Factors Influencing Asynchronous and Synchronous Online Learning Experiences: A Comparative Study

Wee Ling Choo (weeling@um.edu.my)
Faculty of Languages and Linguistics, Universiti Malaya, Malaysia

Lee Luan Ng (ngleeluan@um.edu.my) *Corresponding author
Faculty of Languages and Linguistics, Universiti Malaya, Malaysia

Abstract

Online learning, both asynchronous and synchronous, has gained prominence in tertiary education. To further enhance the quality of online learning, it is necessary to investigate the factors impacting learners' experiences. This study examines factors influencing tertiary ESL learners' online learning experiences in a vocabulary course via asynchronous and synchronous learning through the lens of Community of Inquiry (CoI) framework. The CoI is mediated by the interaction of three interdependent elements: cognitive presence, social presence, and teaching presence. The thematic analysis of the interviews with 19 participants reveals three similar factors that influenced the cognitive presence among both groups: learning resources, learning activities and learning from peers. In terms of social presence, the asynchronous group needed more learning support while for the synchronous group, the conscious effort made to participate led to more positive learning experiences. In teaching presence, the asynchronous group's instructor's feedback and availability emerged as pertinent influencing factors, whereas the instructor's planning was essential for the synchronous group. The study's outcomes reveal several implications linked to the teaching and learning of vocabulary in online settings.

Keywords: Online learning, Community of Inquiry, asynchronous learning, synchronous learning, vocabulary

Introduction

The emergence of online education has transformed higher education significantly in recent years. This resulted in a broad variety of synchronous and asynchronous online learning environments (Fabriz et al., 2021). Therefore, it is vital that educators and researchers examine the effectiveness of various online learning platforms (Zeng & Luo, 2023), particularly in language courses. This is especially important as the utilisation of online learning approach, specifically the influence of instructions via MOOC (asynchronous mode) and video conferencing (synchronous mode) on students' learning post Covid pandemic continues to be examined. Hence, it is crucial to investigate the factors that influence language learners' experiences in both environments.

In this context, the Community of Inquiry (CoI) framework provides useful for examination in this study. The CoI framework, proposed by Garrison et al. (2000) was developed to structure the process of learning in an online learning experience and instruction among students and instructors of higher learning institutions. It is centered on the assumption that effective

learning is encapsulated within a community and the interaction in the three interdependent elements: cognitive presence, social presence and teaching presence (Kanuka & Garrison, 2004).

The framework is relevant for this study as it provides a structure of online learning, including the course development as well as the execution on the teaching and learning processes for asynchronous and synchronous groups. Through a comparison of the factors that influence language learners' experiences in these two modes, the CoI framework guides the identification of aspects that enhance the efficacy of online learning of a language course, specifically on vocabulary.

Several studies have compared asynchronous and synchronous teaching and learning to the perceived levels of presence in the Community of Inquiry framework, including asynchronous video posts and synchronous video conferencing on teaching and social presence (Clark et al., 2015), synchronous technology versus asynchronous technologies on cognitive, social and teaching presence (Rockinson-Szapkiw & Wendt, 2015), and synchronous and asynchronous class participants on social presence, perceived learning and class enjoyment (Ratan et al., 2022). These studies showed that that real-time interactions among students, instructors and peers can foster a sense of shared presence, which in turn can boost students' feelings of engagement and belonging. However, these studies primarily relied on surveys to evaluate and compare the perceived levels of presence on asynchronous and synchronous modes. While Clark et al.'s (2015) study employed a combination of survey and interviews, the pool of students being interviewed was rather limited. A larger sample size for qualitative research might provide a more comprehensive understanding of the subjects under investigation. Therefore, this study aims to address the research gap by using a larger sample size for interviews (19 in total) to investigate asynchronous and synchronous learners' perceptions of cognitive presence, social presence and teaching presence through the lens of CoI framework.

Moreover, previous research (Khodaparast & Ghafournia, 2015; Lotfi & Pozveh, 2019) have examined the effects of synchronous and asynchronous modes on vocabulary learning. However, there is a lack of exploration within the CoI framework with regards to the impacts of an asynchronous course delivered through a Massive Open Online Course (MOOC) and synchronous learning via video conferencing in the context of a vocabulary course. By addressing this existing gap in the literature, this study seeks to identify and differentiate the factors that influence the three elements of CoI of a vocabulary course on both platforms. This comparison enables instructors and students to know the elements that are required to improve the efficacy of online learning. In line with that, this study aims to explore the research question:

How do the following factors influence the asynchronous and synchronous ESL learners' online learning experience:

     i. cognitive presence
     ii. social presence
     iii. teaching presence

Literature Review

Asynchronous and Synchronous Online Learning

Asynchronous and synchronous online learning refer to two different modes of instruction used in teaching and learning, particularly in online or remote learning environments. Asynchronous and synchronous online teaching and learning are fundamentally different (Ratan et al., 2022). Asynchronous learning is described as an instruction that learners can access and complete even when no other users are logged in online in the course at the same time (Tallent-Runnels et al., 2006). Asynchronous activities can be carried out via the web, chat, discussion forums and emails that tailor to the needs of the learners, instructors and programmes. While it offers more flexibility in terms of time and venues, it requires learners to have a higher degree of independence in learning. Massive Open Online Courses (MOOCs), for instance is an example of asynchronous, open access learning courses that are offered to a mass audience.

As for synchronous learning, it is defined by real-time remote teaching and learning that aim to closely resemble the actual classroom experience as much possible (Johnson, 2006). In order to enable interactions between instructors and learners to carry out effective synchronous teaching, they need to have access to a synchronous platform at specific day and time. Among the examples of synchronous platforms that have been widely used are video conferencing platforms such as *Microsoft Teams*, *Zoom*, *Google Meet* and *Skyp*e. These platforms support the teaching and learning processes through its virtual meetings without the requirement of both parties to be physically present at the same locale.

During the Covid-19 pandemic, huge numbers of classes were taught synchronously, allowing for real-time interactions in the classroom through the use of video conferencing tools (Henriksen et al., 2020). Many other classes were also taught using asynchronous platforms through videos recording (Molnar & Kearney, 2017). A variety of activities were carried out via synchronous and asynchronous teaching and learning to keep learners engaged, to assist them towards achieving the course objectives.

Past studies (Clark et al., 2015; Rockinson-Szapkiw & Wendt, 2015; Ratan et al., 2022) have compared asynchronous and synchronous teaching and learning to the perceived levels of presence in the Community of Inquiry framework. Clark et al.'s (2015) study revealed that when compared to the university's present text-based discussion platform, asynchronous video posts and synchronous video conferencing would foster higher levels of teaching and social presence within an online course. In addition, Rockinson-Szapkiw and Wendt's (2015) findings demonstrated there was a significant difference between the group who used synchronous technology to complete online group work in terms of perceived cognitive presence, social presence and teaching presence when compared to students who used asynchronous technology. Furthermore, Ratan et al.'s (2022) study on 322 university students showed that synchronous class participants reported a higher perceived social presence for their teachers and peers, compared to students in asynchronous classrooms. In another study by Zhang et al. (2023), a total of 170 undergraduate students who enrolled in both asynchronous and synchronous courses reported a significant higher social presence and teaching presence in the synchronous online learning environment compared to the asynchronous environment. These studies demonstrated that real-time interactions between students and instructors and peers can enhance a feeling of shared presence, which can increase students' sense of belonging and involvement in the learning community. This aligns with the media richness theory, which suggests that the media utilised in synchronous classrooms may offer

more social presence than asynchronous media technologies because synchronous learning closely resembles face-to-face interaction (Walther, 2011).

The Media Richness Theory, proposed by Daft et al. (1987) asserts that communication media vary in their capacity to convey information. The theory classifies media along a continuum that ranges from "rich" to "lean" based on these four criteria, which are i) feedback capability (e.g. immediate feedback, face-to-face conversations); ii) multiple cues (e.g. verbal and non-verbal cues, physical presence); iii) language variety (natural language, numbers and symbols); and iv) personal focus (personal interaction and understanding, including emotions and feelings). Therefore, researchers contend that synchronous classes have more social interaction than asynchronous classes (Grech, 2022; Wang & Wang, 2021) as the former utilises richer media, and facilitates more social interaction than synchronous classes.

Furthermore, while some studies (Rockinson-Szapkiw & Wendt, 2015; Ratan et al., 2022; Zhang et al., 2023) have highlighted the distinctions between asynchronous and synchronous teaching and learning, as well as students' perceptions of the three elements, they have employed mainly quantitative measures. There is a clear gap in qualitative research that examines students' learning experiences in asynchronous and synchronous settings. Furthermore, considering the differences that past studies have shown in asynchronous and synchronous teaching and learning, it is critical to understand how these two modes of learning affect the elements associated with the three presence consistently across different learning tools. Thus, this study aims to investigate learners' perception of the three elements presence of Community of Inquiry using qualitative research. This will provide a more comprehensive understanding of how asynchronous and synchronous deliveries influence learners' experiences in online language courses.

Community of Inquiry (CoI) Framework and Learning Experiences

The CoI framework, proposed by Garrison et al. (2000) embraces communication and interaction approaches to foster meaningful collaborative-constructivist online learning through the three elements: cognitive presence, social presence and teaching presence. The need for a community of learners has become more evident with the demands of an emerging knowledge society. This requires students to be autonomous thinkers and interdependent collaborative learners. It is in the community of learners that the potential of e-learning could be accomplished. This potential is found in the framework of Community of Inquiry (Garrison, 2017).

The three elements are illustrated with the Venn diagram in Figure 1. The cognitive, social and teaching presences interact to give an educational experience. These elements of community of inquiry could either increase or restrict the quality of the educational experience and learning outcomes (Garrison et al., 2000). The success of the educational experience relies on the ability of these elements to establish and maintain learning environments that engages students in meaningful learning tasks.

Figure 1

Community of Inquiry Framework (Garrison et al., 2000)
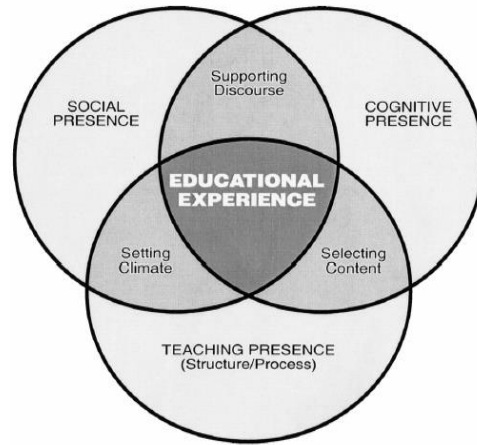
While CoI have been extensively studied, past studies focused on different elements of the CoI in specific contexts with differing objectives. For instance, Maranna et al. (2022) examined the factors influencing the higher-order thinking that is characteristic of cognitive presence using a scoping assessment of the CoI literature in 121 studies. The findings demonstrated that the presence of teachers, the design of the learning activities, and the student characteristics are factors that affect cognitive presence. Additionally, Richardson et al. (2017) examined the variables across 19 studies and identify the patterns of student satisfaction with social presence. They discovered that the length of the course, the discipline, and the social presence scale all affected how strongly the association between social presence and student satisfaction. A thematic analysis by Caskurlu et al. (2021) provided a comprehensive understanding of the factors that influence learners' online learning experiences through the lens of the Community of Inquiry framework. The results revealed ten descriptive themes relating to the Community of Inquiry framework, which were categorized into three main categories: course design, teacher actions, and student actions. The analysis included studies conducted on asynchronous or/ and synchronous platforms.

These studies have yielded some insightful information about the factors influencing learner experiences in relation to the three elements of the CoI. Meanwhile, they also give much room for further studies, particularly comparing the experiences of learners on asynchronous and synchronous platforms. Through this framework, the study examines the factors that influence the online learning experiences of the ESL learners' in the cognitive presence, social presence and teaching presence.

Methods

Participants

The participants were 19 undergraduate ESL learners, with 11 from the asynchronous group and eight from the synchronous group. Semi-structured interviews were conducted with these interviewees, who majored in the Sciences and Arts and Humanities. They enrolled in a pre-intermediate English Language proficiency course and were given the options to enroll in any class of their preference. Upon enrolling, they were then randomly assigned into asynchronous and

synchronous groups for vocabulary lessons. Assurance was also given that the interview data would be kept confidential in accordance with the ethics requirement of the research study, which abide by the requirements by the institutional research board.

Data Collection Procedure

Figure 1 shows the summary of the data collection procedure. The asynchronous group was given 5 weeks to complete the vocabulary lessons on *OpenLearning*, a MOOC platform. Each module comprised a video of the vocabulary lesson taught by the researcher, covering forms, meaning and usage. In addition, practices, online quizzes, forums and online games were also part of the activities in the asynchronous teaching and learning.

For the synchronous group, lessons were carried out real-time with the researcher via *Microsoft Teams* over a period of five weeks. The topics, exercises, and target vocabulary for the synchronous group were identical to the asynchronous group. Additionally, the synchronous group participated in activities such as *Kahoot!*, a game-based learning platform, and *Google Jamboard*, a digital whiteboard for the instructor and participants to collaborate in real-time. Participants from both groups who completed the lessons were contacted and invited to take part in the interviews. On average, each interview lasted between 45 and 60 minutes. The focus on the interviews were mainly on how the discussions contribute to the understanding of course topics, and whether the interactions promote a sense of community. Furthermore, the interview questions seek to find out how the instructor's guidance influence students' learning in each platform.

Figure 2
A Summary of the Data Collection Procedure

Asynchronous Group	Synchronous Group
A total of 143 participants completed a 5-week vocabulary course via Massive Open Online Course (MOOC)	A total of 77 participants completed 5-week vocabulary lessons via video-conferencing

Asynchronous Group	Synchronous Group
A total of 11 participants were interviewed.	A total of eight participants were interviewed.

Data Analysis

The interview data collected was transcribed manually into text. The transcripts were checked for accuracy using at least two recorded audio files. The data was analysed using thematic analysis, proposed by Braun and Clarke (2006). Thematic analysis was employed as it is a systematic method for finding, categorizing, and reporting themes or patterns in qualitative data. The initial codes are grouped together based on their commonalities and probable themes. The codes were then organized into potential themes, whereby patterns of meaning that captured important aspects of the data were grouped. The themes were then reviewed and assessed in connection to the codes and overall data patterns.

Results

Cognitive Presence

The thematic analysis reveals three similar factors that are essential contributors in influencing asynchronous and synchronous participants' learning experience in online learning in terms of cognitive presence. Table 1 shows the factors in relation to cognitive presence that affect the learning experiences of both groups.

Table 1

Factors that Influence Asynchronous and Synchronous Participants' Learning Experience in terms of Cognitive Presence

Elements of Presence	Factors Influencing Learners' Online Learning Experience	
	Asynchronous group (MOOC)	Synchronous group (Video conferencing)
Cognitive Presence	• Learning resources • Learning activities • Learning from peers	• Learning resources • Learning activities • Learning from peers

The following section will detail how these three factors affect learners in asynchronous and synchronous groups.

Asynchronous Group

Factor 1: Learning resources

The asynchronous participants recognized that learning resources were a contributing factor in increasing their online learning experience. Participant A7 expressed that learning resources like the videos had helped her to acquire a better understanding of the topics.

"I love the way how the lessons were presented in the short videos. The videos are short but they are complete and easy to understand." (A7)

In addition, students could view the videos anytime and they could also refer to the subtitles provided in each video. These aided students in understanding the topics. Participant A9 added:

"I really like the recording video prepared in every module because we can do revision anytime. The videos also provided English subtitle so it is convenient for the students who are not good in listening like me. I will understand." (A9)

Generally, the participants felt the learning had helped them to understand deeper about the lessons, which enrich their learning experiences.

Factor 2: Learning activities

Apart from learning resources, the asynchronous group perceived that learning activities had contributed to their online learning experience. As an example, participant A2 stated:

"Before this, I usually used similar words to describe descriptive paragraph. I used simple words to complete my writing assignment. But after I joined and completed the module of vocabulary learning, I tried to use the (new) words in my writing." (A2)

Participant A6 also felt that the activities had helped her to use more variety of words in her writing:

"I think the use of vocabulary in my writing has increased. I can use the adjectives and also the adverbs correctly in my writing. For example, 'beautiful' and 'beautifully'. I can describe some scenery, some buildings in my assignment." (A6)

In general, the participants viewed online learning experience to be valuable when they could apply what they had learned.

Factor 3: Learning from peers

Another factor that has influenced the cognitive presence among learners is when they have learned from their peers, especially via discussion boards. For instance, participant A6 reported:

"My coursemates' postings on the discussion board help me to understand the topics a lot. I think their answers and their postings are quite creative, especially on the topic on mnemonics. I learned from them." (A6)

Participant A8, too, contributed to the discussion, with the intention that her answers might have assisted others to have a better understanding of the topic.

"Some of the participants have commented on the discussion boards. I gained some ideas or opinions from their thoughts, from their comments. I would also post my answers to help other participants who haven't answered." (A8)

These responses showed that learning from peers is a contributing factor in influencing learners' learning experience while learning online.

Synchronous Group

Factor 1: Learning resources

The synchronous group also viewed learning resources as one of the contributing factors influencing online learning experience. For instance, participant S3 responded:

"The lessons helped me because one of the lessons and practices were focusing on words' meaning and how to guess the meaning of the word. And yeah, it helps me to learn better words in the English language." (S3)

Participant S6 also mentioned that resources like the online dictionary had helped her to know the features in a dictionary.

"I can find some words meanings in *Google*, but I'm not really sure how to where to find it. So, like, you showed us Cambridge dictionary. So, I think that's quite helpful for me." (S6)

These responses demonstrated that participants viewed course content and resources as important contributors to their online learning experience.

Factor 2: Learning activities

All synchronous participants acknowledged that learning activities had enhanced their online learning experience. Activities such as *Google Jamboard* and *Kahoot!* helped to create interests in participants. Participant S6 highlighted this:

"You're not just not teaching from the slides or books. You use some interesting ways like you use the *Jamboard* and also the *Kahoot!*. So, these let us have more interaction and connection between the facilitator and the students." (S6)

In addition, providing different learning activities makes learning less mundane. For instance, games kept these learners motivated. Participant S1 stated:

"You always do games so I found that I like learning through this method. So, I downloaded games that boost my vocabulary. Learning this way is easy to help me boost my vocabulary skills. So, I enjoyed this." (S1)

When participants gain a better understanding of the topics, they will be able to apply it in their writing or reading skills. This leaves an impact on their learning experiences.

Factor 3: Learning from peers

The synchronous participants also found it beneficial when they learned from their peers through online activities. Participant S3 shared her response:

"My classmates' posting in chat rooms helped me to understand the topics further in the lesson. Sometimes, I did gain different perspective. For instance, on mnemonic lesson, I think it was visual mnemonics, there was a picture of a penguin. That penguin looks quite

happy. So, I thought it might be a cheerful penguin, but the answer turned out to be 'sanguine'." (S3)

Apart from learning more vocabulary from peers, participant S4 also mentioned that she learned from the errors that her peers had made during writing activities:

"Sometimes they will make some mistakes and then, madam will point that out. So, I learned from their mistakes, because I may make the same mistakes." (S4)

Participants gained different perspectives from others' responses on the discussion boards, and this too has an impact on their learning experiences.

Social Presence

Table 2 summarizes the factors that are essential contributors in increasing the asynchronous and synchronous groups' learning experience in online learning in terms of social presence.

Table 2
Factors that Influence Asynchronous and Synchronous Participants' Learning Experience in terms of Social Presence

Elements of Presence	Factors Influencing Learners' Online Learning Experience	
	Asynchronous group (MOOC)	Synchronous group (Video Conferencing)
Social Presence	• Participation • Support received	• Participation • Conscious effort

The following section will reveal how these factors affect learners in asynchronous and synchronous groups.

Asynchronous Group

Factor 1: Participation

Learners who contributed to online discussions, gave feedback or received feedback from others found that they learned the lessons as a group. This had a significant influence on their online learning in terms of social presence. For instance, participant A5 stated:

"I thoroughly enjoyed the learning process. Like this girl, W. She always used to like my answers and also posted comments below my answers in the forum so they're like my unknown virtual friends." (A5)

Apart from receiving responses from others, participant A7 noted that she wanted to give their feedback to other participants.

"The discussion board is very helpful to me. Especially if I can answer some of their questions 'cause there are always students who ask questions regarding our exercise on the discussion board." (A7)

The asynchronous learners' active participation in online discussion is an essential factor impacting their online learning experiences. Though participants did not meet their peers online, they felt that they had the support when other participants responded to them.

Factor 2: Support received

The support received is also another factor that impact the online learning experience of learners in the aspect of social presence. For example, participant A5 mentioned:

"I saw a few names that always engaged in the discussion over and over again. I also received comments below my answers in the forum. No, I don't know them. But I always feel that I'm part of the group." (A5)

Through the support they received, participant A3 also felt a sense of belonging when she shared the same feelings or faced similar issues about an activity.

"Other people also say the game is interesting and we can learn from the game. That is also my feeling so, I think I have the same feeling with my classmates. I think that made me feel I'm a part of the group." (A3)

Having the support increases participants' sense of belonging and impacted their online learning experience in the aspect of social presence.

Synchronous Group

Factor 1: Participation

Similarly, for some synchronous participants, participation in activities such as chat rooms enhanced their feeling of being part of a group. Participants S1 and S6 shared:

"I always write in chat room and I always respond to what you asked. Even though I feel shy, I will also unmute my mike to answer." (S1)

"It's OK to answer the lecturer or the questions in the class. It's like you are sharing something to others, and it's also a chance for me to train to talk in front of many people." (S6)

Synchronous learners' participation during the in-class activities is crucial for their experience as part of a group. When they view participation positively, they are more likely to take part. This results in a more meaningful learning experience.

Factor 2: Conscious effort

The conscious effort made is also another factor that may have impacted the online learning experience of synchronous learners in terms of social presence. The synchronous participants reported that they deliberately took steps to engage in online communication. For example, participant S1 responded:

"Actually, I don't speak fluently. Sometimes I am shy. But if madam (researcher) asked (questions), I will sometimes unmute my mike. I still feel shy, but in my mind I just think I have to be kind to the teacher or professor. I don't want them to speak alone. I want to make the class a two-way conversation." (S1)

As for participant S3, she was less self-assured but still strived to communicate online.

"Sometimes I feel uncomfortable because I was worried I didn't give the right answer. (But) this is online learning. I tried to involve myself in the class session." (S3)

On the other hand, some synchronous participants did not initiate any move to communicate. For instance, participant S4 mentioned:

"I read the other people's post and they already gave the answers that I wanted to give, so I did not post it… I did not turn on my mike even when you asked." (S4)

Due to the participant's lack of response and initiative, it is not surprising that she reported not having any sense of belonging in the group. This hampered her social interactions with others.

Teaching Presence

Table 3 lists the elements that are essential in influencing the online learning experience of both asynchronous and synchronous groups in terms of teaching presence.

Table 3
Factors that Influence Asynchronous and Synchronous Participants' Learning Experience in terms of Teaching Presence

Elements of Presence	Factors Influencing Learners' Online Learning Experience	
	Asynchronous group (MOOC)	Synchronous group (Video conferencing)
Teaching Presence	• Instructor being active and interactive • Feedback by instructor • Instructor's availability	• Instructor being active and interactive • Instructor's planning

The following section will detail how these factors affect learners in asynchronous and synchronous groups respectively.

Asynchronous group

Factor 1: Instructor being active and interactive

Asynchronous participants acknowledged that the instructor's active involvement in the online classes is imperative for an enriching learning experience. Participants A1 and A8 stated:

"You (researcher) responded to us patiently. You made me feel comfortable and I enjoyed completing all the modules without stress. You totally kept course participants engaged and involved in the vocabulary learning." (A1)

"You kept the participants engaged and involved, especially when you started a forum or discussion board for students to share their ideas in order to help others. It's very helpful. And also, we can like and comment on the posts to support them and then they will feel appreciated." (A8)

The responses show that it is important for the instructor to be active and interactive in order to benefit the learners.

Factor 2: Feedback by instructor

Another factor that influences asynchronous participants' learning experience in terms of teaching presence is the feedback from the instructor. For instance, participant A5 stated:

"Actually, I feel that the way Miss responded to our answers in the forum is the thing that actually influenced us to engage in the discussion." (A5)

Furthermore, when feedback is given, it assists learners to make improvements in the subject. This was acknowledged by participant A9:

"The facilitator also gave comments on our posts. So, the students will know their mistakes and they can also make the corrections." (A9)

The asynchronous participants' views on the value of instructor's feedback demonstrated that it is an essential component that fosters learning, which may influence students' learning experience.

Factor 3: Instructor's availability

The instructor's availability is another teaching factor that impacts the online learning experience of the asynchronous participants. Participant A9 mentioned:

"The important thing is we can ask the facilitator questions if we don't understand. Besides that, the facilitator also gave comments on our posts." (A9)

Participants will also have a more satisfying learning experience if the instructor responds to the learners promptly. For instance, participant A4 responded:

"I'm satisfied with the facilitator guiding the class. You always answered our questions if we did not understand. If students post something, you replied quickly. I noticed that. (A4)

These responses demonstrated that instructor's prompt reactions always have deep impacts on how well students learn and develop in their learning, which directly affect their learning experience.

Synchronous group

Factor 1: Instructor being active and interactive

Similar to asynchronous participants, the synchronous participants also responded that the instructor's active involvement in the online classes is essential for an enriching learning experience. Participant S4 shared:

"The facilitator really kept us engaged and involved in any tasks or activities that we need to do in the class. Yeah, so we learn more deeply. Everyone can access the activities and also sometimes you would call out people to answer." (S4)

Participant S6 was contented with how the instructor kept the participants engaged:

"Like for the *Jamboard*, right? There's no need to show your name. Everybody can join it so you can just try to answer no matter whether it's correct or not, so you can just share your answers with others. I think this is really a good way for students." (S6)

These recounts showed that the instructor in an online class needs to be active and engaging. This is to spur participants to be involved in the activities. Through this, it enhances learners' understanding of the topics.

Factor 2: Instructor's planning

All synchronous participants reported that the games and activities prepared by the instructor piqued their interest in learning vocabulary. Participant S8 stated:

"You tried to make us interested by adding games in the class. So, I think it reminded us about the topics that we learn. That makes the lessons so interesting. (S8)

Furthermore, students could understand better when reinforcement activities were carried out through games. For example, participant S7 commented:

"Sometimes by listening to the explanations, I cannot really understand. So, when we do practices, when we do a bit of our games, then, I think I understand much better than before." (S7)

Games tend to pique the attention of online students. By taking part in the activities, this will help to enhance their understanding of the lessons.

Discussion

Cognitive Presence

Regardless of the modes of delivery, both asynchronous and synchronous groups showed some similarities in the factors that influence their learning experience in online learning, which are learning resources, learning activities and learning from peers. There could be several possible explanations for this.

Firstly, participants from both groups found that the learning resources had helped them to acquire more vocabulary. For asynchronous participants, learning resources such as videos lectures helped them to gain a better understanding of the topics. Additionally, they could also review the videos whenever they needed to revise the contents. On the other hand, synchronous participants found resources like the online dictionaries and word lists had helped them to acquire new words. The results from this study echoed the findings from studies by Huss and Eastep (2013), Mills et al. (2016) and Steele et al. (2017), which found that different materials play a pertinent role in supporting students' online learning. This has an impact on their perceived cognitive presence.

Secondly, another factor that influences asynchronous and synchronous participants' perceived level of cognitive presence is learning activities. The online vocabulary exercises, coupled with writing and reading activities had shown to be beneficial for asynchronous participants in expanding their vocabulary. For the synchronous participants, learning activities were also carried out using *Google Jamboard* and *Kahoot!*. These activities piqued their interest and helped them to be more engaged in the lessons.

Apart from being interested in a variety of activities, participants also found the activities to be relevant when they could apply what they had learned in their writing. The results of this study corroborated some findings found in previous studies. For instance, Mills et al. (2016) demonstrated that learning activities influenced students' satisfaction in online learning experience when they were relevant to the real world. Similar to this study, when participants were able to apply what they had learned in their writing, they found learning to be meaningful.

The third factor that impact students' learning experience in online learning is when they can learn from their peers. Knowledge creation could be achieved through peer-to-peer interactions. This could also help to develop critical and higher order thinking, which is a focus in cognitive presence in Community of Inquiry (Garrison et al., 2001). By reading and listening to what others had shared, participants could reflect on what they had or had not learned. This study's findings were consistent with Mills et al.'s (2016) study, which found that peer-to-peer interactions helped learners to exchange views. Additionally, such interactions encouraged them to reflect on their own learning, which enabled them to understand the concepts of the contents.

Social Presence

Both asynchronous and synchronous groups shared a common teaching factor that influenced their online learning experience in terms of social presence, which is participation. The results demonstrated that learners who participated in class tended to perceive a sense of belonging in the group, which were consistent with the results from the study by Mills et al. (2016). Their study demonstrated that active student participation in class discussion is essential for successful online learning. Being participative through listening, reading and sharing cultivates a sense of community among learners and encourages social interactions in terms of sharing information and exchanging ideas.

For the asynchronous group, the second factor that influences their online learning experience is the support that they received from the instructor and peers. When asynchronous participants received feedback though the discussion board, they felt their views were acknowledged, and they received the affirmation that they much needed. Similar to the findings by Berry (2017), Mills et al. (2016) and Steele at al. (2017), their studies demonstrated that feedback contributed to enhancing students' learning. Conversely, synchronous participants were able to interact in real time with the instructor and peers. Thus, their needs were different from those of the asynchronous group since the support was instantly available whenever they met online with the instructor.

For the synchronous group, another factor that impacted their perceived level of social presence relates to their conscious effort made during the lessons. Some learners took the initiative to participate in class even though they were shy. As revealed in Shea and Bidjerano's (2010) study, efforts are dynamically associated with social presence. Similar to the findings from this study, synchronous group's conscious effort is a factor influencing their perceived social presence in online learning.

In contrast to the findings of Grech (2022) and Wang and Wang (2021), this study suggests that synchronous classes may not inherently have more social interaction than asynchronous classes. It seems that synchronous learners' conscious effort is an important component, as social interaction does not happen on its own without learners' deliberate participation.

Teaching Presence

Both asynchronous and synchronous groups shared a similarity in one of the teaching factors that influenced their online learning: instructor being active and interactive.

Firstly, the instructor's active participation in both groups has a direct influence on participants' perceived level of teaching presence. Instructors play a crucial role in encouraging participants to engage in meaningful interactions. Similarly, Shea and Bidjerabo's (2009) study found that instructors' skills in fostering teaching presence helped to achieve cognitive presence among learners.

Synchronous participants also noted that the instructor was active and interactive during lessons. Using collaborative learning activities through *Google Jamboard* and games like *Kahoot!* encouraged everyone to be involved and learn from the activities. In line with Oyarzun et al.'s (2018) findings, structured collaborative tasks can be an effective way for instructors to increase their presence. These tasks allow more interaction between the instructor and the participants, increasing the presence of the instructor.

Apart from the similarity, both groups also exhibited different factors in influencing online learning experience in relation to teaching presence. For the asynchronous group, the feedback from the instructor is the second factor influencing their online learning experience. As found in the results of the previous studies by Berry (2017), Mills et al. (2016) and Steele et al. (2017), the instructor's feedback helped students in constructing knowledge. Furthermore, feedback that is constructive would highlight the mistakes whilst noting what needs to be improved (Caskurlu et al., 2021). In this study, when the instructor pointed out some mistakes in the activities, the asynchronous students learned from them and made efforts to improve their writing. For the synchronous group, they received verbal feedback instantaneously during lessons. In contrast, the asynchronous group received feedback in written form. Thus, this likely explains why instructor feedback is a crucial factor that influences asynchronous students' learning in terms of teaching presence.

The instructor's availability constitutes another factor influencing the online learning experience of the asynchronous participants. The teacher's presence could be felt through the teaching modules, particularly in the teaching videos. The results were similar to the findings of past studies by Borup (2012) and Steele et al. (2017). Borup's study demonstrated that video-based communication made the instructor seem more familiar to students, and almost similar to face-to-face instruction. In this study, the asynchronous participants could observe the instructor's facial expressions, gestures, and hear her voice in the videos, which significantly contributed to a heightened sense of connection, making the teacher's presence even more evident. In addition, the teacher presence is eminent when the instructor is available to provide input and answer any queries.

Lastly, for the synchronous group, another crucial factor contributing to students' learning experience is the instructor's thoughtful planning of the lessons. Naturally, most students are drawn to activities that are engaging and can capture their attention. Learning activities such as *Google Jamboard*, *Kahoot!* and vocabulary games managed to engage students to have more in-depth knowledge about the topics. In the aspect of teaching presence, the findings in this study displayed the importance of course design and facilitation. This corroborates findings from Akyol and Garrison (2011), which suggest that teaching presence helps to support social and cognitive interactions. These are contributing factors toward influencing online learning experience for both asynchronous and synchronous groups.

Conclusion

This study has explored and identified the factors influencing the online learning experience of both asynchronous and synchronous learners in terms of the three elements in Community of Inquiry (CoI).

While findings of this study have provided valuable insights into the factors impacting students' learning experience on both asynchronous and synchronous modes, it is essential to consider several limitations. Firstly, the vocabulary lessons lasted five weeks. A more extended duration of online lessons might yield more insights pertaining to the factors that influence online learning. Secondly, the interview data involved only 19 participants from a single cohort of registered students, the findings are therefore confined to this group of students only. Carrying out interviews with students from different cohorts and different universities will be valuable. Furthermore, although there is a discrepancy in the number of participants from both groups who

completed the courses, the number of students who were interviewed did not vary significantly between both groups. However, the difference in completion rates could still impact the findings of the study. Thirdly, the study did not explore mutual impact among the three factors, which may provide insights on how they affect the learning outcome. Lastly, while similar vocabulary modules and materials were employed in both asynchronous and synchronous groups, the execution of the activities was still slightly different due to the nature of both platforms. There might be other variables besides the existing environment that could actually affect the results.

Despite the limitations, the findings unveiled three shared factors that impacted cognitive presence in both groups: *learning resources*, *learning activities*, and *learning from peers*. Recognizing the influence of these factors in cognitive presence reflects the importance of a well-designed and supportive online teaching and learning environment. By addressing these factors, instructors can create a more effective online learning experience for their students.

In terms of social presence, the findings suggest ESL instructors should proactively design and include tasks that encourage active engagement among online participants during class activities. In a synchronous setting, instructors might consider leveraging on online collaboration tools to facilitate classroom interactions.

Relating to teaching presence, the findings underscore the pivotal role of the instructor in enhancing learners' experience in online learning. In synchronous settings, instructors should maintain an active and interactive presence during lessons. In asynchronous settings, instructors should engage proactively in discussion forums and provide timely responses to students' inquiries.

The findings demonstrate that there are some similarities in how cognitive presence affect students in asynchronous and synchronous groups, whereas social presence and teaching presence have a differing impact on both groups. The factors that have been explored in this study should be considered when designing and delivering language courses online. The ultimate goal is to ensure that language learners have access to a conducive online environment and receive sufficient support from both their instructors and peers, thereby enhancing their online learning.

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