SYNCHRONOUS VS. ASYNCHRONOUS ONLINE LANGUAGE LEARNING POST-COVID-19: PRE-SERVICE EFL TEACHERS' PERCEPTIONS

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Abstract: The concepts of EFL learners' perceptions of online learning in current literature were generated by research conducted before and amid the COVID-19 pandemic. Due to the different status of online learning post-COVID-19, these concepts might have been unfashionable. This explanatory sequential mixed methods study aimed to uncover pre-service EFL teachers' perceptions of asynchronous online learning (AOL) and synchronous online learning (SOL) post-COVID-19 pandemic to fill in the gap. Involving 34 pre-service EFL teachers at Universitas Kristen Indonesia, data were collected and triangulated using a survey and a semi-structured interview. The results revealed that the participants had positive perceptions of AOL and SOL. However, their perception of AOL was higher in terms of engagement, interaction, collaboration, and advantages than that of SOL. The latter was higher only in social presence, indicating the AOL's superiority over SOL. The participants also believed that, if designed well and supported by high-quality tools, an internet connection, and bandwidth, both AOL and SOL can facilitate a robust learning environment for EFL learning and teaching. Thus, future research should focus on instructional designs of both AOL and SOL (or their combination) that can optimize their power for delivering learning materials and experiences.

Keywords: *asynchronous learning, EFL, online learning, perception, synchronous learning*

INTRODUCTION

Defined as "education being delivered in an online environment through the use of the internet for teaching and learning" (Singh & Thurman, 2019), online learning (henceforth, OL) has become an essential component of education for decades (Palvia et al., 2018; Salama & Hinton, 2023). Commenced in the 1990s with the advent and widespread use of the Internet and World Wide Web, OL has soon become a popular

trend in education all over the world (Rahman et al., 2023) and attained its highest prominence level amid the COVID-19 pandemic, when it became mandatory across educational levels (Favale et al., 2020). Yet, though the menace of Covid-19 is over, OL remains popular, as shown by the continuous shift and transformation of on-land learning to fully OL or blended learning (Sato et al., 2024).

A fully OL has two main formats: asynchronous online learning (henceforth, AOL) and synchronous online learning (henceforth, SOL; (Fabriz et al., 2021; Hrastinski, 2008). AOL employs a flexible learning environment, allowing students to do learning activities at their convenience and own pace via a virtual platform called the Learning Management System (LMS). In English as a foreign language (henceforth, EFL) learning and teaching contexts, the OL environment provides various digital resources like sounds, images, videos, and hyperlinks, allowing learners to have new experiences unavailable in-person classrooms. Unlike AOL, which is temporally and geographically independent, SOL provides real-time opportunities to learners and teachers to collaborate, network, and share using natural language, like in in-person learning (Olha, 2021).

One of the crucial success factors in online learning (OL) is students' perceptions, as their views of OL systems and materials influence their engagement levels. Engagement, in turn, significantly affects their learning process and satisfaction, particularly given the limited opportunities to interact with schools and teachers in the OL environment (Martin & Bollinger, 2018). Students with favorable perceptions of the educational climate are believed to achieve higher academic success compared to those with negative perceptions (Hamid et al., 2013). Therefore, students' perceptions should be carefully considered when designing OL courses (Muthuprasad et al., 2021).

Numerous studies have investigated students' perceptions of online learning (OL) before the COVID-19 pandemic (e.g., (Dhull & Sakshi, 2017; Hrastinski, 2008) and amid it (e.g., (Barrot et al., 2021; Fabriz et al., 2021l; Hazaymeh, 2021). However, relevant research conducted in the post-COVID-19 era remains unavailable. Before the COVID-19 outbreak, OL was considered part of non-formal education (Mishra et al., 2020). During the pandemic, it became mandatory across educational levels (Bailey et al., 2021), and in the post-COVID-19 era, it has become optional yet significant (Fabriz et al., 2021). Since perceptions evolve due to new awareness, experiences, or needs, these varying statuses of OL are likely to have influenced learners' perceptions differently across these

periods. Therefore, findings from research conducted before and during the pandemic might not fully apply to the current context.

To address this gap and achieve a comprehensive understanding of present-day EFL learners' perceptions of OL, this study examines their perceptions of asynchronous online learning (AOL) and synchronous online learning (SOL) in terms of engagement, social presence, interaction and collaboration, and advantages in the post-COVID-19 era. The findings aim to provide insights for improving OL implementation in the English Language Education program at Christian Indonesia University. For a broader audience, the results may be integrated with education professionals' perspectives to refine OL quality and support students in adapting to OL. Accordingly, this study seeks to answer the question: What are students' perceptions of AOL and SOL in terms of engagement, social presence, interaction and collaboration, and advantages?

REVIEW OF LITERATURE

Online Learning and EFL

Among academic disciplines, language learning, including EFL, has always been a pioneer in integrating technology to create more interesting and productive learning and teaching. A few years ago, EFL learning and teaching contexts and resources were mainly dominated by on-land classrooms, printed texts, and video players. Nevertheless, the adoption of the latest technology has shifted today's EFL learning and teaching into a virtual world. OL allows learning to happen anytime and anywhere and has moved learning from teacher-centered to learner-centered. Supported by high-quality instructions and a strong internet connection, OL has evolved as an equivalent, sometimes even preferred choice to face-to-face learning (Palvia et al., 2018).

Asynchronous Online Learning (AOL)

AOL employs is a flexible learning environment that allows students to get learning materials, discuss with teachers and peers, take assessments, and work on other learning activities at their convenience and own pace via a virtual platform called the Learning Management System (LMS). Thus, AOL is temporally and geographically independent, which makes it a flexible learning environment accessible for learners

anytime and anywhere. Various tools such as content materials and social media, like email, wikis, blogs, WhatsApp, WeChat, and so on can support AOL.

Various research has revealed that its flexible modus operandi, which permits students to study at their leisure, has made asynchronous learning/teaching the most predominant form of OL (Karaaslan et al., 2018). In the EFL context, AOL can be beneficial as it accommodates authentic learning activities (Yamagata-lynch, 2014) and provides opportunities to diminish EFL learners' nervousness and fear to perform instantly (Resnik & Dewaele, 2019). AOL also boosts students' critical thinking and creative thinking skills, assists teachers in completing administrative tasks, helps students learn more competently through learning by doing rather than memorizing facts, joining tech-assisted group discussions, practicing in virtual lab, taking a virtual field trip, and so on (Ang & Yunus, 2021). Despite these strengths, research has also shown some flaws of AOL, including poor communication owing to the absence of students and teachers face-to-face interaction, feeling isolated, lack of motivation, lack of quality when online instructors did not seriously prepared their lesson; and the poor internet connection, especially in remote areas (Dhull & Sakshi, 2017).

Synchronous Online Learning (SOL)

SOL accommodates real-time interaction between learners and teachers using natural language via communication media like video conferencing, audio conferencing, and chat so that it facilitates immediate feedback and collaboration just like in on land classroom (Olha, 2021). SOL can make language learning more interesting and attractive because it accommodates interpersonal skills activities and affective aspects of learning, increases social presence, collaboration, motivation, and self-regulation (Hrastinski, 2008) and helps learners' language skills and vocabulary development (Karaaslan et al., 2018). In contrast, various research has also revealed some drawbacks of SOL. First, since it is live, ongoing and regularly planned, it is not adaptable to accommodate students' different schedules and priorities. Second, it is more teacher-oriented which can reduce students' participation. Third, it tends to replace conventional meetings, and, thus, is time-consuming. Fourth, since its session is live, it needs access to required tools and a strong Internet connection. Poor utility of online tools and weak Internet connection leads to learners' disengagement and failure to master the topic.

Students' Perceptions of Online Learning

Perception, defined as the process of forming the world's picture (Mannopovna, 2019), is one of the crucial success factors in OL learning. Online learners' perceptions of the learning systems and materials affect their engagement level, while engagement is vital to their learning and satisfaction due to their limited chances to get engaged with the school and teachers (Martin & Bolliger, 2018). Online learners' positive perceptions were found to be fueled by their social presence, interaction, engagement, motivation, readiness, preferences (Nguyen et al., 2021), learning platforms, course structure, instructor's knowledge and facilitation, and perceived usefulness and perceived ease of new technology use (Baber, 2020). In contrast, distraction, reduced focus, heavy assignments, lack of instructors' and peers' support, technology, and internet drawbacks (Baber, 2020), and an inability to adapt to an online learning environment contributed to negative perceptions (Barrot et al., 2021). That's why students' perceptions should be considered when designing OL courses (Muthuprasad et al., 2021).

Numerous studies have investigated students' perceptions of OL with various focuses before and during the COVID-19 pandemic, research conducted in post-COVID-19 era is still meager. Research conducted before the COVID-19 pandemic mainly focused on topics like advantages (Cakrawati, 2017), drawbacks and challenges (Islam et al., 2015), and social presence and sense of belonging to the learning community (Mckerlich et al., 2011). In general, they revealed that OL was perceived to be both advantageous and challenging. On one side, OL was perceived to be encouraging and beneficial as it provides flexibility and opportunities to interact and engage (Islam et al., 2015), allows students to learn anywhere and anytime, ease of access, and enables paced learning (Dhull & Sakshi, 2017; Pardede, 2019). On the other hand, it was perceived as challenging due to various drawbacks like technical challenges, poor internet connection, time management problems, ease of cheating, and absence of human touch.

Focused topics of research on EFL students' perception of OL amid COVID-19 pandemic were more diverse, including preference (Özdal et al., 2021), motivation (Meşe & Sevilen, 2021), engagement (Bergdahl et al., 2020), satisfaction and enjoyment, ease of access and educational system quality (Tshering & Tshering, 2022), and drawbacks and related challenges (Hazaymeh, 2021). The results generally showed that, despite their

enthusiasm in OL and favor in SOL due to the provision of more engagement and motivation (Nguyen et al., 2021), students were found to view OL as less motivating and less effective than in-person learning due to technical problems, low quality infrastructures, and the lack of physical interactions. These findings must be related to the fact that the rapid shift to OL amid the pandemic was unplanned—without training and little preparation.

The reopening of schools in post-COVID-19 era turns OL to be an optional learning approach. Yet, it continuously infuses into learning scenarios due to three reasons: (1) OL has proven to be a successful alternative of traditional face-to-face learning during COVID-19 pandemic; (2) educational institutions and educators have prepared appropriate infrastructures and experiences to implement it; and (3) OL hones students' digital literacy, which is crucial for students' success in today's digital age (Fabriz et al., 2021). Yet, research on students' perceptions of OL in this new era is still scarce. So far, only two studies have been accessed. Mu'in et al. (2023) focused on students' perception of four aspects of OL: assessment, learning outcomes, evaluation, and challenges. Giday & Perumal (2024) focused on four factors: educational quality of system, quality of information, ease of use, and usefulness.

The present study focused on students' perceptions of AOL and SOL in terms of engagement, social presence, social interaction and collaboration, and advantages. Learner engagement refers to students' level of involvement with and effort in learning (Bergdahl et al., 2020) realized through their involvement in course tasks or activities. It correlates with attendance, general well-being, grades, and school success. Research has identified four pairs of interrelated dimensions of engagement and disengagement: behavioral, cognitive, emotional, and social (Bergdahl et al., 2020).

Social presence, or a learner's sense of being with others in a community, plays a crucial role in an effective OL, regardless of discipline (Russell & Murphy-Judy, 2020) and is strongly linked to engagement level and social interaction. Thus, augmenting social presence by creating opportunities for interactions that permit online learners to interact with each other in meaningful and purposeful ways can help reduce or inhibit negative experiences in OL settings.

Interaction and collaboration are inseparable in OL settings because collaborative learning means learning through interaction. Meaningful interaction is defined as "the

intellectually stimulating exchange of ideas" (Vrasidas & McIsaac, 1999). Thus, interaction includes not only sharing personal opinions but also learners' mind stimulation, intellectual growth, and curiosity enhancement, and directly affects students' learning (Vrasidas & McIsaac, 1999). A well-designed OL can effectively activate student-content, student-teacher, and student-student interactions leading to student centered learning promotion and language teaching enrichment (Fortanet-Gómez & Ruiz-Madrid, 2023)

METHOD

Research Design

This study employed an explanatory sequential mixed-methods design, beginning with quantitative data collection and analysis, followed by qualitative data collection to elaborate and clarify the previously obtained quantitative results (Creswell, 2018). Since the aim was to gain comprehensive insights into EFL learners' perceptions of four aspects of AOL and SOL through both quantitative and qualitative methods, the mixed-methods design was well-suited to this study.

Research Context and Participants

This study was conducted in April 2023 at the English Language Education Study Program of Universitas Kristen Indonesia, Jakarta. The population comprised all students in the study program. Participants were selected using a convenience sampling technique, with students voluntarily completing an online questionnaire between April 17 and 22, 2023. All participants had experience attending online courses in various forms during and after the COVID-19 pandemic, enabling them to respond to each questionnaire item without difficulty.

Data and Research Instruments

To collect and triangulate data on students' perceptions of four aspects of asynchronous online learning (AOL) and synchronous online learning (SOL), multiple data collection methods were employed, namely a survey and a semi-structured interview. The survey utilized an online questionnaire divided into four sections, each designed to gauge participants' responses regarding the four aspects of AOL and SOL. The semi-structured interview was conducted to collect qualitative data aimed at clarifying and elaborating on the quantitative results.

The questionnaire was divided into four subsections. The engagement subsection, adapted from Dixson's (2015) instrument, demonstrated strong reliability (α = .91) and a significant correlation with a global course engagement item (r = .67; p < .001) and consisted of 8 items. The social presence subsection, adapted from Gunawardena & Zittle's (1997) scale, was also reliable (α = .88) and included 8 items. The interaction and collaboration subsection, based on Bolliger and Inan's (2012) questionnaire, exhibited very high reliability (α = .98) and consisted of 8 items. The advantages subsection, derived from Zahara & Carbiriena's (2022) instrument, also showed very high reliability (α = .938) and comprised 9 items. In total, the questionnaire contained 33 Likert-scale items, with responses ranging from "strongly disagree" to "strongly agree." The same questionnaire was used to assess participants' perceptions of both AOL and SOL, with minor adaptations made to align the items with the specific characteristics of each learning mode.

Procedure

The questionnaire was distributed online via Google Forms, with the link and an invitation to participate shared with students through WhatsApp. During the specified period, 34 students anonymously completed the questionnaire. A few days later, an invitation to participate in an interview was sent, and six survey respondents volunteered for the interview. Before the interviews, each participant was provided with a consent form to confirm that their data would remain anonymous and their responses would be kept confidential. After the interview recordings were transcribed, each interviewee was asked to verify their transcription and make edits to enhance conciseness. Additionally, certain terminologies were standardized to ensure that citations from the transcriptions were coherent with the research report.

Data Analysis Technique

The data was analyzed using a descriptive analysis technique. Descriptive statistics were generated with the JASP application to summarize and present the data concisely. The statistical operations included the calculation of percentage (%), mean ($\bar{x}$), and standard deviation (σ). The mean scores of participants' responses were used to classify their perceptions in terms of type and level. Table 1 presents the mean score intervals for the perception categories, with criteria determined based on the interval score

calculation of the 33 questionnaire items. The quantitative findings were triangulated, elaborated, and elucidated using relevant qualitative data obtained from the interviews.

Table 1. Mean Score Range and Perception Categories.

No.	Mean Interval Scores	Perception Category	
1	3.40 – 4.00	Very High	Strongly Positive
2	2.80—3,39	High	Positive
3	2.20—2.79	Moderate	Moderate
4	1.60—2.19	Low	Negative
5	1.00—1.59	Very Low	Strongly Negative

FINDINGS AND DISCUSSION

Findings

Participants Perceptions of SOL

Table 2 summarizes the findings on the participants' perceptions of four aspects of SOL. Based on the mean scores, it depicts that the participants had a high perception to all aspects, i.e., engagement ($\bar{x}$ =2.956), social presence ($\bar{x}$ =2.978), interaction and collaboration ($\bar{x}$ =2.96), and advantages ($\bar{x}$ =2.814). The overall mean score shows that the participants' perceptions of SOL is positive, though the mean score is very close to the lower limit of the interval scores of a high perception ($\bar{x}$ =2.80) (See Table 1).

Table 2. Descriptive Statistics of Participants' Responses to SOL

	SOL Engagement	SOL Social Presence	SOL Interaction & Collaboration	SOL Advantages	SOL Overall
Valid	272	272	272	306	1122
Mean	2.956	2.978	2.960	2.814	2.923
Std. Dev.	0.581	0.589	0.597	0.644	0.607
Minimum	1.000	1.000	1.000	2.000	1.000
Maximum	4.000	4.000	4.000	4.000	4.000
Sum	804.000	810.000	805.000	861.000	3280.000

The findings that the participants had a high perception of engagement in SOL ($\bar{x}$ = 2.956) indicates that live videoconferencing could help them increase engagement quite effectively, except for behavioral engagement, which was perceived as moderate. Among the 8 items in the questionnaire subsection of engagement in SOL, 2 items that belong to behavioral engagement got moderate mean scores ($\bar{x}$ = 2.65 and x = 2.59, respectively). Other types of engagement (cognitive, emotional, and social) were perceived as high. Since behavioral engagement is significantly affected by the class activities employed, the lower perceptions of behavioral engagement in SOL were due to

poor instructional design that led to participants' low interest in the learning activities. The data obtained from the interview, as described in the following excerpts, clarifies this.

> "I think, a live virtual classroom can be interesting if the learning activities are well-designed to facilitate interactions among students and with the lecturer. … Assigning students to do small group presentations, conduct interactive simulations , and take online quizzes, for instance, can make a synchronous class more interactive and engaging." (Interviewee 2)

> "I remember having exciting and effective live virtual classrooms through Zoom, in which students presented topics that had been shared by the lecturer one or two weeks before the presentation. Each presentation was followed by class discussions. While someone was presenting, so as not to interrupt the speaker, we were encouraged to comment or inquire about other students' ideas related to the topic through the chat box. Sometimes, we were divided into small groups in breakout rooms. So, we have more opportunities to share ideas. He also conducted polling to gather students' suggestions for making the class more interesting." (Interviewee 5)

Table 2 shows that the participants had high perception of social presence ($\bar{x}$ = 2.978). Among the 8 items in the questionnaire subsection of social presence in SOL, only one item, i.e., feeling comfortable disagreeing with others through live video conferencing while still maintaining a sense of trust' was perceived as moderate ($\bar{x}$ = 2.71). The other 7 items, such as the ability to identify different individual feelings or emotions of the participants of a live conference ($\bar{x}$ = 3.12) and the helpfulness of live videoconferencing sessions to reduce the feeling of isolated ($\bar{x}$ = 3.12) were perceived as the high. This confirms Olha's (2021) finding that live video conferencing sessions can decrease the difference between online and on land classrooms which naturally provides a conducive environment to communication and, thus, can enhance social presence. Information obtained from the interview elucidates this finding, as indicated in the following excerpts.

> "Learning activities through videoconference make me feel as if I am in a face-to-face classroom, although both are not identical. A synchronous session through videoconference helps me communicate more naturally. It also makes learning more fun." (Interviewee 1)

> "A good live discussion through Zoom is interesting and important. Such activity enables me to interact and get immediate feedback from my lecturer and classmates. They also help me communicate directly with my group mates while doing a group project." (Interviewee 4)

As shown in Table 2, the participants' highest perception of SOL goes to the factor of interaction and collaboration ($\bar{x}$ =2.96). Based on the mean score of the responses to the 8 items of the interaction and collaboration subsection of the questionnaire, 7 items got high perception and 1 item got moderate. The participants thought live online sessions were quite effective to facilitate discussions for planning and organizing projects (Item 18. $\bar{x}$ =3.15) comparing and sharing ideas (Item 17 and 19, $\bar{x}$ =3.06 for both), but less effective for deep thinking and completing assignments or projects (Item 24. $\bar{x}$ =2.74). Information obtained from the interview clarifies this finding, as indicated in the following excerpts.

> For me, live discussion through Zoom is an effective forum for organizing activities but not for completing a project. Agreements seem easy to reach through live videoconference. Yet, doing and finishing the agreed tasks were more effective through detailed texts in an asynchronous environment." (Interviewee 5).

Table 2 shows that the participants had a high perception of the advantages ($\bar{x}$ =2.814) of SOL. However, the mean score of this aspect was the lowest among the four aspects under study and is very close to the lower limit of high perception interval scores ($\bar{x}$ =2.80). The mean scores of the responses to the nine items in this subsection showed that, for the participants, live video conferencing did not provide them with appropriate time to search for additional resources on the internet (Item 31. $\bar{x}$ =2.26), did not significantly accommodate better opportunities to share ideas than through discussion boards (Item 28. $\bar{x}$ =2.74), and did not considerably facilitate effective study more than the AOL environment (Item 33, $\bar{x}$ =2.76). The mean scores of the other six items, despite their inclusion in the high level of perceptions, are very close to the lower limit of the interval scores of the high perceptions. Therefore, the participants view the strength of SOL as not very significant. The interview reveals that the moderate perceptions were due to: (1) the ill-design of many learning activities they experienced in SOL; (2) poor internet connection and low bandwidth, which often disrupted the learning process; and (3) their paradigm that the urgency of AOL has decreased since on-land classrooms have been reopened. One of the interviewees said:

> . "Yes, during COVID-19 pandemic live videoconferencing helped me a lot to build social interactions and reduce the feeling of being isolated. But today, the menace of Covid-19 is over. Instead of joining AOL sessions, which were frequently monotonous and just like shifting learning from in-person classroom, why don't we practice face-to-face learning? . What is more, a bad internet connection often

trouble videoconferencing. Now, AOL is no longer a must but an alternative, and unfortunately, it's far less effective than face-to-face learning." (Interviewee 2)

Participants Perceptions of AOL

Table 3 summarizes the mean scores of the participants' perceptions of four aspects of AOL. Seeing from the mean scores, it depicts that the participants had high perceptions towards engagement ($\bar{x}$ =3.015), interaction and collaboration ($\bar{x}$ =3.018), and advantages ($\bar{x}$ =3.203), but moderate perceptions towards social presence ($\bar{x}$ =2.754). Based on the overall mean score, the participants of AOL is positive. Unlike their view towards AOL, in which the the aspect of advantages was perceived as the lowest ($\bar{x}$ =2.814), the aspect of advantages of AOL was perceived as the highest.

Table 3. Descriptive Statistics of Participants' Responses to AOL

	AOL Engagement	AOL Social Presence	AOL Interaction & Collaboration	AOL Advantages	AOL Overall
Mean	3.015	2.754	3.018	3.203	3.004
Std. Dev.	0.429	0.510	0.651	0.577	0.571
Minimum	2.000	1.000	1.000	2.000	1.000
Maximum	4.000	4.000	4.000	4.000	4.000
Sum	820.000	749.000	821.000	980.000	3370.000

The findings showing the participants' high positive perception of engagement in AOL ($\bar{x}$ = 3.015) indicates that, based on their experiences, asynchronous learning activities could help them increase engagement. However, the mean score of each item in this subsection shows that the perception level varies across engagement types. Items belonging to behavioral engagement got the highest scores, followed by cognitive engagement, emotional engagement, and social engagement, respectively. These findings indicate that the AOL environment facilitates behavioral engagement, increases their psychological interest and self-regulation in the learning process (cognitive engagement), and helps them to enjoy and feel comfortable during learning (emotional engagement). The AOL environment also facilitates them to love collaborating with peers (social engagement), but the intensity is a bit lower than the other three types of engagement.

Table 7 shows that, the participants' had moderate perception on social presence ($\bar{x}$ = 2.754). This aspect was found to have the lowest score of perceptions among the four aspects under study. It indicates that the absence of direct communication using natural language caused them to have no verbal and nonverbal cues (e.g. tones, intonation, facial expressions, etc.) that incite their awareness of others in the learning process. The mean

scores of four of the items related to the use of texting as the means of communication and activities to sense and create social presence in this subsection range between 2.50 to 2.76 (moderate perception level). The mean scores of the other half range between 2.82 to 2.85 (high level). This finding designates that the participants viewed the use of text messages to sense and create social presence was less effective. This is clarified through the interview, as revealed in the following excerpt.

> Because we cannot communicate directly using natural language, chatting and texting through discussion boards or social media are the means of communication we use in AOL. To help make the texts smooth, friendly, and effective, we used expressions like "Hi all!", "Thank you for your insight!", "Your point is interesting, but …" and so on … However, written communication seems to be less effective than natural language to achieve all communication purposes, especially to increase the sense that we are being with other people," (Interviewee 4)

As shown in Table 3, the participants perceived interaction and collaboration in AOL as high ($\bar{x}$ =3.018). The mean score of the responses to each item in the questionnaire showed that the participants thought texting and messaging were quite appropriate to facilitate interaction and collaboration for sharing complex ideas and completing learning projects. All the eight statements were perceived as high, with mean scores ranging from 2.88 to 3.09. The information obtained from the interview clarifies why AOL's ability to facilitate interaction and collaboration was perceived as high. First, they could use social presence codes to make the texts more friendly and effective. Second, they preferred texting and instant messaging over other communication forms. Third, SOL facilitates effective interaction and collaboration that are appropriate only for planning and organizing activities, while interaction and collaboration in AOL are effective for dealing with task-related issues (deep learning, completing projects, and problem-solving), which were considered more important. Two of the participants said:

> "Maybe, written communication is not as effective as natural language to facilitate interaction and collaboration... Yet, we can use expressions like "Hi, all!", "Thank you for your insight!", "Your point is interesting, but ..." to help make the texts smooth, friendly, and effective." What is more, … we prefer to communicate using instant messaging to talking in person or through the phone. At least, it's easy to do, free of charge, and allows us to share multiple types of messages, like images, audio, and videos." (Interviewee 3)

> "Compared to SOL, AOL facilitates learning more effectively. SOL is effective for making agreements and organizing tasks, but AOL permits me to search and share complex information in various formats, interact, and collaborate with my friends

and lecturers anytime at my leisure. It also provides me with a longer time to reflect. I feel my mastery of the lessons is higher by learning asynchronously than synchronously." (Interviewee 1)

Table 3 shows that the participants perceived advantages of AOL as high ($\bar{x}$ =3.203), the highest among all aspects. Based on the mean score of the responses to the nine items in this subsection, it was found that the participants viewed AOL very advantageous due to its flexibility (Item 28 and 32, with $\bar{x}$ = 3.38 and 3.41 respectively), accessibility (Item 27 and 31, with $\bar{x}$ = 3.26 and 3.12 respectively), convenience (Item 25, 27, and 33, with $\bar{x}$ = 3, 3.26, and 3.29 respectively), provision of time for reflection (Item 32) and self-regulation (Item 29, with $\bar{x}$ = 3.32). This finding was clarified by one of the interviewees when she contrasted the advantages of SOL and AOL, as shown in the following excerpt.

"I think, AOL is much more advantageous than SOL for many reasons. First, SOL has a strict schedule, while AOL is flexible. With AOL I can freely set my own study schedule. Second, AOL tends to homogenize students, while AOL enables me to adapt the contents to my learning style as visual learners. Third, AOL permits me to access various resources on the Internet, which helps me learn more comprehensively and think reflectively. Fourth, AOL makes it possible to connect and form forums with students from various places. … I don't mean to say SOL is not essential, It probably needs better design and learning strategies to make it more effective. …" (Interviewee 3).

The information obtained from the interview also indicates that the participants regarded SOL as an important learning mode, despite its inferiority to AOL. To make it effective, according to the participants, it should be well-designed and supported with high-quality infrastructure. One of the interviewees said:

"Yes, AOL is much more beneficial than SOL. But I don't mean to say SOL is useless. We can use it to practice speaking and making presentations. However, it requires good devices and a strong internet connection. In my experience, many participants in live videoconferencing should turn off their cameras and microphones to keep joining. Others were even bounced off the system because of bad and low internet connections. (Interviewee 2)

Discussion

The finding showing that the score of the participants' perceptions of engagement in SOL (x =2.956) are lower than in AOL (x = 3.015) is surprising. It contradicts prior study findings showing that SOL environments can help learners increase motivation,

sense of contribution, and engagement (Barbour et al., 2012). The contradiction is clarified by some interviewees, who elucidated that the poor instructional design of some SOLs made the learning activities so uninteresting that they could not increase students' engagement. According to them, instead of asking students to watch and listen to a long live lecture, assigning students to do small group presentations and conduct interactive simulations can make a synchronous class more interactive and engaging. This confirms previous study's finding, which showed that students' disengagements in OL are often due to improper pedagogy (Bond et al., 2020). Thus, to ensure learners' engagement in an online course, it is necessary to prepare high-quality tools, students' technology skills, and instructional design, including planning, learning objectives, materials, tasks, activities, and assessments that create learning experiences (O'Rourke & Stickler, 2017).

In terms of social presence, the participants' perception level is higher towards SOL ($\bar{x}$ = 2.978) than AOL ($\bar{x}$ = 2.754). This must be due to the provision of two-way direct communication in SOL using natural language through media like video conferencing, which can decrease the difference between online and on-land classrooms (Olha, 2021), This leads to individuals' awareness of others in the class as a learning community. In contrast, all of these features are absent in AOL, where social presence can be enhanced only by means of written communication that should be conducted frequently to increase social presence (Namaziandost & Masri, 2019).

The finding reveals that the level of participants' perceptions of interaction and collaboration in SOL is lower than in AOL for two reasons. First, interaction and collaboration in SOL are effective only for planning and organizing activities, whereas interaction and collaboration through written messages in AOL are helpful for dealing with deep learning, completing projects, and problem-solving, Second, the participants' preferred chatting to talking or using the telephone to communicate. This. confirms research finding that today's students favor instant messaging applications and group-based communication, especially by using WhatsApp groups to interact and collaborate (Kocak & Yuksek, 2019).

In terms of advantages, the mean score of the participants' perceptions towards AOL is much higher than towards SOL, indicating that SOL was considered inferior to AOL in terms of advantages. Two major reasons contributed to this perception. First, the participants considered flexibility, accessibility, convenience, and the provision of time

for reflection and self-regulation offered by SOL more important than the accommodation of real-time collaboration, immediate feedback, and affective aspects of learning in AOL. Second, although they acknowledged the importance of SOL to hone digital literacy, their experiences with poor SOL had caused them to view it only as an inappropriate duplicate of face-to-face learning, which is more effective than the duplicate. Therefore, high-quality instructional design, technological tools, and internet connections are crucial for increasing students' perceptions of SOL.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Four conclusions are drawn from the findings and discussion. First, the participants had positive perceptions of both SOL and AOL, but their perceptions of the two learning modes varied. In their views, AOL was more effective to facilitate engagement, interaction, collaboration, and advantages than SOL, whereas SOL was more effective only to facilitate social presence, Second, despite these differential perceptions, the participants believed both learning modes had their own strengths and weaknesses and can complement each other. Next, one of the reasons for their favor of asynchronous interaction and collaboration for sharing learning was their preference of texting and instant messaging over speaking, despite their awareness that texting and instant messaging were less effective at sensing and creating social presence. Finally, the participants believed that since SOL and BOL hone digital literacy, both learning modes are essential for EFL learning, but their implementation requires better instructional designs and infrastructure.

Suggestions

This study involved only 34 participants, and the data was collected only through a survey and semi-structured interview. To get more comprehensive results, future studies are recommended to involve more participants and utilize more data collection methods (e.g., focus group discussion, observation, and student reflection) for triangulation. Additionally, the main reasons why SOL is perceived as inferior are the ill-designed instructions, poor internet connection, and weak bandwidth. Thus, future research is also recommended to focus on effective instructional designs for EFL OL learning, and the government is suggested to improve the quality of internet connections.

REFERENCES

Ang, W. S., & Yunus, M. M. (2021). A Systematic Review of Using Technology in Learning English Language. *International Journal of Academic Research in Progressive Education and Development*, *10*(1), 470–484. https://doi.org/10.6007/ijarped/v10-i1/9138

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of Cobid-19. *Journal of Education and E-Learning Research*, *7*(3), 285–292. https://doi.org/10.20448/JOURNAL.509.2020.73.285.292

Bailey, D., Almusharraf, N., & Hatcher, R. (2021). Finding satisfaction: intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, *26*(3), 2563–2583. https://doi.org/10.1007/s10639-020-10369-z

Barbour, M. K., McLaren, A., & Zhang, L. (2012). It's not that tough: Students speak about their online learning experiences. *Turkish Online Journal of Distance Education*, *13*(2), 226–241.

Barrot, J. S., Llenares, I. I., & del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, *26*(6), 7321–7338. https://doi.org/10.1007/s10639-021-10589-x

Bergdahl, N., Nouri, J., Fors, U., & Knutsson, O. (2020). Engagement, disengagement and performance when learning with technologies in upper secondary school. *Computers and Education*, *149*, 103783. https://doi.org/10.1016/j.compedu.2019.103783

Bolliger, D. U., & Inan, F. A. (2012). Development and validation of the online student connectedness survey (OSCS). *International Review of Research in Open and Distance Learning*, *13*(3), 41–65. https://doi.org/10.19173/irrodl.v13i3.1171

Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping research in student engagement and educational technology in higher education: a systematic evidence map. *International Journal of Educational Technology in Higher Education*, *17*(1), 2. https://doi.org/10.1186/s41239-019-0176-8

Cakrawati, L. M. (2017). Students'perceptions on the use of online learning platforms in EFL classroom. *Elt Tech: Journal of English Language Teaching and …*, *1*(1), 22–30. https://ejournal.upi.edu/index.php/elttech/article/view/9428

Creswell, J. W. (2018). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (7th ed.). Pearson.

Dhull, I., & Sakshi, M. S. (2017). Online learning. *International Education & Research*, *3*(8), 32–34. https://doi.org/10.1016/B978-0-12-818630-5.14041-2

Dixson, M. D. (2015). Measuring student engagement in the online course: the Online Student Engagement scale (OSE).(Section II: Faculty Attitudes and Student Engagement)(Report). *Online Learning Journal (OLJ)*, *19*(4), 143.

Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology*, *12*(October). https://doi.org/10.3389/fpsyg.2021.733554

Favale, T., Soro, F., Trevisan, M., Drago, I., & Mellia, M. (2020). Campus traffic and e-Learning during COVID-19 pandemic. *Computer Networks*, *176*(April). https://doi.org/10.1016/j.comnet.2020.107290

Fortanet-Gómez, I., & Ruiz-Madrid, N. (2023). Adapting English Language Teaching: Moving Online During the COVID-19 Crisis. In M.-M. Suárez & W. M. El-Henawy (Eds.), *Optimizing Online English Language Learning and Teaching* (1st ed., pp. 11–30). Springer.

Giday, D. G., & Perumal, E. (2024). Students' perception of attending online learning sessions post-pandemic. *Social Sciences and Humanities Open*, *9*(June 2023), 100755. https://doi.org/10.1016/j.ssaho.2023.100755

Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer–mediated conferencing environment. *International Journal of Phytoremediation*, *21*(1), 8–26. https://doi.org/10.1080/08923649709526970

Hamid, B., Faroukh, A., & Mhammadhosein, B. (2013). Nursing students' perceptions of their educational environment based on DREEM model in an Iranian university. *Malaysian Journal of Medical Sciences*, *20*(4), 55–62. www.mjms.usm.my

Hazaymeh, W. A. (2021). EFL students' perceptions of online distance learning for enhancing English language learning during Covid-19 Pandemic. *International Journal of Instruction*, *14*(3), 501–518. https://doi.org/10.29333/iji.2021.14329a

Hrastinski, S. (2008). Asynchronous and synchronous e-Learning. *EDUCAUSE Quarterly*, *31*(4), 51–55. https://doi.org/10.1080/00071667608416307

Islam, N., Beer, M., & Slack, F. (2015). E-Learning Challenges Faced by Academics in Higher Education: A Literature Review. *Journal of Education and Training Studies*, *3*(5), 102–112. https://doi.org/10.11114/jets.v3i5.947

Karaaslan, H., Kilic, N., Guven-Yalcin, G., & Gullu, A. (2018). Students ' reflections on vocabulary learning through synchronous and asynchronous games and activities. *Turkish Online Journal of Distance Education*, *19*(July), 53–70.

Kocak, A., & Yuksek, O. (2019). *Group-Based Communication: Contents And Practices Of Whatsapp Group Use*. *9*(4). https://doi.org/10.33422/icarsh.2019.03.188

Mannopovna, J. O. (2019). Psychological and pedagogical foundations of the formation of the artistic perception of students in secondary schools. *European Journal of Research and Reflection in Educational Sciences*, *7*(10), 9–14.

Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, *22*(1), 205–222. https://doi.org/https://doi.org/10.24059/olj.v22i1.1092

Mckerlich, R., Riis, M., Anderson, T., & Eastman, B. (2011). Student perceptions of teaching presence , social presence , and cognitive presence in a virtual world.

MERLOT Journal of Online Learning and Teaching, *7*(3), 324–336.

Meşe, E., & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. *Journal of Educational Technology & Online Learning*, *4*(1), 11–22.

Mu'in, F., Mariani, N., Nasrullah, N., & Amelia, R. (2023). EFL Students' perception on e-learning in post-pandemic: Assessment, learning Outcome, evaluation & problem Faced. *Utamax : Journal of Ultimate Research and Trends in Education*, *5*(1), 22–32. https://doi.org/10.31849/utamax.v5i1.11615

Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. *Social Sciences and Humanities Open*, *3*(1). https://doi.org/https://doi.org/10.1016/j.ssaho.2020.100101

Namaziandost, E., & Nasri, M. (2019). The Impact of Social Media on EFL Learners' Speaking Skill: A Survey Study Involving EFL Teachers and Students. *Journal of Applied Linguistics and Language Research*, *6*(3), 199–215.

Nguyen, T., Netto, C. L. M., Wilkins, J. F., Bröker, P., Vargas, E. E., Sealfon, C. D., Puthipiroj, P., Li, K. S., Bowler, J. E., Hinson, H. R., Pujar, M., & Stein, G. M. (2021). Insights into students' experiences and perceptions of remote learning methods: from the Covid-19 pandemic to best practice for the future. *Frontiers in Education*, *6*, 1–9. https://doi.org/10.3389/feduc.2021.647986

O'Rourke, B., & Stickler, U. (2017). Synchronous communication technologies for language learning: Promise & challenges in research & pedagogy. *Language Learning in Higher Education*, *7*(1), 1–20. https://doi.org/10.1515/cercles-2017-0009

Olha, B. (2021). *Synchronous and asynchronous e-learning modes: Strategies , methods , oblectives*.

Özdal, R., Yukselir, C., & Akarsu, O. (2021). Foreign language learners' perceptions and preferences of synchronous and asynchronous online language learning during COVID-19 pandemic. *Journal of Graduate School of Social Sciences*, *25*(2), 699–715.

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, *21*(4), 233–241. https://doi.org/10.1080/1097198X.2018.1542262

Pardede, P. (2019). Pre-service EFL teachers' perception of Edmodo use as a complementary learning tool. In P. Pardede (Ed.), *EFL Theory & Practice: Voice of EED UKI* (pp. 29–41).

Rahman, A., Islam, M. S., Ahmed, N. A. M. F., & Islam, M. M. (2023). Students' perceptions of online learning in higher secondary education in Bangladesh during COVID-19 pandemic. *Social Sciences and Humanities Open*, *8*(1), 100646. https://doi.org/10.1016/j.ssaho.2023.100646

Resnik, P., & Dewaele, J.-M. (2019). Learner emotions, autonomy and trait emotional intelligence in 'in-person' versus emergency remote English foreign language teaching in Europe. *Applied Linguistics Review*, *14*(3), 473–501. https://doi.org/https://doi.org/10.1515/applirev-2020-0096

Russell, V., & Murphy-Judy, K. (2020). *Teaching Language Online*. Routledge. https://doi.org/https://dx.doi.org/10.4324/9780429426483

Salama, R., & Hinton, T. (2023). Online higher education: Current landscape and future trends. *Journal of Further and Higher Education*, *47*(7), 913–924. https://doi.org/10.1080/0309877X.2023.2200136

Sato, S. N., Condes Moreno, E., Rubio-Zarapuz, A., Dalamitros, A. A., Yañez-Sepulveda, R., Tornero-Aguilera, J. F., & Clemente-Suárez, V. J. (2024). Navigating the New Normal: Adapting Online and Distance Learning in the Post-Pandemic Era. *Education Sciences*, *14*(1). https://doi.org/10.3390/educsci14010019

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, *33*(4), 289–306. https://doi.org/10.1080/08923647.2019.1663082

Tshering, D., & Tshering, K. (2022). Students' perceptions towards the quality of online learning during the Covid-19 lockdown: A quantitative study. *Bhutan Journal of Research and Development*, *11*(2), 145–169. https://doi.org/10.17102/bjrd.rub.11.2.036

Vrasidas, C., & McIsaac, M. S. (1999). Factors influencing interaction in an online course. *International Journal of Phytoremediation*, *21*(1), 22–36. https://doi.org/10.1080/08923649909527033

Yamagata-lynch, L. C. (2014). Blending online asynchronous and synchronous learning. *The International Review of Research in Open and Distributed Learning*, *15*(2), 189–212. https://doi.org/https://doi.org/10.19173/irrodl.v15i2.1778

Zahara, A., & Carbiriena, S. (2022). Students ' perception on synchronous and asynchronous Learning at Indonesian English translation of English Education Department at Universitas Negeri Padang. *Journal of English Language Teaching*, *11*(3), 269–279. https://doi.org/10.24036/jelt.v11i3.119317