiz in Edmodo. Sometimes, I draw comments on my friends' work or simply like it". (Student 5, Female).*

Table 4. Students' Motivation in learning English through bichronous online learning

No.	Statement	Option	Frequency	Percentage
1.	I feel more motivated in learning English during the pandemic because the subject is taught by bichronous online learning.	Strongly Agree	9	15.8%
		Agree	42	73.7%
		Disagree	5	8.8%
		Strongly Disagree	1	1.8%
2.	I enjoy learning English using bichronous online learning during study at home.	Strongly Agree	9	15.8%
		Agree	44	77.2%
		Disagree	3	5.3%
		Strongly Disagree	1	1.8%
3.	I am interested in exploring my knowledge and skills in English subject since it is taught by bichronous online learning.	Strongly Agree	19	33.3%
		Agree	37	64.9%
		Disagree	0	0%
		Strongly Disagree	1	1.8%

Another reason why bichronous online learning can strengthen students' motivation is that it encourages students' interaction. During synchronous meetings via Zoom, students could actively participate in a live discussion with the lecturers and friends, while in Edmodo, students could communicate with them for 24 hours through message and comment features.

*"I like bichronous online learning because it makes easier for me to discuss and interact with my lecturer and classmates." (Student 3, Female).*

*"[bichronous online learning] improves classroom interactions so that the class is not boring. The interactions between I and my friends make me more motivated to learn English." (Student 1, Female).*

Some examples of students' interactions with the lecturer and classmates in Edmodo and Zoom can be perceived in Figures 1 and 2. Data on the Figure 1 show the interaction between two students in Edmodo. Fara (pseudonym name) gave constructive suggestions to Angga (pseudonym name) for better content of his mind map. While in Figure 2, Group 7 presented their paper about Past Perfect Tense. After the presentation, other students had opportunities to ask questions, give suggestions, or simply presented compliments.

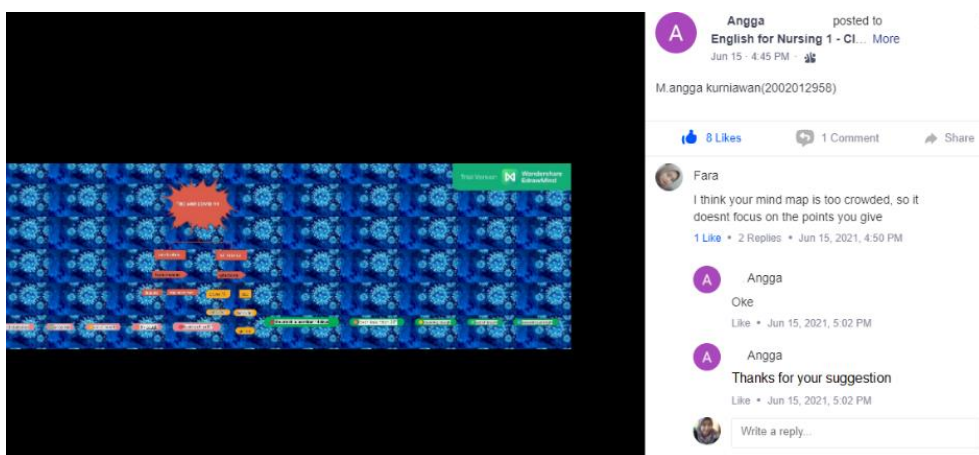


Figure 2. Students' Interaction in Edmodo



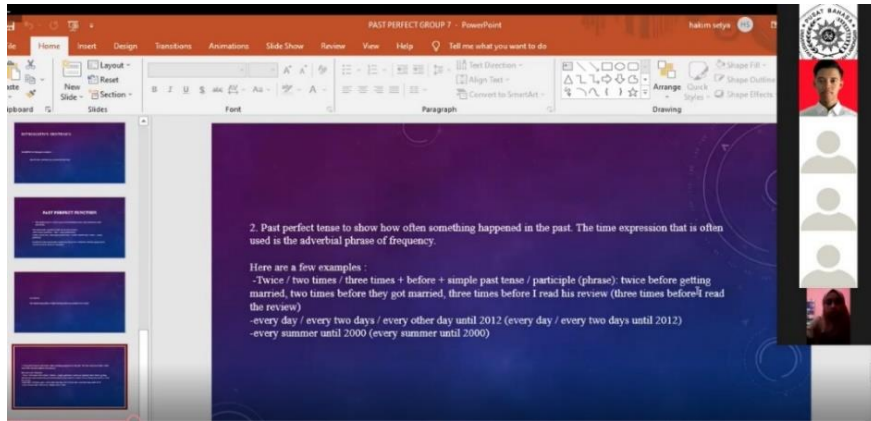


Figure 3. Students' Interaction in Zoom

The results corroborate the findings of Perveen (2016), Rehman & Fatima (2021), and Rigo & Mikuš (2021). In terms of a variety of teaching activities, Perveen (2016), who analyzed 1,025 responses from the survey questionnaire, suggested a blend of asynchronous and synchronous as it can incorporate all techniques/methods in language teaching/learning. Furthermore, a more recent study conducted by Rehman & Fatima (2021) indicated that an innovative model of asynchronous and synchronous learning used during a pandemic had supported students' engagement. Similarly, Rigo & Mikuš (2021) also highlighted the importance of interactivity between the teacher and the students in the combination of asynchronous and synchronous distance learning. Thus, it is obvious that bichronous online learning has motivated and attracted students to learn English because of various teaching activities which can cater to students' needs and the existence of interaction among students.

**Academic Achievement**

Data on Table 5 present students' perceptions of their academic achievement when bichronous online learning is implemented in English learning during the COVID-19 pandemic.

Table 5. Students' Perceptions of Academic Achievement

No.	Statement	Option	Frequency	Percentage
4.	Assignments, quizzes, and other online tasks given by the lecturer in Edmodo and the online face-to-face meetings via Zoom help me to improve my learning and comprehension skills about the course.	Strongly Agree	19	33.3%
		Agree	37	64.9%
		Disagree	1	1.8%
		Strongly Disagree	0	0%
5.	The quality of my assignments, quizzes, and other online activities when learning English via bichronous online learning is improved because of the feedback given by the lecturer and fellow students.	Strongly Agree	16	28.1%
		Agree	40	70.2%
		Disagree	1	1.8%
		Strongly Disagree	0	0%
6.	Learning English through Bichronous online learning contributes to the development of my overall outcomes.	Strongly Agree	12	21.1%
		Agree	40	70.2%
		Disagree	4	7%
		Strongly Disagree	1	0%
7.	Bichronous online learning develops my independent learning skills.	Strongly Agree	13	22.8%
		Agree	40	70.2%
		Disagree	4	7%
		Strongly Disagree	0	0%



Data on Table 5 indicate that almost all students (98.2%) believed online activities including assignments, quizzes, and face-to-face meeting via asynchronous and synchronous tools had helped them to improve their comprehension of the course. Then, 56 out of 57 or 98.2% of the participants also revealed that the improvement was due to the feedback given by the lecturers and classmates. Regarding the overall outcomes, the majority of the participants (91.3%) affirmed that learning English via bichronous online learning had made a great contribution. Finally, only four (7%) participants did not agree that bichronous online learning had developed their independent learning skills, while the rest (93%) agreed.

When the participants were asked about the overall advantages of bichronous online learning, some of them mentioned that it was an effective delivery method and helped them to get a better understanding of the materials.

*“It [bichronous online learning] is the most effective method [among others] and I think this method has contributed to the improvement of my knowledge in English subject.” (Student 4, Female).*

*“Learning English through bichronous online learning has helped me to increase my knowledge and understanding of English especially during the pandemic.” (Student 2, Female).*

Furthermore, in terms of feedback, some participants explained that feedback from the lecturer and other students had taken part in their quality improvement in completing online activities. Feedback was generally given after the students completed their tasks and posted them in Edmodo. Besides, they received feedback after asking questions either to the lecturer or other students who presented their papers.

*“Through bichronous online learning, I can freely ask questions about the materials and also answer my friends’ questions or critics when my group presents my paper.” (Student 12, Male).*

*“The use of Edmodo has helped me a lot. I am usually too shy to ask questions. Using Edmodo massaging feature, I can ask questions to my English lecturer since it is more personal. Sometimes, I also ask her to give feedback on my project before I submit it.” (Student 11, Female).*

*“This semester, we must present our paper via Zoom. The activity is so much fun because we can directly ask questions and have a live discussion. In fact, my friends’ feedback helps me to revise my paper before final submission.” (Student 6, Female).*

An example of students’ interaction with the lecturer through the Edmodo messaging feature can be perceived in Figure 3. The representative of the group showed their grammar comics to the lecturer for feedback before final submission. In addition, lecture’s direct feedback on how to pronounce words correctly during Zoom meetings is perceived in Figure 4.

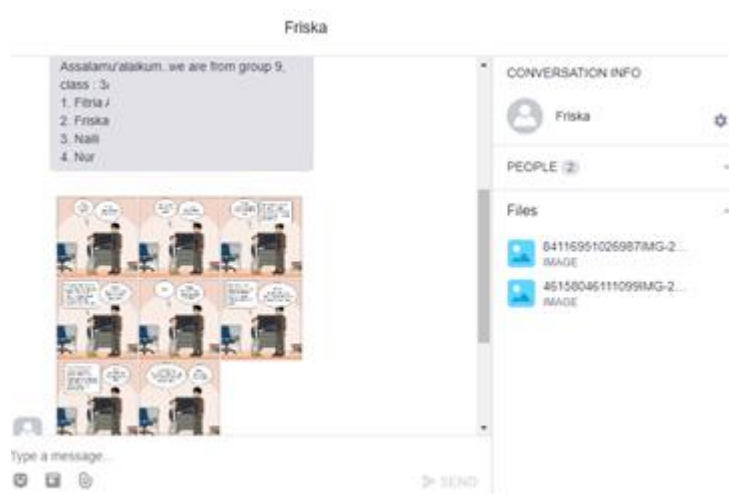


Figure 4. A student sending a message to the lecturer via the Edmodo messaging feature to obtain constructive feedback

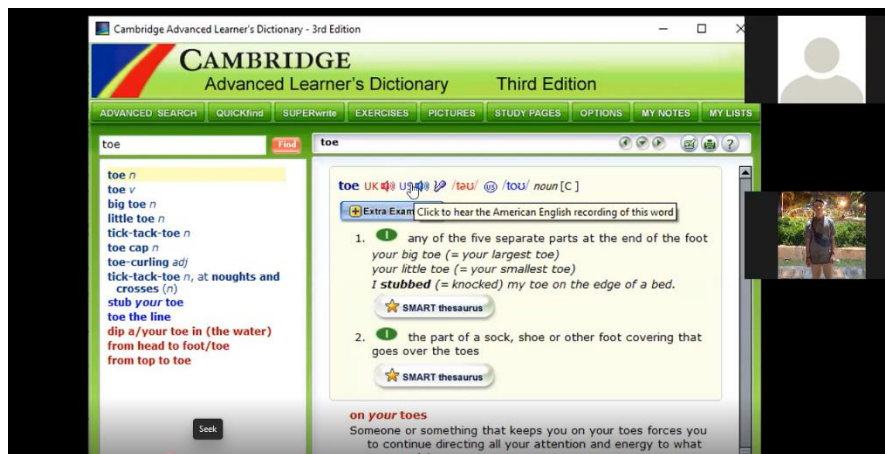


Figure 5. The lecturer opening an electronic dictionary as a feedback on student's wrong pronunciation

Regarding independent learning skills, three participants agreed that bichronous online learning had thrived their ability in self-learning which leads to academic achievement.

*"I think one of the benefits of bichronous online learning is that I can learn English by myself either inside or outside the class." (Student 7, Female).*

*"Bichronous online learning has increased my ability to learn independently. Several days before the final test, I played Zoom recordings from the previous meetings. I also checked the materials from lecturer and my friends that were posted in Edmodo." (Student 8, Male).*

*"Learning English using bichronous online learning is beneficial in terms of autonomy especially during the pandemic like today." (Student 10, Male).*

The aforementioned findings align with several prior studies. In their study, Duncan et al., (2012) revealed that synchronous and asynchronous online forums were an effective way in increasing students' performance. Similarly, Coogler & Floyd (2015) also pinpointed that students' positive learning experience through their active interactions resulted in a better overall performance of information they obtained. The interactions included students' participation in reading and field experience, reflecting, and responding to the materials. Additionally, Rehman & Fatima (2021) assumed that the combination of synchronous and asynchronous online learning provided students with interactive learning as they received positive reinforcement and feedback from the lecturer. In respect of independent learning, students perceived independent assignments in the text or during a live session class as beneficial factors to enhance their learning quality (Coogler & Floyd, 2015). In this study, it is clear that students consider their academic achievement has improved because of assignments, quizzes, and tasks given by the lecturer well as feedback from either their lecturer or fellow students. Furthermore, through bichronous online learning students have an opportunity to be independent learners.

### **Communication and Interaction**

Data on Table 6 show students' perceptions of the implementation of bichronous online learning in terms of communication and interaction.

Data on the Table 6 indicate the majority of the participants (92.2%) strongly agreed/agreed that bichronous online learning removed the limitation of place and time. Most of the participants, 54 out of 57, approved that bichronous online learning encouraged students' interactions with the lecturer and peers. Finally, only 10.2% of the participants did not agree if bichronous online learning supported social relations among students, while the rest, 89.8% concurred with the statement.

Concerning unlimited place and time settings, in the interview some participants mentioned "more efficient, practical, and flexible". This is because bichronous online learning enables students to learn English anywhere and anytime especially in the pandemic, where students are obliged to

study at home. During the asynchronous mode, students can access the materials and interact with the lecturer or other students for 24 hours. This mode is considered flexible since it provides students with an excellent opportunity to learn at their own pace and time. In this case, Edmodo as asynchronous learning tool plays a significant role in facilitating as well as enhancing the effectiveness of communication in learning (Al-Said, 2015). Concerning practicality issues, synchronous mode gives students a good chance to attend face-to-face meetings although they are separated few thousand miles away from the lecturer (Guzacheva, 2020).

Table 6. Students Perceptions of Communication and Interactions

No.	Statement	Option	Frequency	Percentage
8.	Bichronous online learning removes the limitation of place and time.	Strongly Agree	11	19.3%
		Agree	41	71.9%
		Disagree	5	8.8%
		Strongly Disagree	0	0%
9.	Bichronous online learning encourages the interaction between lecturer and students.	Strongly Agree	10	17.5%
		Agree	44	77.3%
		Disagree	3	5.2%
		Strongly Disagree	0	0%
10.	Bichronous online learning supports stronger social relations among students when studying at home.	Strongly Agree	12	21.1%
		Agree	39	68.4%
		Disagree	6	10.5%
		Strongly Disagree	0	0%

In terms of effective interactions in a synchronous environment, Coogle & Floyd (2015) figured out two aspects which considered valuable by the students: instructions with the lecturer and interactions with peers. Students appreciated the opportunity to ask questions, get direct answers, and hold face-to-face conversations. They were also delighted to listen to the lecturer's life experiences and stories. In addition to interactions with the lecturer, students also perceived interactions with peers are worthy of notice. Students enjoyed a live class discussion because it sharpened a sense of connectivity, improved concept comprehension, and facilitated information exchange. In a pandemic situation like today, combining asynchronous and synchronous online learning equips students with a safe, convenient, and user-friendly virtual setting.

### Students' Challenges to the Implementation of Bichronous Online Learning

Data on the challenges faced by the students during the implementation of bichronous online learning were acquired from the results of the interviews and observations. Three out of fifteen participants mentioned "no", "nothing", and "none", which indicated that they did not face any major problems for the implementation of bichronous online learning during the pandemic. The findings are similar to Rigo & Mikuš (2021) research, which indicated that 66% of the respondents could not think of any disadvantages or weaknesses of using the combination of asynchronous and synchronous online tools in distance learning. Besides the above-mentioned responses, students did not mention any challenges regarding the learning system.

Instead, most of the participants (12 out of 15) pointed out some technical problems related to networks such as poor internet connection and limited data plan. The results of observation revealed that during synchronous meetings, one or two students apologized to the lecturer for their internet connection problems. This had made them could not answer the lecturer's questions or actively participated in a live discussion. Bad internet connection also made students unable to upload assignment files to Edmodo.

Some previous research which was conducted in respect of online learning, whether it is fully or blended, also resulted in similar challenges (Coogle & Floyd, 2015; Rerung, 2018; Rianto, 2020; Sari & Wahyudin, 2019). In his research, Rianto (2020) investigated EFL learners' perceptions of blended learning using a university e-learning system. The results revealed that most of the students agreed on the advantages of online learning, but they considered internet connection as the biggest problem that hindered the learning process. Furthermore, Rerung (2018) who examined students' perceptions on blended learning in listening and speaking class also asserted that most of the students rated technical issues in the "very difficult" category. Similarly, Sari & Wahyudin (2019)

also found out that internet connection and its speed as one of the problems hampered learning activities. As a result, inconvenient technology or internet network led to students' experience in frustration and stress.

## CONCLUSION

From the findings, it is perceived that students have positive perceptions of the implementation of bichronous online learning during the COVID-19 pandemic. Specifically, the positive perceptions are represented by students' motivation, academic achievement, and communication and interaction. Bichronous online learning has increased students' motivation since it is considered not monotonous and offers a variety of teaching methods/techniques. In terms of academic achievement, students' engagement, active interaction, and feedback exchange have highly contributed to their learning outcomes. Additionally, students consider that feedback and interactions are essential to improve the quality of online learning. The findings also highlight two primary problems related to technical issues including poor internet connections and limited data plan. Finally, the researchers recommend educators apply bichronous online learning rather than solely using asynchronous or synchronous online learning. Since online learning tools are flourished, educators can adjust which tools are convenient to use and cater to students' needs.

## FUNDING STATEMENT

This research received no specific grant from any funding agency.

## REFERENCES

- Algahtani, A. (2011). Evaluating the Effectiveness of the E-Learning Experience in Some Universities in Saudi Arabia From Male Students Perceptions. Durham University.
- Al-Said, K. M. (2015). Students' Perceptions of Edmodo and Mobile Learning and Their Real Barriers Towards Them. *The Turkish Online Journal of Educational Technology*, 14(2), 14.
- Ambarita, E. (2021). Belajar Dari Rumah (BDR) Menggunakan Padlet Alternatif E-Learning Pada Masa Pandemi Covid-19 (Studi Kasus di SMAN 56 Jakarta). *Jira: Jurnal Inovasi Dan Riset Akademik*, 2(1), 30–36. <https://doi.org/10.47387/Jira.V2i1.70>
- Coogle, C., & Floyd, K. (2015). Synchronous and Asynchronous Learning Environments of Rural Graduate Early Childhood Special Educators Utilizing Wimba© And Ecampus. *Merlot Journal of Online Learning and Teaching*, 11(2), 173–187.
- Creswell, J., W. (2014). *Research Design: Qualitative, Quantitative, And Mixed-Methods Approaches (4th Ed.)*. Sage Publications, Inc.
- Duncan, K., Kenworthy, A., & McNamara, R. (2012). The Effect of Synchronous and Asynchronous Participation on Students' Performance in Online Accounting Courses. *Accounting Education*, 21(4), 431–449. <https://doi.org/10.1080/09639284.2012.673387>
- El-Husseini, A. A. (2017). Blended Learning: The Possibilities of Benefiting from Others' Experiences and Problems of Implementations at the Lebanese University. *International Journal of HIV/Aids Prevention, Education and Behavioural Science*, 3(6), 70. <https://doi.org/10.11648/J.Ijhpebs.20170306.12>
- Enriquez, M. A. S. (2014). *Students' Perceptions on The Effectiveness of The Use of Edmodo as a Supplementary Tool for Learning*. DLSU Research Congress 2014, 7. <https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2014/Lli/Lli-Ii-010-Ft.Pdf>
- Georgouli, K., Kantzavelou, I., Guerreiro, P., & Koilias, C. (2006). *Enhancing Student Learning Using Asynchronous E-Learning Platforms*. Cognition and Exploratory Learning in Digital Age, 9. <http://www.iadisportal.org/digital-library/enhancing-student-learning-using-asynchronous-e-learning-platforms>
- Guzacheva, N. (2020). Zoom Technology as an Effective Tool for Distance Learning in Teaching English To Medical Students. *Bulletin of Science and Practice*, 6(5), 457–460. <https://doi.org/10.33619/2414-2948/54/61>
- Mahbub, Moh. A. (2020). An Investigation into Undergraduate Students' Perception of Kahoot Mediated E-Assessment. *JEELS (Journal of English Education and Linguistics Studies)*, 7(2), 269–296. <https://doi.org/10.30762/Jeels.V7i2.2060>

- Malik, M., Fatima, G., Ch, A. H., & Sarwar, A. (2017). E-Learning: Students' Perspectives about Asynchronous and Synchronous Resources at Higher Education Level. *Bulletin of Education and Research*, 39(2), 13.
- Martin, F., & Oyarzun, B. (2018). Distance Learning. In *Foundations of Learning and Instructional Design Technology*. EdTech Books. [https://edtechbooks.org/lidtfoundations/distance\\_learning](https://edtechbooks.org/lidtfoundations/distance_learning)
- Martin, F., Polly, D., & Ritzhaupt, A. (2020, September 8). *Bichronous Online Learning: Blending Asynchronous and Synchronous Online Learning*. Educause Review. <https://er.educause.edu/articles/2020/9/bichronous-online-learning-blending-asynchronous-and-synchronous-online-learning>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook (3rd Ed.)*. Sage Publications, Inc.
- Mindarta, E. K., Harly, M., Sumarli, S., & Paryono, P. (2020). The Quality of Asynchronous Online Learning on Edmodo-Based Engine Electricity System Course During Covid-19 Pandemic. *Erudio Journal of Educational Innovation*, 7(1), 64–72. <https://doi.org/10.18551/erudio.7-1.6>
- Mustakim, M. (2020). Efektivitas Pembelajaran Daring Menggunakan Media Online Selama Pandemi Covid-19 Pada Mata Pelajaran Matematika. *Al Asma: Journal of Islamic Education*, 2(1), 1. <https://doi.org/10.24252/asma.v2i1.13646>
- Papadima-Sophocleous, S., & Loizides, F. (2016). Exploring the Benefits and Disadvantages of Introducing Synchronous to Asynchronous Online Technologies to Facilitate Flexibility in Learning. In S. Papadima-Sophocleous, L. Bradley, & S. Thoušny (Eds.), *Call Communities and Culture – Short Papers from Eurocall 2016* (Pp. 363–368). Research-Publishing.Net. <https://doi.org/10.14705/rpnet.2016.eurocall2016.589>
- Perveen, A. (2016). Synchronous and Asynchronous E-Language Learning: A Case Study of Virtual University of Pakistan. *Open Praxis*, 8(1), 21–39. <https://doi.org/10.5944/openpraxis.8.1.212>
- Peterson, A. T., Beymer, P. N., & Putnam, R. T. (2018). Synchronous and Asynchronous Discussions: Effects on Cooperation, Belonging, and Affect. *Online Learning*, 22(4). <https://doi.org/10.24059/olj.v22i4.1517>
- Pop, A. (2013). Edmodo E-Portfolios in EFL – A Case Study. *Virtual Learning-Virtual Reality*, 5. <http://c3.icvl.eu/files/content-authors-icvl2013.pdf>
- Purnawarman, P., Susilawati, S., & Sundayana, W. (2016). The Use of Edmodo in Teaching Writing in A Blended Learning Setting. *Indonesian Journal of Applied Linguistics*, 5(2), 242. <https://doi.org/10.17509/ijal.v5i2.1348>
- Rahayu, D. (2020). Synchronous Zoom Web Conference System: An Exploratory Study on Students' E-Learning Experience. *Journal of ELT Research*, 5(1), 12.
- Rehman, R., & Fatima, S. S. (2021). An Innovation in Flipped Class Room: A Teaching Model to Facilitate Synchronous and Asynchronous Learning During A Pandemic. *Pakistan Journal of Medical Sciences*, 37(1), 131–136. <https://doi.org/10.12669/pjms.37.1.3096>
- Rerung, M. K. T. (2018). Students' Perception on Blended Learning in English Listening and Speaking Class. *Journal of English Language and Culture*, 9(1). <https://doi.org/10.30813/jelc.v9i1.1449>
- Retnaningsih, R. (2020). E-Learning System Sebuah Solusi Pragmatis Program Vokasional Semasa Pandemi Covid-19. *Taman Vokasi*, 8(1), 28. <https://doi.org/10.30738/jtv.v8i1.7751>
- Rianto, A. (2020). Blended Learning Application in Higher Education: EFL Learners' Perceptions, Problems, And Suggestions. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 5(1), 55. <https://doi.org/10.21093/ijeltal.v5i1.574>
- Rigo, F., & Mikuš, J. (2021). Asynchronous and Synchronous Distance Learning of English As A Foreign Language. *Media Literacy and Academic Research*, 4(1), 89–106.
- Riwayatningsih, R., & Sulistyani, S. (2020). The Implementation of Synchronous and Asynchronous E- Language Learning in EFL Setting: A Case Study. *Jurnal Basis*, 7(2), 309. <https://doi.org/10.33884/basisupb.v7i2.2484>
- Sambeka, Y., & Rares, H. F. (2021). Motivasi Berprestasi Mahasiswa dalam Bichronous Online Learning saat Pandemi Covid-19. *Science Learning Journal*, 2(1), 5. <https://doi.org/10.53682/slj.v2i1.1445>

- Sari, F. M., & Wahyudin, A. Y. (2019). Undergraduate Students' Perceptions toward Blended Learning through Instagram in English for Business Class. *International Journal of Language Education*, 3(1), 64–73. <https://doi.org/10.26858/ijole.V1i1.7064>
- Shahabadi, M. M., & Uplane, M. (2015). Synchronous and Asynchronous E-Learning Styles and Academic Performance of E-Learners. *Procedia - Social and Behavioral Sciences*, 176, 129–138. <https://doi.org/10.1016/j.sbspro.2015.01.453>
- Shams-Abadi, B. B., Ahmadi, S. D., & Mehrdad, A. G. (2015). The Effect of Edmodo on EFL Learners' Writing Performance. *International Journal of Educational Investigations*, 2(2), 88–97.
- Simbolon, N. E. (2021). EFL Students' Perceptions of Blended Learning in English Language Course: Learning Experience and Engagement. *Journal on English as a Foreign Language*, 11(1), 152–174. <https://doi.org/10.23971/Jefl.V11i1.2518>
- Somenarain, L., Akkaraju, S., & Gharbaran, R. (2010). Student Perceptions and Learning Outcomes in Asynchronous and Synchronous Online Learning Environments in A Biology Course. *Merlot Journal of Online Learning and Teaching*, 6(2), 353–356.
- Staker, H., & Horn, M. B. (2012). *Classifying K-12 Blended Learning*. Innosight Institute. <http://www.christenseninstitute.org/wp-content/uploads/2013/04/Classifying-K-12-Blended-Learning.Pd>
- Sumardi, S., & Muamaroh, M. (2020). Edmodo Impacts: Mediating Digital Class and Assessment in English Language Teaching. *Jurnal Cakrawala Pendidikan*, 39(2), 319–331. <https://doi.org/10.21831/Cp.V39i2.30065>
- Utomo, D. T. P., & Ahsanah, F. (2020). Utilizing Digital Comics in College Students' Grammar Class. *Journal of English Language Teaching and Linguistics*, 5(3), 393. <https://doi.org/10.21462/Jeltl.V5i3.449>
- Watson, J., & Murry, A. (2014). A History Of K-12 Online and Blended Instruction in The United States. In *Handbook of Research On K-12 Online and Blended Learning*. Etc Press. <https://dl.acm.org/doi/pdf/10.5555/2811036.2811038>
- Yamagata-Lynch, L. C. (2014). Blending Online Asynchronous and Synchronous Learning. *The International Review of Research in Open and Distributed Learning*, 15(2). <https://doi.org/10.19173/irrodl.V15i2.1778>
- Yuliana, Y. (2020). Analisis Keefektifitasan Pemanfaatan E-Learning Sebagai Media Pembelajaran Pendidikan Agama Islam Pada Masa Pandemi Corona (COVID-19). *Salam: Jurnal Sosial Dan Budaya Syar-I*, 7(10), 875–894. <https://doi.org/10.15408/Sjsbs.V7i10.17371>
- Zeitoun, H. (2008). *E-Learning: Concept, Issues, Application, Evaluation*. Dar Alsolateah Publication.