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PAPER

Investigation into Undergraduates' Experiences of Social Presence Dimensions in Online Learning

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ABSTRACT

Online learning always piques the interest of scholars because of the potential outcomes. Social presence is associated with the degree of participation, interaction, and performance among collaborative group members and, therefore, is considered a critical variable for learning. Researchers have observed that for online learning to work well, students must feel connected to their peers and teachers. Social presence connects the real and online worlds, putting an online learner in touch with the teacher and other online learners. This study aims to investigate the interrelationships between social presence dimensions and cognitive presence, explore the critical social presence dimension influencing cognitive presence, and explore students' experiences of social presence in online learning. The findings showed that social presence greatly influenced cognitive presence. However, affective collectiveness, open communication, and a sense of community were correlated and positively impacted cognitive presence, while the mutual attention and support dimensions were not correlated and did not significantly contribute to cognitive presence. Besides, students perceived themselves as having difficulties with open communication and online group activities. It is suggested that silence is an integral part of social presence, and it can be a silence-mediated social presence. Therefore, the role of silence should be reconsidered, as it has its own meaning. The findings imply that fostering a sense of mutual support and understanding is essential in online learning, as is providing practical guidance to ensure open communication. Moreover, instructors should focus on creating a sense of connectedness and cohesiveness in collaborative learning to achieve meaningful learning outcomes and a strong sense of community among students.

KEYWORDS

social presence, online learning, higher education

1 INTRODUCTION

Online learning is improving in K-12, higher education, and training, among other places [11]. It is widely accepted in many universities or institutions and continues to grow steadily in various modes, becoming the norm for future education.

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Online learning modes vary from time to time to suit the settings and demographic diversity of students from different backgrounds, nationalities, or ages. In online settings, teaching and learning happen at different times and places when synchronous and asynchronous modes are used. Asynchronous settings do not rely on time or place constraints, allowing individuals to progress at their own pace [11]. On the other hand, synchronous online learning involves real-time communication where individuals interact, use natural language, and receive immediate feedback [8]. Some learn online methods require students and teachers to be online simultaneously, while other methods do not [13]. Students have greatly benefited from online learning in terms of improving and enhancing learning outcomes. Online education can provide enormous quantities of information to instructors and students from any location with an Internet connection. Furthermore, online learning provides time and schedule freedom, enabling students to learn at their own pace and manage their learning alongside other responsibilities. It also grants students access to various materials and video tools to aid in their studies. Students benefit from information and communication technologies (ICT) [25]. In addition, using technology allows language learners to explore and compare different societies with their own, thereby broadening their understanding. The online setting also makes students feel more comfortable with individual tasks rather than teamwork [26]. These examples highlight that online learning can serve as an effective alternative to traditional classroom instruction and learning, allowing learners to choose their preferred mode and place of learning within their environment. However, it has both positive and negative effects.

With the COVID-19 pandemic, however, every teacher and student had to rely on online learning to continue their educational progress due to lock down measures. They were compelled to adapt to virtual platforms as physical classrooms were inaccessible. Teachers and students had to collaborate, connect, and explore effective ways to teach and learn amidst the pandemic. In higher education, students from different geographical, social, economic, or psychological backgrounds had to familiarize themselves with online learning. Studies conducted in this context has revealed challenges faced by educators, teachers, and students in the online learning environment. The primary concern identified is the student's need for more interaction [27]. According to the recent International Association of Universities and UNESCO report (2020) the COVID-19 pandemic has caused disruption of higher education for over 1.5 billion higher education students in 185 countries since April 2020. As a result, two-thirds of colleges and universities have recognized the need to transition from traditional to online ways of teaching. In response, the Ministry of Education and Training [15] made the decision to shift from in-person classes to online learning, leading to changes in 110 out of the 240 higher education institutions. Among these 110 institutions, 70 percent are private institutions.

Researchers have discovered that online learning poses challenges for students in terms of participating in online communities due to the absence of interpersonal delivery and social context [28]. It has been found that generating engaging, meaningful relationships is difficult in online learning, leading to feelings of isolation and a lack of social presence. Critics argue that the predominant use of text-based computer-mediated communication in online learning, which occurs at different times, does not provide sufficient support for social presence, which may affect an individual's sense of belonging and acceptance within a group [17]. Hence, ensuring student participation and interaction becomes a challenge [10] [24]. Another complaint about online learning is that it needs more social interaction, which makes it feel cold or less personal. Furthermore, a lack of interpersonal interaction capacity may lower the quality of the online educational experience. As a result, many

researchers in the field of distance learning are focusing on developing effective online learning approaches that prioritize social presence. To make online learning effective, the Community of Inquiry (CoI) is utilized. CoI provides a coherent structured approach for managing and monitoring dynamic thinking and collaborative learning with a transitional experience. It serves as an educational tool to support computer-mediated communication. In 1999, Garrison et al. came up with the CoI model, which consists of three parts: social presence, cognitive presence, and teaching presence. These elements have gained widespread usage in online learning environments. However, there is currently ongoing debate regarding the definitions of social presence and its dimensions [29]. This suggests that social presence does not fit into three dimensions as envisioned by the CoI model, as it also encompasses the understanding of online communities as well as its impact on cognitive presence.

The objectives of the current study include:

1. To investigate the interrelations between social presence dimensions and cognitive presence in online learning.
2. To explore the key social presence dimension influencing cognitive presence.
3. To explore undergraduates' experiences of social presence in online learning.

The study is framed by the following research questions:

1. What is the interrelationship between social presence and cognitive presence?
2. What is the key social presence dimension influencing cognitive presence?
3. How do Vietnamese undergraduates experience social presence in online learning?

2 LITERATURE REVIEW

2.1 Social constructivism

Constructivist learning theories play a significant role in foreign language learning and teaching. These theories emphasize how important it is to understand language through meaningful interaction, allowing learners a chance to take an active role in learning the language. Under the umbrella of constructivism, learning theories are centered on classroom experiences rather than experiments. The central idea behind constructivism in learning theory is that individuals learn and build meaning through experiences. In this context, [22] explored aspects of cognitive development. According to Vygotsky, learning is a social process that involves interacting with others and discovering how to perform tasks independently. Vygotsky's social development theory emphasizes the relevance of social and cultural values. The Zone of Proximal Development (ZPD), a theory introduced by Lev Vygotsky, states that says learners can undertake more complex tasks with the guidance of a more experienced individual. Through the ZPD, Vygotsky emphasizes that learners develop skills and gain knowledge through interactions.

2.2 Social presence in computer-mediated communication

Social presence is related to computer-mediated communication (CMC) technologies and electronic platforms that may transmit face-to-face interpersonal contact,

group learning, and group dynamics to online learners. Johnson and Johnson's (2014) meta-study findings have underscored the importance of group learning in online settings to attain process gain and group-to-individual transmission. The use of CMC tools and electronic platforms may aid in developing social presence, enabling interpersonal communication, group learning, and group dynamics that are comparable to face-to-face encounters. As a result, there is a growing interest in group learning and its use in online environments to foster online group learning [30]. The use of technology in education has evolved beyond text-based CMC. Owing to the COVID-19 pandemic, the expansion of real-time learning and synchronous communication on electronic platforms such as Zoom, Google Meets, and Teams has enabled students to communicate successfully with others. These applications are compatible with computers, smartphones, and other electronic devices. Consequently, technology-mediated communication has the potential to influence perceptions of social presence. It is proposed that both the physical characteristics of CMC tools and electronic platforms, as well as social elements, co-determine social presence. In other words, technical attributes play a role in determining the extent of social presence.

2.3 Social presence

This section provides an overview and background to understand the concept of social presence. Initially scholars conceptualized social presence as a technical aspect and defined it as the level of the salience of another person in the interaction. However, this definition does align with computer-mediated communication, where the importance of another person in a conversation is the same as in a personal relationship. Table 1 provides an overview of the definition of social presence over the years.

Table 1. Social presence definitions

Authors	Year	Definitions
Short, Williams, & Christie	1976	the degree of salience of another person in an interaction and the consequent salience of an interpersonal relationship
Gunawardena and Zittle	1997	the degree to which a person is perceived as 'real' in mediated communication
Tu	2002	the degree of person-to-person awareness, which occurs in the computer environment
Kim	2011	the specific awareness of relations among the members in a mediated communication environment and the degree of proximity and affiliation formed through it
Whiteside	2015	a critical literacy for cultivating emotions and relationships

Collectively, these definitions suggest that social presence refers to the extent to which an individual feels as interacting with a real person and experiences specific interpersonal relations within a mediated communication context, regardless of whether it occurs in real-time or delayed settings. Social presence is essential for effective communication, as it establishes a sense of connection with others. In computer-mediated communication, social presence has been extensively studied and found to have a significant impact on learning outcomes.

2.4 Social presence constructs over the years

In [19], social presence is measured based on the degree of personalization or impersonality, warmth or coldness, and friendliness or unfriendliness. Additionally, [20] expresses concerns about the challenges in measuring computer-mediated communication suggests the need for further research specifically focusing on social presence. Moreover, [9] reports that, according to a review conducted by [4], social presence encompasses three dimensions: copresence, involvement, and dispositions. Each dimension has a sub-dimension such as:

Copresence: Isolation, mutual awareness, and mutual attention

Involvement: Empathy and mutual understanding

Dispositions: Behavioral interaction, mutual assistance, and dependent action

To further explore the concept of social presence, [18] proposes three dispositions: behavioral interaction, mutual assistance, and dependent action for behavioral engagement in online communities. [23] used structural equation modeling to examine a conceptual model with five main parts: the user interface, social signals, social presence, learning interaction, and learning performance. The participants were asked to indicate the degree of agreement they had with the statements to measure their perceptions of each of the three sub-concepts of social presence on a five-point Likert scale.

The constructs based on [12] work well for this study because of several reasons. Firstly, there is a critical review and analysis of the literature on four social presence constructs in a mediated communication setting. Secondly, the four constructs encompass relevant concepts that fall under the umbrella of social presence. Thirdly, the validity of the content, face, construct, and cross-validity has been confirmed. Expert reviews conducted by researchers or professors with over seven years of experience in teaching adults and educational technology have verified the content validity of this study. A pilot test confirmed the face validity, exploratory and confirmatory factor analysis confirmed the construct validity. Additionally, correlation and one-way ANOVA analysis with demographic and learning-related variables confirmed the criterion-related validity. Cross-validation was confirmed by using different samples in three studies. In this study, four factors were identified to explain the social presence construct, and a scale consisting of 19 items was developed with reliability and validity tests. Furthermore, the social presence tool developed for this study is recommended for use in a remote higher education setting. The instrument can measure students' perceptions about social presence in a distance learning environment. Table 2 provides an illustration of social presence dimensions.

Table 2. Social presence dimensions

Construct	Description
Social presence	the specific awareness of relations among the members in a mediated communication environment and the degree of proximity and affiliation formed through it (Kim, 2011)
Mutual attention and support	participants' feeling interdependence, as well as support, in their learning, basically as an extension of being attentive to each other
Sense of community	participants' feeling to perceive the usefulness of community support and satisfaction of collective effort and cooperation
Open communication	where participants pursue knowledge through critical discourses
Affective Collectiveness	feeling of psychological and social connectedness, is the degree to which participants express intimacy and warmth, through which they can regain psychological presence that might be, respectively, reduced in a mediated environment

2.5 Cognitive presence

The degree to which a lecturer and students in a research community can construct and affirm meaning through prolonged dialogue is defined as cognitive presence [31]. It is the "extent to which learners are able to construct and confirm meaning through sustained reflection and discourse" [31]. It is an important component of online learning settings for it encourages critical thinking skills and active learning among students. Consequently, teachers must create and support online conversations that foster prolonged debate and knowledge building. Cognitive presence shares similarity with social presence in that both involve interaction through ideas, feelings, beliefs, and societal impacts, rather than focusing on students' personal characteristics. When students engage in discussions where they demonstrate their understanding, and observe correlations, they actively acquire cognitive presence. Having a clear understanding of what students know and how they acquire it lays the groundwork for tailoring the learning experience to meet their specific needs. By understanding student's objectives, instructor can adjust the class to suit their requirements and interests. Setting clear goals and objectives for the class can help students maintain focus and inspired throughout the learning process.

3 METHOD

3.1 Research instruments

In this study, data was collected through a questionnaire based on [12] and students' reflective notes. The survey was completed online using Google Forms. The questionnaire was available in both English and Vietnamese language. A five-point Likert scale was utilized to gather the data, with the following response options: "5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, and 1 = strongly disagree" [7]. Table 3 illustrates questions related to social presence constructs.

Table 3. Social presence construct questions

Construct	Description
Social presence	Questions 1 to 19 [12]
Mutual attention and support	Questions 1 to 6 [12]
Sense of community	Questions 7 to 10 [12]
Open communication	Questions 11 to 14 [12]
Affective collectiveness	Questions 15 to 19 [12]
Cognitive presence	Question 20 to 31 [32]

3.2 Research sampling

The participants in this study were undergraduates who had prior experience with online learning. Convenience sampling, which involves selecting participants based on availability or ease of access, was employed, as it is a widely used method in research studies. For the collection of undergraduate students' reflective notes, a purposive sampling technique was used. Note that the participants in the quantitative method were different from those in the qualitative method.

3.3 Convergent mixed methods design

Data analysis in this design consists of three phases. First, the quantitative statistical results were analyzed. Second, the qualitative database was analyzed by coding the data into themes using thematic analysis. Third, the databases integrated. The quantitative results were reported, followed by a discussion of the qualitative findings to either confirm or disconfirm the statistical results.

3.4 Research procedures

The researcher developed two separate instruments to collect quantitative and qualitative data on the topic of interest. Each dataset was independent of the other. The researcher analyzed the two datasets separately. Subsequently, the researcher merged the results from both datasets for comparison and transformation. The researcher interpreted the findings to ascertain the degree to which they confirmed or disconfirmed each other.

First, the quantitative data were analyzed, followed by the analysis of qualitative data. A survey was sent to students who had experienced studying online at a university in Vietnam. After two months, 115 responses were received for analysis. The quantitative data was collected from the survey results and analyzed by a statistical software.

After the quantitative data had been collected and analyzed, 22 participants agreed to participate in a qualitative study by providing written reflections on online learning based on their convenience and availability within 45 minutes. Upon completion, reflective notes were sent to the researcher for data analysis. The qualitative data was then analyzed using thematic analysis, which is a method used to identify patterns and themes in qualitative data.

3.5 Data collection and analysis

To address research question 1, the Statistical Package for the Social Sciences (SPSS) version 25 was utilized. The reliability of the questionnaire was assessed using Cronbach's alpha. [7] noted that the process for data analysis was primarily obtained through preparing the datasets, investigating and analyzing the data, representing the data analysis, and validating the data. This study employed Pearson correlation and Multiple Linear Regression for the quantitative data.

Thematic analysis [5] was used for the qualitative data. Twenty percent of the transcription was sent to two independent coders for coding with a predefined theme scheme. Subsequently, two independent coders identified themes based on the nature of the data. The intercoders reached an agreement on 90 percent of the coding themes. Maintaining consistency in coding was recommended to ensure qualitative reliability [14].

4 RESULTS

4.1 Responses related to research question 1

Table 4 illustrates the reliability and means of social presence constructs. Cronbach's alpha for the social presence constructs was $\alpha = .946$, which indicates that the scales were highly reliable.

Table 4. Reliability and means of social presence constructs

Construct	Description	Reliability
Mutual Attention and Support (MAS)	Questions 1 to 6	.741
Sense of Community (SC)	Questions 7 to 10	.836
Open Communication (OC)	Questions 11 to 14	.921
Affective Collectiveness (AC)	Questions 15 to 19	.927
Cognitive Presence (CP)	Question 20 to 31	.992

Table 5 presents correlations between social presence dimensions and cognitive presence. The results indicates that sense of community, open communication, and affective collectiveness are correlated to cognitive presence (sig = .000). However, one social presence dimension, mutual attention and support was not correlated to cognitive presence (sig = .081), which indicate that it was not a key dimension to contribute to cognitive presence.

Table 5. Correlations between social presence dimensions and cognitive presence

Correlations						
		MAS	SC	OC	AC	CP
MAS	Pearson Correlation	1	.599**	.413**	.257**	.163
	Sig. (2-tailed)		.000	.000	.006	.081
	N	115	115	115	115	115
SC	Pearson Correlation	.599**	1	.760**	.728**	.668**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	115	115	115	115	115
OC	Pearson Correlation	.413**	.760**	1	.885**	.888**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	115	115	115	115	115
AC	Pearson Correlation	.257**	.728**	.885**	1	.947**
	Sig. (2-tailed)	.006	.000	.000		.000
	N	115	115	115	115	115
CP	Pearson Correlation	.163	.668**	.888**	.947**	1
	Sig. (2-tailed)	.081	.000	.000	.000	
	N	115	115	115	115	115

Note: **Correlation is significant at the 0.01 level (2-tailed).

4.2 Responses related to research question 2

Table 6 displays the outcomes of the backward multiple regression analysis's predictive variables. R^2 = .446 indicates that a sense of community accounts for 44.6% of the variation in the dependent variable, cognitive presence and that R^2 has a significant explanatory power (F = 90.959).

Table 6. Model summary (sense of community and cognitive presence)

					Change Statistics				
Model	R	R^2	Adjusted R^2	SE of the Estimated	R^2 Change	F Change	df 1	df 2	Sig. F Change
1	.668[a]	.446	.441	1.57588	.446	90.959	1	113	.000

Note: [a]Predictors: (Constant), SC.

Table 7 shows the results of the predictive variable, open communication, with R^2 = .789, which suggests that 78.9% of the variance in cognitive presence is explained by open communication, and that R^2 has a significant explanatory power (F = 422.926).

Table 7. Model summary (open communication and cognitive presence)

					Change Statistics				
Model	R	R^2	Adjusted R^2	SE of the Estimated	R^2 Change	F Change	df 1	df 2	Sig. F Change
1	.888[a]	.789	.787	.97217	.789	422.926	1	113	.000

Note: [a]Predictors: (Constant), OC.

R^2 = .896, indicates that affective collectiveness can explain 89.6% of the variation in the dependent variable (cognitive present), and R^2 has strong explanatory power (F = 978.44). Table 8 provides illustration for it.

Table 8. Model Summary (affective collectiveness and cognitive presence)

					Change Statistics				
Model	R	R^2	Adjusted R^2	SE of the Estimated	R^2 Change	F Change	df 1	df 2	Sig. F Change
1	.947[a]	.896	.896	.68123	.896	978.440	1	113	.000

Note: [a]Predictors: (Constant), AC.

Based on the multiple regressions, a path analysis model is presented in Figure 1.

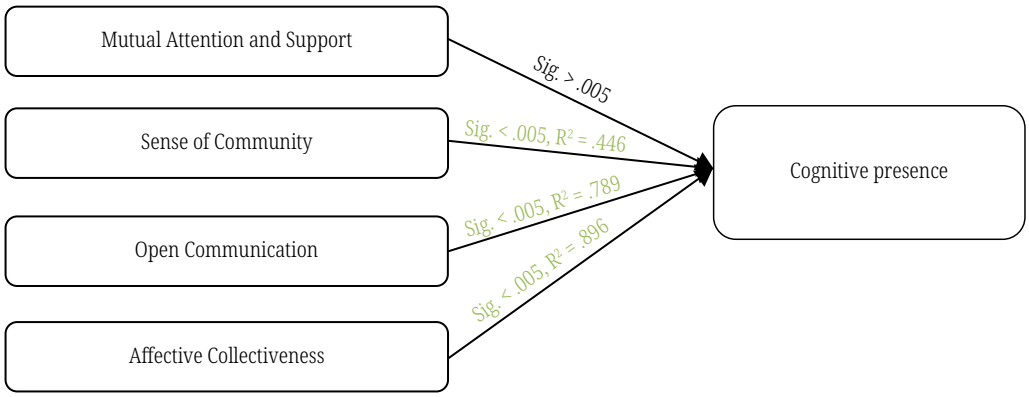

Fig. 1. Social presence and cognitive presence model

The findings reveal that affective collectiveness (R^2 = .896) is the key social dimension to contribute to cognitive, followed by open communication (R^2 = .789), and sense of community (R^2 = .446).

4.3 Responses related to research question 3

The findings revealed that the participants experienced social presence constructs in online learning. Twenty-two participants mentioned silence as an important component of social presence.

Mutual attention and support. The findings revealed that participants felt connected to and supported others in a particular group. They were observed to be paying close attention to one another.

> *Everyone in the group will listen attentively to the teacher's lecture, they are diligent, eager to learn new knowledge. (S8)*
>
> *I have two friends in the last two English courses. They are quite approachable, so we get along easily. We try to pass the test and help each other in lessons. (S9)*

Sense of community. The participants gained experience working in groups and recognized the value of community support. They may seek assistance from the group's community. Working in groups helped the participants to realize the value of relying on community assistance. They could understand better the influence of a supportive community through group cooperation, as they witnessed how beneficial it might be to depend on one another for assistance through their work.

> *When I have a difficult question, I don't understand, just message the group and my friends will point and find a way to help me right away. (S11)*
>
> *The thing that makes me most interested is the cheerfulness and harmony of a new group, not afraid to touch, close and make me feel like I am in a family of only close brothers, I am very happy and proud of my current class. (S6)*

Open communication. In constructive conversation, participants found it challenging to interact with others. When they went online, they chose to turn off their microphones and cameras, and refused to respond to teachers' queries or engage in vocal interaction with others. They believed that much of the silence in online learning posed several challenges for instructors who want them to participate in meaningful discourse.

> *My friends don't say anything, or they are silent, but I still feel others' presence in online class. (S17)*
>
> *She rarely talks when taking online classes and also seldom talks or interacts with teachers and classmates. (S18)*
>
> *But when studying online, I do not know why they often keep silent and do not say anything. (S22)*

Affective collectiveness. Participants reported that they perceived the presence of their peers for the majority of their silent hour in online learning. They believed that their classmates were present and paying close attention to the lecturers. However, some expressed negative thoughts when their peers remained silent during online learning.

So, no matter how silent or silent they are, I can still feel that they are watching me. What I want them to understand is that I don't expect everyone to be present, but that I trust that on the other side of the computer screen there will be a figure listening and watching me. And I can totally feel it. (S17)

Every time I learn online at a coffee shop with my friends. I see my friends so hard to learn, I'm pretty upset about that. I cannot. (S15)

I think I sense the presence of online learners in the classroom when they say nothing, or they are silent. Because in my opinion, it is not because they do not respect the teacher, but perhaps most of those people always listen to the teacher's lecture and for some reasons such as being lazy to speak, afraid to communicate, or do not know what to say when the teacher asks so they keep quiet. (S20)

5 DISCUSSIONS

These findings indicate that mutual attention and support, a dimension of social presence, did not have a significant impact on cognitive presence. This study suggests that while mutual attention and support may be significant for engagement, they may not necessarily enhance the quality of cognitive presence or improve learning outcomes. Further research is required to explore the complex relationship between different dimensions of social and cognitive presence in online learning environments.

The quantitative data confirms that affective collectiveness is the most frequently mentioned aspect in students' experiences through silence. Therefore, educators should consider incorporating moments of silence or reflection into their online courses to enhance social presence and foster a feeling of psychological and social connectedness among students. This can lead to a more positive and engaging learning experience for them.

Educators can help students feel more engaged and supported in their online learning environment by creating a space that encourages both social and personal connections. This study argues that silence in online learning should not be perceived as emptiness or nothing, but rather as a meaningful form of social presence mediated by silence. Lecturers should be open to reconsidering the role of students' silence in online learning, recognizing that silence can have various meanings and should not be seen as non-participation. Therefore, creating a learning environment where students feel connected within a group is significant for instructors.

The study showed that students have difficulties with communication and understanding in the context of online group activities due to the lack of physical contact. The findings also indicated that most students lack the necessary skills and knowledge to collaborate effectively in online group activities. This raises the issue of whether instructors should design online group work solely for online learning or simply one-way interactions. As a result, instructors should take proactive measures to ensure that students understand and can engage in effective communication with each other in the context of online group activities. Instructors must, therefore, provide sufficient guidance to ensure that students can use collaborative tools and strategies for successful online group work. Instructors can address this issue by providing online activities to facilitate student connections.

Students seem not to have many online group activities to facilitate closer connections among them. As a result, students may not feel connected when working in groups; leading to challenges while studying online. The findings indicated that students require clarity in expressing their opinions and engaging in meaningful

interactions with others. They may not receive feedback or opportunities for negotiating meaning, which can hinder their ability to ensure their comments are understood by others. The aforementioned observations suggest that affective collectiveness reaches its lowest point when students do not share their own stories or are influenced by others. Students may work and solve problems independently or be used to working individually rather than collaborating in groups. Therefore, they lack the necessary relationships and skills to work effectively while engaging in online learning.

Silence can be regarded as an important component of social presence, which can be referred as "silence-mediated social presence." Most students acknowledge the presence of silence in online learning. Silence has long been characterized as the behavior of people who do not begin the conversation and a situation in which people are afraid to communicate or have the desire to talk but do not act on it. In educational research, silence has been interpreted as a sign of' disinterest or non-participation in instructional content and duties [6]. It might appear as students' difficulty or unwillingness to answer questions, ask questions, declare their understanding, aid others in understanding, and challenge others' ideas. Yet, verbal interaction has attracted more attention than silence, perhaps because students' speech output is valued as the success of language learners and towards students' advancement. However, [3] suggests that "the occurrence of inner speech in the learner's system deserves to be considered as a type of production, especially when ideas or thoughts are taking shape in mind" (p. 18). Students choose to be silent in spite of the lecturers' encouragement. Yet, silence is not emptiness because it is lived. However, it might result from students' decisions not to do, or connect with others. Therefore, the nature of silence in online learning should be revisited to understand how silence influences the learning experience.

6 CONCLUSION

Social presence plays an important role in online engagement, online conversation, and cooperation with other course participants as it is perceived as indicators of students' active participation in the learning process [2] [21]. Students perceived social presence constructs such as anonymity, instructor immediacy, and their interaction to be important in establishing the level of connectedness within the online classes. Consequently, creating an atmosphere of social presence is essential for students to feel connected to their instructors and other students within the virtual learning environment.

Students may experience the presence of others and engage in collaboration with others during group work in somewhat passive ways. However, one of the challenges in online learning is facilitating open communication. As a result, instructors must take an active role in creating and maintaining social presence by actively encouraging discussion among students, giving timely feedback on assignments, and by providing support. By establishing social presence, instructors can help students not only feel connected to their classmates and instructors but also create a sense of community within the online learning environment. Students make no mention of online learning discourse in the context described. They may struggle to answer instructors' questions and may have limited opportunities for free negotiation with their peers.

Students perceived others' attention and support, especially in their group work, they feel that their opinions are valued. However, most students did not mention online group activities that encouraged collaborative work. As such, the importance of online collaboration in a learning setting still needs to be fully acknowledged. Students need to have opportunities for engaging in online group activities. This study suggests that instructors should make appropriate decisions about group members when designing group activities, aiming to support students' active engagement in these activities. Additionally, instructors should use online platforms in groups to help them to bond with their peers. This recommendation aligns with [1], considering the lack of physical contact and the inherent nature of online discussions.

Furthermore, to maximize student collaboration in a learning environment, instructors should provide feedback on how the team is doing and how it could improve. In addition to those measures, instructors should offer rewards for collaboration through recognition, additional credit, and/or group prizes. It is suggested to use online platforms as a study [16] by using mediating tools.

All students mention silence as a part of their learning. For many students, silence is an essential part of the learning process. Silence is suggested as a mediated social presence. It can be interpreted as a form of social presence, an acknowledgment of the presence of others in the learning environment. Although silence is not considered a form of dialogue or communication, it still provides the opportunity for individuals to process and reflect on their learning. Silent presence can be an important part of the learning process, offering learners the opportunity to reflect on what is being taught and create meaningful connections. Instructors should see silence as having a positive meaning in learning. Students can negotiate with others silently, talk to others silently by messaging in groups or absorb knowledge. Instructors should understand the nature of silence in order to provide sufficient pedagogy to have effective teaching in online learning.

7 REFERENCES

[1] M. Almasi and C. Zhu, "Students' perceptions of social presence in blended learning courses in a Tanzanian medical college," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 13, no. 09, pp. 107–122, 2018. https://doi.org/10.3991/ijet.v13i09.8566

[2] Y.M. Al-dheleai, Z. Tasir, W. Al-Rahmi, M.A. Al-Sharafi, and A. Mydin, "Modeling of students online social presence on social networking sites and academic performance," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 15, no. 12, pp. 56–71, 2020. https://doi.org/10.3991/ijet.v15i12.12599

[3] D. Bao, "Exploring how silence communicates," *English Language Teaching Educational Journal*, vol. 3, no. 1, pp. 1–13, 2020. https://doi.org/10.12928/eltej.v3i1.1939

[4] F. Biocca,C. Harms, and J. Gregg, "The Networked Minds Measure of Social Presence: Pilot Test of the Factor Structure and Concurrent Validity," *4th Annual International Workshop on Presence, Philadelphia*, 2001.

[5] V. Braun and V. Clarke, "Using thematic analysis in psychology," *Qualitative Research in Psychology*, vol. 3, pp. 77–101, 2006. https://doi.org/10.1191/1478088706qp063oa

[6] J.Y. Choi, "Reasons for silence: A case study of two Korean students at a U.S. graduate school," *TESOL Journal*, vol. 6, no. 3, pp. 579–596, 2015. https://doi.org/10.1002/tesj.209

[7] J.W. Creswell and V.L.P. Clark, "Designing and Conducting Mixed Methods Research," SAGE, 2007.

[8] S. Fabriz, J. Mendzheritskaya, and S. Stehle, "Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19," *Frontiers in Psychology*, vol. 12, p. 733554, 2021. https://doi.org/10.3389/fpsyg.2021.733554

[9] C.N. Gunawardena and F.J. Zittle, "Social presence as a predictor of satisfaction within a computer-mediated conferencing environment," *American Journal of Distance Education*, vol. 11, no. 3, pp. 8–26, 1997. https://doi.org/10.1080/08923649709526970

[10] J. Hill, L. Song, and R. West, "Social learning theory and web-based learning environments: A review of research and discussion of implications," *American Journal of Distance Education*, vol. 23, no. 2, pp. 88–103, 2009. https://doi.org/10.1080/08923640902857713

[11] M. Kara, "Distance education: A systems view of online learning," *Educational Review*, vol. 72, no. 6, p. 800, 2020. https://doi.org/10.1080/00131911.2020.1766204

[12] J. Kim, "Developing an instrument to measure social presence in distance higher education," *British Journal of Educational Technology*, vol. 42, no. 5, pp. 763–777, 2011. https://doi.org/10.1111/j.1467-8535.2010.01107.x

[13] R. Legonand and R. Garrett, "The changing landscape of online education", *CHLOE*, p. 51, 2017.

[14] M.B. Miles and A.M. Huberman, "Qualitative data analysis: An expanded sourcebook," 2nd ed, *Sage Publications, Inc.*, pp. xiv, 338, 1994.

[15] T. Tam, "110 universities implemented online distance teaching", *Vietnam Law Newspaper,* 2020. https://baophapluat.vn/110-truong-dai-hoc-trien-khai-dao-tao-truc-tuyen-post341986.html

[16] C. Pham Kim, T. Ho Thi Ngoc, H. Nguyen Thi Thu, K. Bui Thi Diem, A. Nguyen Hoang Thai, and L. Nguyen Thi Thuy, "Exploring students' engagement of using mediating tools in e-learning," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 17, no. 19, pp. 4–19, 2022. https://doi.org/10.3991/ijet.v17i19.31655

[17] A. Rovai, "Building sense of community at a distance," *International Review of Research in Open and Distance Learning*, vol. 3, no. 1, 2002. https://doi.org/10.19173/irrodl.v3i1.79

[18] K. Shen and M. Khalifa, "Design for social presence in online communities: A multidimensional approach," In *University of Wollongong in Dubai—Papers*, vol. 1, 2008.

[19] J. Short, E. Williams, and B. Christie, "The social psychology of telecommunications," *Wiley*, 1976.

[20] C.-H. Tu, "The measurement of social presence in an online learning environment," *International Journal on E-Learning*, vol. 1, no. 2, pp. 34–45, 2002. https://www.learntechlib.org/primary/p/10820/

[21] C. K. Pham, S. L. Chong, and R. Wan, "Students' experience of social presence in online learning," In *Proceedings of the 14th International Conference on Education Technology and Computers*, 2022. https://doi.org/10.1145/3572549.3572597

[22] L.S. Vygotsky, "Mind in society: The development of higher psychological processes (Revised ed. edition)," Harvard Univ Pr., 1978.

[23] C.-W. Wei, N.-S. Chen, and D. Kinshuk, "A model for social presence in online classrooms," *Educational Technology Research and Development*, vol. 60, pp. 529–545, 2012. https://doi.org/10.1007/s11423-012-9234-9

[24] A.L. Whiteside, "Introducing the social presence model to explore online and blended learning experiences," *Online Learning*, vol. 19, no. 2, 2015. https://doi.org/10.24059/olj.v19i2.453

[25] S. Kennewell and G. Beauchamp, "The features of interactive whiteboards and their influence on learning," *Learning, Media and Technology*, vol. 32, no. 3, pp. 227–241, 2007. https://doi.org/10.1080/17439880701511073

[26] M. Angelova, "Students' attitudes to the online university course of management in the context of covid-19," *International Journal of Technology in Education and Science*, vol. 4, no. 4, pp. 283–292, 2020. https://doi.org/10.46328/ijtes.v4i4.111

[27] D.T.H. Van and H.H.Q. Thı, "Student barriers to prospects of online learning in Vietnam in the context of COVID-19 pandemic," *Turkish Online Journal of Distance Education*, vol. 22, no. 3, pp. 110–123, 2021. https://doi.org/10.17718/tojde.961824

[28] R. Strong, "Investigating students' satisfaction with elearning courses: The effect of learning environment and social presence," *Journal of Agricultural Education*, vol. 53, no. 3, pp. 98–110, 2012. https://doi.org/10.5032/jae.2012.03098

[29] P.R. Lowenthal and C. Snelson, "In search of a better understanding of social presence: An investigation into how researchers define social presence," *Social Presence and Identity in Online Learning*, First Edition, pp. 5–23, 2019. https://doi.org/10.4324/9780429294235-2

[30] K. Kreijns, J. Weidlich, and P.A. Kirschner, "Pitfalls of social interaction in online group learning," In *Cambridge Handbook of Cyber Behavior*, Z. Yan (Ed.), New York: Cambridge University Press, 2021.

[31] D. Garrison, T. Anderson, and W. Archer, "Critical inquiry in a text-based environment: Computer conferencing in higher education," *The Internet and Higher Education*, vol. 2, no. 2, pp. 87–105, 1999. https://doi.org/10.1016/S1096-7516(00)00016-6

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