Online-Journals.org

iJEP International Journal of Engineering Pedagogy

iJEP | eISSN: 2192-4880 | Vol. 14 No. 8 (2024) | OPEN ACCESS

https://doi.org/10.3991/ijep.v14i8.50959

PAPER

Online Learning Community of Inquiry via Google Meet: A Reference for Distance Education

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ABSTRACT

When the COVID-19 pandemic began, many educational platforms were customized to replace the traditional classroom. Similarly, Google Meet is widely recognized as a leading virtual platform; nevertheless, for those without access to online learning, Google Meet appears to be a support platform for distance learning. Furthermore, the use of Google Meet to create an online learning community has not been extensively studied in Vietnam. This study aims to examine how students perceive Google Meet as an online learning community. A semi-structured interview and a 5-point Likert scale questionnaire were used to combine quantitative and qualitative methods. The study involved 294 students from a private school in Vietnam who were familiar with Google Meet. The results showed that in terms of teaching presence (TP), social presence (SP), and cognitive presence (CP), most university students were positive about using Google Meet to create an online learning community. To help English language learners create a dynamic online learning community, challenges and solutions were also listed for fostering an online learning community when using Google Meet for distance education.

KEYWORDS

community of inquiry (CoI), Google Meet, online learning

1 INTRODUCTION

COVID-19 had a profound impact on education [1]. It has also led to a shift from offline to online courses in order to prevent the spread of the pandemic [2]. Online education is an effective approach to broadening students' knowledge while staying at home [3]. Demand for e-learning has increased due to school closures [4]. The success of e-learning has helped large numbers of students worldwide [5]. Effective exploration of online teaching and learning can be achieved through a variety of pedagogical technologies [6]. Many virtual platforms have been used in distance learning, such as Microsoft Teams, Zoom, and Google Meet [7]. In the context of the

Pham, A.T., Ly, D.T. (2024). Online Learning Community of Inquiry via Google Meet: A Reference for Distance Education. *International Journal of Engineering Pedagogy (iJEP)*, 14(8), pp. 57–71. https://doi.org/10.3991/ijep.v14i8.50959

Article submitted 2024-07-16. Revision uploaded 2024-09-14. Final acceptance 2024-09-14.

study, Google Meet was used as the primary platform, as its effectiveness has been noted by educators, students, and educational institutions in online learning [8].

Google Meet is an online application that aims to increase student engagement in online learning by offering convenience, usefulness, fun, and reducing boredom [8]. In fact, the majority of teachers tend to use Google Meet in online teaching due to its considerable benefits [9]. Google Meet enables students to take online courses, participate in classroom activities, answer questions, and take part in discussions [10].

The community of inquiry (CoI) still upholds the value of online education by promoting correlations between social, pedagogical, and cognitive factors that can support deep learning experiences [11].

Nevertheless, little research has been conducted into students' views of Google Meet as an active online learning community. This study therefore aims to determine how English as a foreign language (EFL) students perceive Google Meet as an active online learning community.

In this study, there are two key research questions (RQs):

RQ1. How do students see Google Meet as an online learning community?
RQ2. How do students define an online learning community via Google Meet in terms of TP, SP, and CP?

The remainder of this paper is organized as follows: Section 2 describes the literature review. Section 3 is devoted to materials and methods. The main results are presented in Section 4 and discussed in Section 5. Section 6 presents the main conclusions of the study.

2 RELATED WORK

2.1 E-learning in higher education

Since the COVID-19 pandemic, most institutions have moved to online teaching due to social distance worldwide [12]. Online teaching has emerged thanks to technological improvements, providing learning opportunities for learners and educational progression in higher education institutions worldwide [13, 14]. Online learning has a significant impact on student learning, particularly in cases of social distance [12]. In addition, online teaching can enable instructors and learners to use valuable Internet resources for teaching and learning when participating in online teaching. The "teacher factor" is an essential determinant of the performance of students, who must possess the ability to adapt to a constantly changing environment throughout their lives [15]. In addition, virtual classes save students time, provide rapid feedback, and improve language acquisition [16]. Student enthusiasm and involvement in virtual classes is increased when a variety of online platforms and resources are used appropriately [17]. Online learning is effective and successful, but most proponents of digital education argue that certain digital skills are essential [18]. Using a single online platform to deliver synchronous lectures simplifies the coordination of work for students and teachers [19]. In fact, the development of e-learning is characterized by a wide range of tools, including smart whiteboards, virtual reality, and chat rooms, aimed at creating more opportunities for users to establish a virtual community [20]. In addition, the use of YouTube analytics data has proven to be the optimal method in terms of efficiency and accuracy for measuring student retention [21]. A YouTube channel is advantageous for asynchronous pedagogy in online or hybrid classrooms [22], as it can operate effectively in a variety of learning situations, demonstrating its lasting effectiveness as a learning approach [23].

2.2 Google Meet as an e-learning platform

Google Meet is a remote conferencing tool that integrates video, dialog boxes, online sharing, and mobile interaction [24]. What's more, Google Meet's interface is fast and easy to use, allowing you to manage multiple participants while facilitating effective face-to-face meetings [25]. Google Meet is practical, inexpensive, and user-friendly. It also allows users to select their connections with others, ensuring privacy, particularly with regard to the amount and nature of information exchanged between students [10, 26]. Students can participate in the meeting by logging in with their Google account [27].

As Google Meet is accessible via websites and phones, it offers an excellent quality of service [28, 29]. Google Meet also enables many students to access online courses simultaneously [30]. What's more, thanks to Google Meet, students are able to actively participate in teachers' educational activities, meet teachers' requirements, and exchange ideas on the subject of e-learning [31]. In addition, Google Meet has a significant impact on students' motivation to study because it is user-friendly, flexible in terms of schedules, and accessible from anywhere [32]. Real-time learning capabilities are said to reduce social distances between students, promote social interaction, and eliminate learning gaps [10]. In fact, Google Meet is a successful teaching and learning tool worldwide [33]. Many educational institutions consider Google Meet to be the best tool for online teaching because of its advantages [12, 34]. In particular, many professors have acquired skills in using the platform thanks to its regular integration into the pedagogical process [35]. Students' opinion of Google Meet is positive: they feel satisfied, safe, self-confident, fearless, and mentally confident [36].

In Vietnam, Google Meet is popular in many educational contexts, as it offers a range of practical features and is compatible with many devices [37]. Although there were positive contacts, they were only slightly above average among engineering students in their online or Google Meet courses [38].

2.3 Community of inquiry as a theoretical framework

The CoI is a method integrating the social and personal spheres, which is considered the theoretical framework of this study [39]. These parts set up processes of critical inquiry and cooperative creation of mutual understanding. The CoI framework suggests that high-level learning, such as the development of critical thinking skills, is most effective when carried out by a community of learners who actively engage in critical reflection and discussion [39, 40]. As shown in Figure 1, this framework comprises three operational elements–cognitive, social, and pedagogical presence–that collectively contribute to a meaningful educational experience [41].

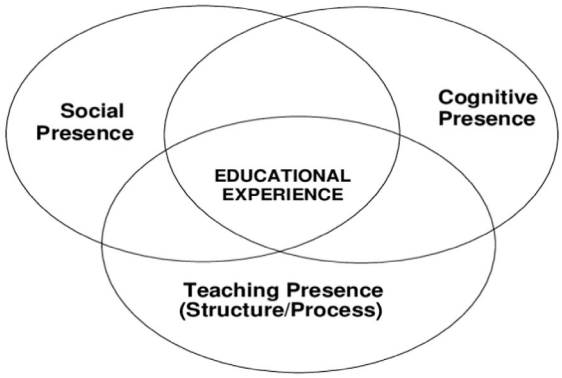

Fig. 1. Community of inquiry theory [39]

Cognitive presence refers to the state of promoting the cultivation of critical thinking skills, which is a specific goal of higher education [42]. CP students can help students create and verify meaning through deep discourse and reflection [39]. Online courses should include well-structured discussion forums, flexible technological integration, and participation criteria; thus, students are encouraged to experiment with various strategies to enhance SP and aid cognitive presentation [41].

Social presence refers to a person's ability to express themselves in a reliable setting in relation to a group [43, 52]. In addition, SP plays a key role in improving student performance in e-learning [44]. Deficiencies in PS can prevent students from focusing on academic content [45].

Teaching presence (TP) refers to planning, directing, and facilitating cognition and analysis to achieve study outcomes [46]. Similarly, teacher presence is closely linked to student presence and teacher presence, which has an impact on learning performance and interaction [47]. Nevertheless, student-centered learning (SCL) values assignments and rules shared by students in addition to teacher presence [48]. In general, the concept of CoI has been intensively adopted in online learning environments to enhance the overall student learning experience [49, 50], resulting in significant positive learning outcomes [51].

3 MATERIALS AND METHODS

3.1 Research design and participants

The research aims to investigate how students view the usage of Google Meet in fostering an online learning CoI. Consequently, the use of a descriptive research approach helped describe the phenomena in real-time from the perspectives of many participants [53].

Convenience sampling was employed to gather data from individuals who were accessible at the time of study. 294 university students were invited to participate in the survey. The participants were aged between 18 and 22 years old. They range from freshmen to seniors at a Vietnamese university. These students gained four months of experience using Google Meet in their online classes. Table 1 presents the demographics of the participants.

Table 1. Demographic information of the participants

Variable and Modalities		Frequency	Percent
Gender	Male	158	53.7
	Female	136	46.3
Age	18	210	72.7
	19	42	14.5
	20	30	10.4
	21	7	2.4
	22	5	1.7
Year of study	1st	215	74.4
	2nd	37	12.8
	3rd	31	10.7
	4th	6	2.1

3.2 Research instruments

A mixed-method approach was employed in this study with questionnaires and interviews to achieve a comprehensive understanding and to provide corroboration [54].

In the first section, a quantitative approach employs questionnaires to gather information regarding students' opinions about Google Meet to create an active community in online learning. A modified version of Arbaugh et al.'s questionnaire was used as the instrument. Thirty-four items in the survey include three major clusters: TP, SP, and CP founded on the Likert scale, which has 5 points: 1 represents "strongly disagree," and 5 refers to "strongly agree."

In the subsequent phase, qualitative data were gathered via semi-structured interviews, which investigated the perspectives of students regarding Google Meet utilization to foster a dynamic virtual community. Ten students participated in the interview, and the main topics covered were the clusters mentioned above. The interview consisted of six open-ended questions: (1) Do you think Google Meet is useful in creating an online learning CoI? Why (not)? (2) Do you think Google Meet is easy to use in creating an online learning CoI? Why (not)? (3) Do you have positive attitudes towards the use of Google Meet in creating an online learning CoI? Why (not)? (4) Will you support the use of Google Meet in creating an online learning CoI in the future? (5) What are the three main advantages of using Google Meet in creating an online learning CoI? (6) What are the three main disadvantages and challenges of using Google Meet in creating an online learning CoI?

The validity of the survey was verified by many colleagues before data collection and processing. Statistical analysis was performed on the quantitative data using SPSS version 25 to ensure that the questionnaire was legitimate. The Cronbach's alpha value of the questionnaire was 0.98, ensuring sufficient reliability for the study [55]. In the realm of the interview, to secure reliability, the interviewees were provided with English responses to verify and confirm that they corresponded with the Vietnamese translation. Furthermore, a group of colleagues reviewed the interview transcripts to verify lucidity and suitable usage of meaning.

4 MAIN RESULTS

4.1 RQ1: How do students see Google Meet as an online learning community?

The results from the survey regarding students' opinions of an online learning community via Google Meet are shown. Students were given a descriptive statistics exam to investigate employing Google Meet in online classes.

From Table 2, the data reveals that students' perceptions of an online learning community in virtual classes were highly positive (mean [M] = 4.16, standard deviation [SD] = 0.67). The mean score of three clusters comprising TP, SP, and CP was examined using a descriptive statistical test. Table 3 shows that participants' mean agreement ratings varied from 4.01 (at a medium level) to 4.28 (at a high level). In particular, the TP indicator (M = 4.28; SD = 0.64), the SP indicator (M = 4.01; SD = 0.80), and the CP indicator (M = 4.13; SD = 0.72). SP obtained the lowest mean score (4.01, categorized as medium) among the indicators, whereas TP obtained the greatest mean score (M = 4.29, SD = 0.64).

Table 2. Mean score of students' views on an online learning community of inquiry via Google Meet

	N	M	SD
Students' views on an online learning community of inquiry via Google Meet	294	4.16	0.67

Table 3. Mean scores of three clusters of students' views on an online learning community of inquiry via Google Meet

Clusters	N	M	SD
Teaching presence	294	4.28	0.64
Social presence	294	4.01	0.80
Cognitive presence	294	4.13	0.72

In summary, the majority of students advocated that the instructional design and organization of Google Meet were appropriate for online education. Notwithstanding, not every student had faith in the Google Meet interaction platform for online courses.

Students' views on an online learning community of inquiry via Google Meet in terms of teaching presence: Table 4 shows that students believed that integrating Google Meet into online instruction would result in a positive community because the average score for every question is more than four out of five.

Table 4. Students' views on an online learning community of inquiry via Google Meet in terms of teaching presence

	N	Mean	SD
The lecturer evidently communicated essential course material when teaching online via Google Meet.	294	4.35	0.73
The lecturer evidently communicated essential course goals when teaching online via Google Meet.	294	4.33	0.79
The lecturer gave thorough instructions on how to take part in class activities. when teaching online via Google Meet.	294	4.39	0.77
When using Google Meet for online instruction, the lecturer evidently conveyed critical deadlines for learning assignments.	294	4.44	0.79
The instructor assisted me in learning by identifying points of agreement and disagreement on the course material when teaching online via Google Meet.	294	4.30	0.87
The lecturer guided the class in comprehending the course material in boosting my thinking skills when teaching online via Google Meet.	294	4.30	0.81
The lecturer maintained the interest of the class and encouraged constructive discussion.	294	4.20	0.91
The lecturer kept the students exploring new ideas by providing guidance when teaching online via Google Meet.	294	4.13	0.93
The lecturer urged the students to investigate novel ideas in this subject when teaching online via Google Meet.	294	4.24	0.92
The acts of the lecturers strengthened the course participants' sense of community when teaching online via Google Meet.	294	4.21	0.81
The lecturer assisted in directing the discussion toward pertinent topics that improved my learning via Google Meet.	294	4.19	0.85
Feedback from the lecturer assisted me in recognizing my strong and weak points concerning the course's objectives. when teaching online via Google Meet.	294	4.22	0.90
When using Google Meet for online instruction, the lecturer gave prompt feedback.	294	4.37	0.83

From Table 4, students supposed that when using Google Meet to deliver instruction online, the teacher shared crucial deadlines for learning tasks (M = 4.44, SD = 0.79), which obtained the greatest degree of concurrence. Similarly, when the teacher taught the course online using Google Meet, the students did not believe that she kept the participants in the course exploring new concepts (M = 4.13, SD = 0.93), which garnered the least amount of agreement. In general, Google Meet primarily enabled lecturers to communicate crucial assignment due dates, while students encountered challenges when attempting to grasp novel concepts through this platform.

Students' views on an online learning community of inquiry via Google Meet in terms of social presence: From Table 5, Google Meet was thought to be useful as it has tremendous advantages. While most students reported feeling comfortable conducting online discussions to learn via Google Meet (M = 4.07, SD = 1.00), others claimed they did not anticipate receiving clear concepts from other students when studying virtually (M = 3.88, SD = 1.08). The results statistically indicate that there is a fair amount of confidence that the mean represents the central tendency of the data, although the standard deviation is almost a quarter. Overall, most students believed that SP contributed its part to the online learning CoI via Google Meet.

Table 5. Students' views on an online learning community of inquiry via Google Meet in terms of social presence

	N	Mean	SD
Getting to know other students gave me a sense of belonging in the class when learning via Google Meet.	294	4.04	1.03
I was able to get clear ideas from other students when learning via Google Meet.	294	3.88	1.08
Online communication is a great way to facilitate social engagement when learning via Google Meet.	294	4.01	1.07
I felt at ease having conversations over the Internet when learning online via Google Meet.	294	4.06	1.04
I felt at ease getting involved in the course discussions when learning via Google Meet.	294	4.07	1.00
I felt at ease communicating with other students when learning via Google Meet.	294	4.04	1.03
Using Google Meet for studying allowed me to argue with other students without losing my feeling of faith.	294	3.92	1.03
My viewpoint was respected by other students when learning via Google Meet.	294	4.02	0.97
Online discussions foster teamwork when learning via Google Meet.	294	3.98	1.05

Students' opinions on an online learning community of inquiry via Google Meet in terms of cognitive presence: Table 6 demonstrates that Google Meet was expected to be beneficial due to its many benefits. The results statistically indicate that there is a fair amount of confidence that the mean represents the central tendency of the data. While most of the students believed that Google Meet was the best way to study, others used a variety of knowledge sources to research the challenges presented in this session (M = 4.23, SD = 0.84). Additionally, students were able to brainstorm and seek related information to answer inquiries about the material (M = 4.23, SD = 0.82), which received the greatest level of concord. However, when studying using Google Meet, few students felt that the course activities were interesting to them (M = 4.01, SD = 1.00).

Overall, most students believed that CP was considered influential in creating an online learning CoI via Google Meet.

Table 6. Students' views on an online learning community of inquiry via Google Meet in terms of cognitive presence

	N	Mean	SD
The challenges presented caught my attention in the course material through Google Meet.	294	4.10	0.89
Course activities via Google Meet caught my attention when learning via Google Meet.	294	4.01	1.00
I was inspired to investigate concerns about the subject while using Google Meet for learning.	294	4.03	1.00
When studying via Google Meet, I used a range of knowledge sources to investigate the challenges given in this session.	294	4.23	0.84
When studying via Google Meet, brainstorming and locating pertinent facts aid in my ability to answer questions about the material.	294	4.23	0.82
I learned a lot about other viewpoints through online discussion via Google Meet.	294	4.16	0.85
Gaining new information aided in responding to questions when learning via Google Meet.	294	4.15	0.88
I was able to create explanations and solutions when studying online via Google Meet.	294	4.13	0.90
Reflection on materials and sharing when learning via Google Meet assisted me in comprehending crucial topics in the lecture.	294	4.17	0.84
I can explain the way of using and testing the information learned from the class when using Google Meet for learning.	294	4.16	0.92
I've created answers for course problems that are practical when learning via Google Meet.	294	4.05	0.98
When studying through Google Meet, I may use the knowledge I've achieved from the course for work or related tasks.	294	4.16	0.87

4.2 RQ2: How do students define an online learning community via Google Meet in terms of cognitive presence, social presence, and pedagogical presence?

To investigate students' views on Google Meet in fostering an online learning CoI, 10 students were involved to share their insights into an online learning CoI-based on three factors: TP, SP, and cognitive presence.

Teaching presence. From interview findings, nine out of 10 students concurred that the use of Google Meet can foster an active online learning community as it enables them to communicate with one another quickly, exchange ideas, and forge new connections with people who live far away, thereby broadening the community's horizons.

> "*Google Meet allows everyone to hold a meeting without having to be in the same place. Its advanced features, such as screen sharing, also help create a virtual meeting room.*" (Student 6, interview extract)

One student had a different idea about learning with Google Meet:

> "*I think Google Meet is not useful in creating an active community. Since it is a meeting conducted distantly, barriers in communication aspects might appear.*" (Student 8, interview extract)

In response to a question regarding the perception of participants regarding Google Meet to foster a vibrant atmosphere in online learning, 80% of the respondents

expressed a favorable attitude, while two respondents harbored skepticism about the advantages of Google Meet in online learning.

> "*I have always been tendentious towards creating a dynamic community, especially via Google Meet. I think the service is highly accessible and familiar to most people*." (Student 1, interview extract)
>
> "*I can objectively recognize the potential and limitations of Google Meet in creating active communities. It can be a powerful tool if used effectively, but it's crucial to consider its limitations*." (Student 3, interview extract)

Social presence. All students who participated in the interview thought that they felt comfortable using Google Meet in online learning since the ease and simplicity of use of Google Meet may facilitate the formation of an engaged community.

> "*The simplicity and ease of use of Google Meet can help create a vibrant community, especially when users do not need to face complicated hassles while using it. Consistency and convenience help users focus on the main content of the meeting*." (Student 7, interview extract)
>
> "*Google Meet is generally easy to use, with a user-friendly interface that allows participants to join meetings seamlessly*." (Student 9, interview extract)

Cognitive presence. Ten participants held divergent opinions regarding the three primary advantages of Google Meet. The analysis of interview data revealed several significant advantages, including expeditious content sharing, flexibility, and accessibility. Additionally, two students highlighted the importance of straightforward design.

> "*I believe that using Google Meet in creating an active community. It can bring convenience because we can easily organize meetings online. Flexibility is also a great advantage of this platform. Last but not least, Google Meet can be used to increase engagement and share understanding within the community*." (Student 7, interview extract)
>
> "*Google Meet has a simple and approachable design with many features, allowing for a lively and active meeting namely screen sharing, chat box, emoticons, etc.* (Student 5, interview extract)

Then, when prompted to identify three drawbacks of Google Meet in online education, the students provided a variety of responses. General Google Meet restrictions include a one-hour time limit, technical difficulties with screen sharing, microphone, and camera, and environmental distractions.

> "*When learning online, Google Meet can have some drawbacks such as passive audience, limited engagement tools, and potential technical barriers*." (Student 4, interview extract)
>
> "*There are three main disadvantages of Google Meet: connection issues, a lack of non-verbal communication, and time limit*." (Student 6, interview extract)

Finally, the findings demonstrate that all students held a positive perception of Google Meet for online learning due to its various excellent features, including fast accessibility, practical collaboration, and ease of use. They expressed their intention

to persist in utilizing Google Meet for online learning, should it be mandated, due to its advantageous role in fostering an engaged community.

> "*Because of the positive attitudes I mentioned, I completely support the use of GG Meet in creating a community of inquiry in the future*." (Student 2, interview extract)
>
> "*People can join from anywhere in the globe: Because Google Meet has no location constraints, people can join from anywhere in the world without having to travel*." (Student 10, interview extract)

5 DISCUSSION

This study aims to examine how students perceive Google Meet in online learning, particularly with regard to (1) pedagogical presence, (2) SP, and (3) CP. This study shows that students' perception of Google Meet as an online learning community is generally high (mean and standard deviation of around 4.16 and 0.67 respectively). According to the results of the questionnaires and interviews, most students have a favorable attitude toward the use of Google Meet as an online learning community. The results of this study are similar to those of studies conducted by [9, 33], which assert that student satisfaction with Google Meet indicates its effectiveness as a valuable tool for fostering an engaged online learning community.

Google Meet is user-friendly and convenient, which is in line with the findings of [25, 26], which found that a majority of students found it easy to access this platform as part of their learning process. In addition, students assumed that Google Meet could be used to facilitate online learning between large groups of individuals, which is in line with the findings of [26, 30]. Some studies have shown that 100 participants could engage in this online community. The study is also in line with [10], which states that Google Meet facilitates the transparent sharing of information and ideas between users. Google Meet users can easily exchange ideas via dialog boxes, webcams, and microphones. This can lead to excellent results at school. This means that Google Meet plays an essential role in helping students acquire English and achieve good results. In addition, the results of this paper concur with those of [32] with regard to accessibility. According to the protocols of these studies, people with mobile devices, laptops, and a reliable Wi-Fi network were allowed to access Google Meet at any time. In particular, the results demonstrated that Google Meet has outstanding attributes that are suitable for distance learning. This is in line with the conclusions drawn by [28] and [29]. Furthermore, the research results are consistent with those of [12, 33, 44] when they refer to the overall increase in popularity of Google Meet, even after the COVID-19 pandemic.

In the Vietnamese context, the paper's findings concur with those of [37], both of which mentioned the convenience of Google Meet, which allows users to connect using mobile devices. However, these results are contrary to those of the study [38], which indicates that the majority of students are keen to participate and learn virtually via Google Meet. Meanwhile, the results of this study indicate that the majority of students intend to use Google Meet as an online learning community.

6 CONCLUSIONS

This paper aims to investigate students' opinions of an online learning community regarding TP, SP, and CP. Almost all participants believe that using Google Meet

is advantageous because it can connect teachers and students globally to form a dynamic community in which they can share great ideas, learn, and grow. In addition, Google Meet allows users to feel comfortable with language acquisition, which can help them develop their English skills. In addition, most students have decided to use Google Meet to participate in group discussions and virtual classes because of its accessibility and flexibility.

Several pedagogical implications are suggested based on the results. Firstly, Google Meet should be used in e-learning so that students can connect and acquire knowledge easily. Teachers should also use Google Meet to create a research community for learners. Secondly, several students reported that it was sometimes difficult for them to communicate easily with their online partner and that a sense of silence was also noticeable. Therefore, teachers should find several practical solutions to attract students' attention via Google Meet. Finally, school managers should offer specific advice to encourage teachers and students to use Google Meet for virtual classes in distance learning.

This study still has a few limitations. Firstly, the participants were students at a private university in Vietnam. Comparable studies will therefore be carried out in the future in different contexts and locations. In addition, due to time constraints, it is advisable to conduct future studies to determine whether the views of teachers and students align when teaching and learning online through Google Meet. By including educators' views, it will be possible to better understand the extent to which Google Meet helps students create an online learning community. In addition, future studies could examine the possible long-term effects of Google Meet on student involvement in an active online learning community. Students could have more opportunities to interact with each other. It is up to students to use Google Meet properly in an online learning environment.

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