



Staying Connected Online: Investigating Teaching, Social, and Cognitive Presence among Undergraduates

^{*1}Norasyikin Abdul Malik (writer), ²Nuramira Anuar, ³Mohamad Syafiq Ya Shak (writer), ⁴Nurul Ain Hasni (writer), ⁵Amirah Athirah Amir Yazid (writer)

^{1,2,3,4,5}Academy of Language Studies, Universiti Teknologi MARA Perak Branch.

***Corresponding Author**

DOI: <https://doi.org/10.47772/IJRISS.2026.100700796>

Received: 01 August 2026; Accepted: 06 August 2026; Published: 13 August 2026

ABSTRACT

Online learning has emerged as a significant aspect of higher education, treating students' online presence as a key factor influencing engagement and learning outcomes. Navigated by the Community of Inquiry framework, the present research explores undergraduate learners' perceptions of teaching presence, social presence, and cognitive presence in online classes, together with the connections between these dimensions. Data were collected from 79 undergraduate students using a quantitative survey research design. The survey was a 31-item questionnaire adapted from Garrison and Arbaugh (2007). The instrument included three sections evaluating three dimensions: teaching presence, social presence, and cognitive presence. Reliability analysis presented excellent internal consistency for all dimensions, with an overall Cronbach's alpha of .969. Descriptive analyses also disclosed that students perceived teaching presence most positively, especially with regards to the lecturer's communication and guidance. Meanwhile, cognitive presence was also highly rated, indicating students' active engagement in exploration, integration, and application of knowledge. Conversely, social presence received relatively lower ratings, specifically related to group cohesion and comfort in stating disagreement. Apart from that, correlation analyses displayed significant positive relationships among teaching, social, and cognitive presence. The strongest association was found between social and cognitive presence, implying that meaningful social interaction contributes significantly to knowledge construction in online learning environments. All in all, the findings emphasise the significance of nurturing balanced instructional, social, and cognitive support to improve students' online learning experiences. Future studies could further investigate the notion on a bigger sample size and include students' perspectives through qualitative data to provide a more holistic view of online learning experience.

Keywords: online presence, teaching presence, social presence, cognitive presence, community of inquiry, undergraduate students

INTRODUCTION

Background of Study

The integration of digital technologies into higher education has significantly transformed the teaching and learning process, particularly through the expansion of online and blended learning environments. In recent years, universities worldwide have increasingly adopted online learning platforms to facilitate instruction, communication and assessment. The shift became more prominent during the COVID-19 pandemic, when institutions were compelled to transition from traditional face-to-face instruction to fully online learning environments. In the present day, online learning continues to support diverse learning needs (Van Wart et al., 2020).

As online education becomes more embedded in higher education systems, researchers have emphasised the importance of understanding students' learning experiences in virtual environments. One of the most influential frameworks used to examine meaningful learning experiences is the Community of Inquiry Framework. The



framework proposes that effective online learning occurs through the interaction of three core elements: teaching presence, social presence, and cognitive presence. These three elements contribute to meaningful educational experiences and knowledge construction in online settings (Fiock, 2020). Despite the extensive body of research on the Community of Inquiry framework, the topic remains highly relevant in contemporary higher education. Recent studies have highlighted the need to revisit the relationships among the three presences in modern asynchronous and technology-enhanced learning environments (Dong, et al. 2025).

Besides that, in the context of higher education, undergraduate students represent a group of learners who may experience online learning differently due to factors such as technological readiness, learning autonomy, communication preferences, and academic discipline (Kozan & Caskurlu, 2021). Therefore, this study seeks to investigate teaching, social, and cognitive presence among undergraduate students in online learning environments. The findings of this study may contribute to the growing literature on online education and provide valuable insights for educators, students and higher education institutions in enhancing the quality of online learning experiences.

Statement of Problem

Online learning has become a continuing feature of higher education rather than a temporary response to educational disruption. However, its effectiveness cannot be evaluated merely by looking at whether classes are conducted online or whether digital platforms are available. A more critical concern is whether students experience a meaningful sense of presence during online learning. Garrison and Arbaugh (2007) argue that meaningful online learning is shaped by the interaction of three forms of presence: teaching presence, social presence, and cognitive presence. Teaching presence refers to the design, facilitation, and direction provided by the instructor; social presence concerns learners' ability to communicate, interact, and develop a sense of belonging; while cognitive presence refers to learners' ability to construct meaning through inquiry, reflection, and application.

This issue is important because online learning may appear successful at the surface level when course materials are delivered, instructions are given, and activities are completed. However, these features do not necessarily mean that students are socially connected or cognitively engaged. Zhang et al. (2023) reports that teaching presence, social presence, and cognitive presence significantly influence college students' online learning engagement, suggesting that online learning quality depends on more than content delivery alone. Similarly, Mutezo and Mare (2023) discovers that students' social presence influences how they perceive teaching and cognitive experiences in online learning, indicating that interaction and connectedness are not secondary elements but central parts of the online learning experience. Supporting this, Miao and Ma (2022) found that social presence affected learning engagement and mediated the relationship between self-regulation and engagement among undergraduate students in online environments, further confirming that when students do not feel socially present, their participation and knowledge construction may also be affected.

A continuing concern in online learning is that teaching presence may be stronger and more visible than social presence. Instructors may communicate course goals, provide instructions, set deadlines, and give feedback, yet students may still feel detached from their peers or uncomfortable participating in online discussions. Akyol and Garrison (2008) observed a continual decrease in social presence alongside a continual increase in teaching presence over time in online learning environments, suggesting that the two dimensions do not necessarily develop in parallel. This problem is especially relevant because the Community of Inquiry framework assumes that online learning becomes meaningful through the balanced relationship among teaching, social, and cognitive presence. Garrison and Arbaugh (2007) highlight the need for further empirical research on how these three presences function across different online learning contexts. More recent research also continues to examine the relationship between Community of Inquiry presences and students' engagement, confirming that the issue remains relevant in contemporary online and blended learning environments (Edumadze et al., 2024; Gökoğlu et al., 2024). Despite this growing body of research, studies examining all three dimensions of presence simultaneously remain limited, with most investigations concentrating on online and blended learning environments in Western higher education contexts. In the Malaysian context specifically, studies on the level of Community of Inquiry presences among undergraduate learners remain scarce, meaning that the socio-cultural



dynamics and instructional approaches present in local institutions are not yet sufficiently represented in the existing literature.

In the present study, this concern is examined among undergraduate students who have experienced online classes. The study involves 79 undergraduate students and investigates their perceptions of teaching presence, social presence, and cognitive presence, as well as the relationship among these three dimensions. The instrument used in the study is adapted from Garrison and Arbaugh's (2007) Community of Inquiry survey and measures teaching presence through design and instruction, facilitation, and direct instruction; social presence through affective expression, open communication, and group cohesion; and cognitive presence through triggering event, exploration, integration, and resolution. These constructs allow the study to examine online presence in a more systematic way instead of treating online learning as a single general experience.

Therefore, the problem addressed in this study is the need to understand how undergraduate learners perceive the three dimensions of online presence and how these dimensions are related in online classes. This study is necessary because students may experience online learning differently across instructional support, peer interaction, and knowledge construction. By examining teaching presence, social presence, and cognitive presence together, the study can provide a clearer picture of students' online learning experiences. The findings may also help instructors and institutional stakeholders identify which areas of online learning are functioning effectively and which areas require further pedagogical attention, particularly in relation to social interaction, group cohesion, and the contextual needs of Malaysian undergraduate learners.

Objective of the Study and Research Questions

This study is done to explore online presence. Specifically, this study is done to answer the following questions;

1. How do learners perceive their teaching presence in online classes?
2. How do learners perceive their social presence in online classes?
3. How do learners perceive their cognitive presence in online classes?
4. Is there a significant relationship between all types of presence in online classes?

H₀₁: There is no significant relationship between all types of presence in online classes.

LITERATURE REVIEW

Theoretical Framework of the Study

Community of Inquiry Theory

This study is grounded in the theoretical model of the Community of Inquiry (COI), originally developed by Garrison, Anderson, and Archer (2000) and subsequently extended by Garrison and Arbaugh (2007). Fundamentally, the framework proposes that meaningful and deep learning in online environments is achieved through the dynamic interplay of three interdependent components: teaching presence, social presence, and cognitive presence. Teaching presence refers to the design, facilitation, and direct instruction carried out by the instructor in order to guide and support learners throughout the course. Social presence, in contrast, relates to the extent to which learners are able to project themselves as real and authentic participants within the learning community, thereby fostering a sense of belonging and open communication. Cognitive presence, meanwhile, captures the degree to which learners are able to build and validate meaning through reflective thinking and conversation. The COI framework is especially relevant to online learning research because it acknowledges that these three presences are not independent, but rather each presence supplements and influences the others in ways that collectively determine the quality of the educational experience. Consequently, in an online classroom where face-to-face interaction is necessarily absent, the COI framework offers a structured and theoretically robust lens through which both educators and researchers can examine the depth of the learning experience and systematically identify areas that require more deliberate instructional attention.



Connectivism and Online Learning

This study is further supported by the theory of Connectivism, which explains learning as a process of forming connections through digital networks, interactions, and online communities. Proposed by Siemens (2005) and Downes (2005), theory of Connectivism highlights that knowledge is distributed across networks of people, technologies, and information sources, where learning occurs through participation, collaboration, and continuous interaction in online environments. The theory aims to address not only the knowledge explosion via technology, but the way technology has paved the way people “live, communicate, and learn” and conceptualise the world (Siemens, 2005). Since the start of COVID-19 pandemic, educators in higher education institutions particularly have been forced to adapt to new technologies in teaching and learning (Bozkurt et al., 2022; Ofosu-Ampong et al., 2024). The pandemic has sparked new and innovative delivery methods of learning, a redesign of the curriculum from a blended learning approach to learning and acquiring knowledge in the virtual classroom. Connectivism theory challenges existing learning methods, approaches, and interpretations as well as the creation of such knowledge in a traditional frame of learning (Hendricks, 2019). In the context of online learning, student engagement is one of the key factors in ensuring the effectiveness of the educational experience (Aliyu et al., 2022). Students who are engaged in active learning tend to retain information, perform better academically, and develop important skills like critical thinking and problem-solving (Bond et al., 2020; Li & Xue, 2023). This perspective is highly relevant to the Community of Inquiry (CoI) framework, particularly in understanding how teaching presence, social presence, and cognitive presence interact to shape meaningful online learning experiences. Recent studies continue to highlight the relevance of Connectivism in higher education, especially in digitally mediated classrooms where interaction and connectivity influence students’ engagement and knowledge construction. For instance, a recent study by Aldalalah (2025) demonstrated that connectivism and e-collaborative learning enhance students’ digital self-efficacy in higher education via big data organisations particularly among scientific disciplines and postgraduate students. Furthermore, studies on online learning environments have shown that social interaction and cognitive engagement are strongly interconnected (Alshammari & Alrehaili, 2025; Shi et al., 2025; Odhiambo, 2023), reinforcing the notion that meaningful learning develops through active student participation within digital learning communities. Hence, Connectivism theory offers a suitable theoretical foundation for the present study as it delineates how online interaction, communication, and connected learning experiences contribute to students’ perceptions of teaching, social, and cognitive presence in online classes.

Past Studies

Past Studies on Presence in Online Learning

The concept of presence in online learning has received considerable attention in higher education research, particularly through the Community of Inquiry Framework. Numerous studies conducted in Malaysia and other countries have examined how these three dimensions—teaching presence, social presence, and cognitive presence—influence students’ engagement, satisfaction, academic achievement, and learning experiences in online higher education environments.

According to Lau et al. (2021), teaching presence positively influences both social and cognitive presence, whilst social presence contributes significantly to students’ satisfaction and perceived learning effectiveness. The study emphasised that strong instructor facilitation and peer interaction were crucial in online learning. Meanwhile, Chatterjee and Parra (2022) investigated undergraduate students’ engagement in formal and informal online learning environments and found that social presence significantly influenced students’ sense of belonging, participation, and satisfaction in online courses. Next, using epitomic analysis, Dong et al. (2025) studied the relationship between social presence and cognitive presence in asynchronous online courses and the findings indicated that collaborative interaction and meaningful communication supported students’ cognitive engagement and knowledge construction processes.

There were studies conducted in the Malaysian Higher Education contexts as well. For instance, Nasir and Ngah (2022) investigated students’ satisfaction with online learning environments in Malaysian universities and found that teaching presence significantly influenced students’ satisfaction and engagement in online courses. Similarly, Tan et al. (2021) in their study found that effective online learning environments were characterised



by clear instructional guidance, timely feedback, and interactive learning activities. More recently, Teh et al. (2024) studied undergraduate students' academic achievement and learning interest revealed that perceptions of teaching presence, social presence, and cognitive presence may vary depending on instructional delivery methods. Overall, it can be deduced that although all three elements—teaching presence, social presence, and cognitive presence—are important in influencing the success of online learning, in the Malaysia context, a higher degree of influence was due to the delivery of the online lessons, in which teaching presence is crucial.

Conceptual Framework of the Study

Figure 1 shows the conceptual framework of the study. This study explores the relationship between all types of presence in online learning. One important factor in online learning is the ability of the learners to engage (Rahmat, 2025). This engagement can be in the form of engagement with the content of the lesson, the instructor, and even their peers. One way to determine engagement is the feeling of presence throughout the online sessions. According to Garrison and Arbaugh (2007), there are three types of presence when it comes to online interactions. The first presence is teaching presence. Although the presence of the teacher on the screen assumes students are engaged with the lesson, the teacher needs to consider aspects such as design and instruction, facilitation, and direct instruction. Next, students need some form of social interaction and this can be achieved online through affective expression, open communication, and group cohesion. Lastly, good interactions can encourage cognitive presence. The interactions include triggering events, exploration, integration, and resolution. Hence, this study explores if there is a relationship between all types of presence in online learning settings.

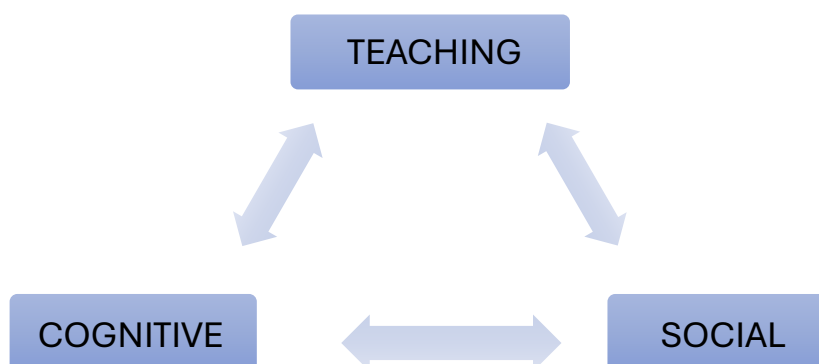


Figure 1- Conceptual Framework of the Study

METHODOLOGY

This quantitative study is done to explore online presence. A convenient sample of 79 participants responded to the survey. The instrument used is a 5-point Likert-scale survey and is rooted in the work of Garrison and Arbaugh (2007) to reveal the variables as presented in Table 2. Table 1 shows the categories used for the Likert scale: 1 is for Never, 2 is for Rarely, 3 is for Sometimes, 4 is for Very Often, and 5 is for Always.

Table 1- Likert Scale Use

1	Never
2	Rarely
3	Sometimes
4	Very Often
5	Always



Table 2- Distribution of Items in the Survey

Section	Variable (Type Of Presence)	Construct	Item Indicator	No. of Items	Ca
B	TEACHING	Design and Instruction	3	10	.944
		Facilitation	4		
		Direct Instruction	3		
C	SOCIAL	Affective Expression	3	9	.909
		Open Communication	3		
		Group Cohesion	3		
D	COGNITIVE	Triggering Event	3	12	.951
		Exploration	3		
		Integration	3		
		Resolution	3		
		TOTAL		31	.969

Table 2 presents the distribution of items in the survey instrument. The instrument was adapted from Garrison and Arbaugh's (2007) Community of Inquiry survey, which measures three main dimensions of online presence, namely teaching presence, social presence, and cognitive presence. In this study, the survey consists of 31 items across three major sections. Section B measures teaching presence and contains 10 items. This section is divided into three constructs: Design and Instruction with 3 items, Facilitation with 4 items, and Direct Instruction with 3 items. These items examine the extent to which the instructor communicates course topics and goals clearly, facilitates learner engagement, guides students' understanding, and provides timely feedback.

Section C measures social presence and contains 9 items. This section is divided into three constructs: Affective Expression, Open Communication, and Group Cohesion, with 3 items for each construct. These items focus on learners' sense of belonging, comfort in online interaction, participation in discussions, acknowledgement of viewpoints, and collaboration with other course participants. Section D measures cognitive presence and contains 12 items. This section consists of four constructs: Triggering Event, Exploration, Integration, and Resolution, with 3 items for each construct. These items examine learners' curiosity, motivation to explore content-related questions, use of information sources, construction of explanations, reflection, problem-solving, and application of knowledge beyond class-related activities. Altogether, the survey contains 31 items designed to capture students' perceptions of teaching, social, and cognitive presence in online learning.

Table 3- Reliability Levels, Cronbach's Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach's Alpha range	Interpretation
Excellent	0.9 and above	Indicates very high internal consistency
Good	0.80-0.89	Reflects strong internal consistency
Acceptable	0.70-0.79	Indicates acceptable internal consistency
Questionable	0.60-0.69	Reflects questionable internal consistency
Poor	Below 0.6	Indicates poor internal consistency



Table 2 also shows the reliability of the survey. The analysis is based on the information in Table 3, which reveals the reliability levels by Ahmad et.al (2024). The analysis shows a Cronbach alpha of .944 for teaching, .909 for social, .951 for cognitive presence. The overall Cronbach Alpha for all 31 items is .969; thus, revealing a good reliability of the instrument chosen. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS

Demographic Analysis

According to Zienefuss et.al (2021), researchers report demographic data in percentages to establish sample representatives, and allow for generalisability to a larger population. The reporting also provides an overview of participants' characteristics. Percentages offer a clear and understandable picture of the sample makeup.

Table 4- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	37%
		Female	63%
2	Faculty	Faculty of Built Environment Studies and Technology	77%
		Faculty of Art and Design	11%
		Academy of Language Studies	12%
3	Level	Diploma	65%
		Degree	35%
4	Online Class Preference	Yes	52%
		No	48%
5	Device	Smartphone	13%
		Laptop/Desktop Computer	66%
		Tablet/iPad	21%

Table 4 shows the demographic profile of the 79 respondents. In terms of gender, the majority of participants were females (63%), while males only made up 37%. Most respondents were from the Faculty of Built Environment Studies and Technology (77%), followed by the Academy of Language Studies (12%) and the Faculty of Art and Design (11%). Regarding academic level, 65% were diploma students and 35% were degree students. Furthermore, 52% of the respondents indicated a preference for online learning, while the remaining 48% expressed a contrary preference. In terms of devices used for online learning, most students relied on laptops or desktop computers (66%), followed by tablets or iPads (21%) as well as smartphones (13%). Overall results of the demographic profile reveals a predominance of female diploma students from the Faculty of Built Environment Studies and Technology. In regards to learning conditions, these students marginally favoured online learning and preferred laptops as the main tool for learning.

Descriptive Statistics

According to Vetter (2017), Mean (M) represents the average, or centre of a data set. Standard deviation (SD) indicates the typical distance of individual observations from the mean which shows the data's variability or spread. A low SD means the data points are clustered close to the mean while a high SD indicates they are more spread out. It is good to have a high SD.



Findings for Teaching Presence

This section presents data to answer research question 1- How do learners perceive their teaching presence in online classes? In the context of this study, this is measured by (i) Design and Instruction, (ii) Facilitation, and (iii) Direct Instruction.

Table 5- Mean (M) and Standard Deviation (SD) for Design and Instruction (DES)

ITEM	M	SD
DESQ1 The instructor clearly communicated important course topics.	4.42	0.63
DESQ2 The instructor clearly communicated important course goals.	4.43	0.67
DESQ3 The instructor provided clear instructions on how to participate in course learning activities.	4.48	0.60

Table 5 presents the findings for Design and Instruction (DES). The results suggest that respondents generally perceived the instructor's course design and instructional guidance very positively. Among the three items, DESQ3 recorded the highest mean score ($M = 4.48$, $SD = 0.60$), showing that respondents strongly agreed that the instructor provided clear instructions on how to participate in course learning activities. This was followed closely by DESQ2 ($M = 4.43$, $SD = 0.67$), which suggests that the instructor clearly communicated important course goals. Meanwhile, DESQ1 obtained a mean score of 4.42 ($SD = 0.63$), indicating that respondents also highly agreed that important course topics were clearly communicated by the instructor. Overall, the low standard deviation values suggest consistency in respondents' perceptions, reflecting strong satisfaction with the clarity of instructional design and communication in the course.

Table 6- Mean (M) and Standard Deviation (SD) for Facilitation (F)

ITEM	M	SD
FQ1 The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.	4.59	0.69
FQ2 The instructor helped to keep course participants engaged and participating in productive dialogue.	4.42	0.69
FQ3 The instructor helped keep the course participants on task in a way that helped me to learn.	4.49	0.62
FQ4 Instructor actions reinforced the development of a sense of community among course participants.	4.39	0.65

Table 6 presents the findings for Facilitation (F) which reveal that respondents held highly positive perceptions of the instructor's role in supporting and guiding the learning process. Among the four items, FQ1 recorded the highest mean score ($M = 4.59$, $SD = 0.69$), indicating that respondents strongly agreed that the instructor was helpful in guiding the class towards understanding course topics in ways that clarified their thinking.

This was followed by FQ3 ($M = 4.49$, $SD = 0.62$), suggesting that the instructor effectively kept participants focused on tasks that supported learning. Meanwhile, FQ2 obtained a mean score of 4.42 ($SD = 0.69$), reflecting respondents' agreement that the instructor maintained engagement and productive dialogue during the course. FQ4 recorded the lowest mean score, although still high ($M = 4.39$, $SD = 0.65$), indicating that instructor actions positively contributed to developing a sense of community among participants. Overall, the low standard deviation values demonstrate consistency in respondents' perceptions, suggesting that the instructor's facilitation practices were viewed as supportive, engaging, and beneficial to the learning experience.



Table 7- Mean (M) and Standard Deviation (SD) for Direct Instruction (DIR)

ITEM	M	SD
DIRQ1 The instructor clearly communicated important due dates/time frames for learning activities.	4.60	0.57
DIRQ2 The instructor encouraged course participants to explore new concepts in this course.	4.34	0.62
DIRQ3 The instructor provided feedback in a timely fashion.	4.32	0.69

Table 7 presents the mean (M) and standard deviation (SD) for the Direct Instruction (DIR). Overall, the findings indicate that the students had highly positive perceptions of the instructor's direct instruction in the online learning environment, as all mean scores exceeded 4.00.

Among the items, DIRQ1 recorded the highest mean score ($M = 4.60$, $SD = 0.57$), indicating that the students strongly agreed that the instructor clearly communicated important due dates and time frames for the learning activities. Meanwhile, DIRQ2 obtained a mean score of 4.34 ($SD = 0.62$), showing that students agreed that the instructor encourages them to explore new concepts throughout the course. DIRQ3 also demonstrated a high level of agreement ($M = 4.32$, $SD = 0.69$), indicating that the students perceived receiving timely feedback from the instructor. Overall, the findings indicated that the instructor provided the students with direct instructional practices to support the students' learning activities.

Findings for Social Presence

This section presents data to answer research question 2- How do learners perceive their social presence in online classes? In the context of this study, this is measured by (i) Affective Expression, (ii) Open communication, and (iii) Group Cohesion.

Table 8- Mean (M) and Standard Deviation (SD) for Affective Expression (AE)

ITEM	M	SD
AEQ1 Getting to know other course participants gave me a sense of belonging in the course.	4.23	0.70
AEQ2 I was able to form distinct impressions of some course participants.	4.10	0.76
AEQ3 Online or web-based communication is an excellent medium for social interaction.	3.81	0.89

Table 8 presents the mean (M) and standard deviation (SD) values for the Affective Expression (AE) dimension. Among the items, AEQ1 recorded the highest mean score ($M = 4.23$, $SD = 0.70$), indicating that respondents agreed that getting to know other course participants gave them a sense of belonging in the course. This suggests that interpersonal interaction among students contributed positively to their emotional connection and engagement in the online learning environment.

Meanwhile, AEQ2 obtained a mean score of 4.10 ($SD = 0.76$), showing that respondents were able to form distinct impressions of other course participants, reflecting the development of social familiarity and recognition among peers. In contrast, AEQ3 recorded the lowest mean score ($M = 3.81$, $SD = 0.89$), although respondents still generally agreed that online or web-based communication is an excellent medium for social interaction. Overall, the findings demonstrate that affective expression was moderately to highly present among students in the online learning environment.



Table 9- Mean (M) and Standard Deviation (SD) for Open Communication (OC)

ITEM	M	SD
OCQ1 I felt comfortable conversing through the online medium.	3.81	0.89
OCQ2 I felt comfortable participating in the course discussions.	4.03	0.79
OCQ3 I felt comfortable interacting with other course participants.	3.91	0.89

Table 9 presents the mean and standard deviation scores for the Open Communication construct under social presence. This construct consists of three items that measure students' comfort in communicating, participating, and interacting through the online learning medium. The findings show that students generally perceived open communication positively, although the mean scores were slightly lower compared to the teaching presence items. The highest mean score was recorded for OCQ2, "I felt comfortable participating in the course discussions" ($M = 4.03$, $SD = 0.79$), suggesting that students were generally willing to take part in online discussions. This is followed by OCQ3, "I felt comfortable interacting with other course participants" ($M = 3.91$, $SD = 0.89$), indicating that most students were reasonably comfortable engaging with their peers online. Meanwhile, OCQ1, "I felt comfortable conversing through the online medium" recorded the lowest mean score ($M = 3.81$, $SD = 0.89$). This suggests that while students were able to participate in online discussions, some may still have experienced hesitation or discomfort when communicating through online platforms. Overall, the findings indicate that students demonstrated a moderate to high level of open communication in online classes, but this area may still require stronger facilitation to encourage more confident and active peer interaction.

Table 10- Mean (M) and Standard Deviation (SD) for Group Cohesion (GC)

ITEM	M	SD
GCQ1 I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.	3.56	0.93
GCQ2 I felt that my point of view was acknowledged by other course participants.	3.83	0.84
GCQ3 Online discussions help me to develop a sense of collaboration.	3.84	0.87

Table 10 presents the mean and standard deviation scores for the Group Cohesion construct under social presence. This construct consists of three items that examine students' sense of trust, acknowledgement, and collaboration in online discussions. The findings indicate that group cohesion received comparatively lower mean scores than other aspects of social presence.

The highest mean score was recorded for GCQ3, "Online discussions help me to develop a sense of collaboration" ($M = 3.84$, $SD = 0.87$), followed closely by GCQ2, "I felt that my point of view was acknowledged by other course participants" ($M = 3.83$, $SD = 0.84$). These results suggest that students generally experienced some level of collaboration and recognition during online discussions. However, GCQ1, "I felt comfortable disagreeing with other course participants while still maintaining a sense of trust," recorded the lowest mean score ($M = 3.56$, $SD = 0.93$).

This indicates that students may have been less comfortable expressing disagreement in online settings, even when trust among peers was expected. The relatively higher standard deviation for GCQ1 also suggests greater variation in students' responses. Overall, the findings imply that while students may participate and collaborate online, deeper group cohesion, especially the ability to disagree respectfully and confidently, remains an area that needs further pedagogical support.

Findings for Cognitive Presence

This section presents data to answer research question 3- How do learners perceive their cognitive presence in online classes?.



Table 11- Mean (M) and Standard Deviation (SD) for Triggering Event (TE)

ITEM	M	SD
TEQ1 Problems posed increased my interest in course issues.	3.90	0.73
TEQ2 Course activities piqued my curiosity	4.00	0.80
TEQ3 I felt motivated to explore content related questions.	4.20	0.67

Table 11 presents the mean and standard deviation scores for the Triggering Event construct of cognitive presence. TEQ3 recorded the highest mean ($M = 4.20$, $SD = 0.67$), indicating that students felt motivated to explore content-related questions. TEQ2 followed with a mean of 4.00 ($SD = 0.80$), reflecting that course activities were effective in piquing students' curiosity. TEQ1 recorded a slightly lower mean of 3.90 ($SD = 0.73$), suggesting that the problems posed in the course increased students' interest in course issues to a moderate extent. Overall, the scores for this construct indicate that the online learning environment was reasonably successful in stimulating students' initial engagement and curiosity, which is an important foundation for deeper cognitive activity.

Table 12- Mean (M) and Standard Deviation (SD) for Exploration (EX)

ITEM	M	SD
EXQ1 I utilised a variety of information sources to explore problems posed in this course.	4.18	0.69
EXQ2 Brainstorming and finding relevant information helped me resolve content related questions.	4.25	0.65
EXQ3 Online discussions were valuable in helping me appreciate different perspectives.	4.20	0.77

Table 12 presents the mean and standard deviation scores for the Exploration construct of cognitive presence. EXQ2 recorded the highest mean ($M = 4.25$, $SD = 0.65$), suggesting that students found brainstorming and searching for relevant information helpful in resolving course-related questions. EXQ3 ($M = 4.20$, $SD = 0.77$) indicated that online discussions were valuable in helping students appreciate different perspectives. EXQ1 also recorded a positive mean of 4.18 ($SD = 0.69$), reflecting that students made use of a variety of information sources to explore problems posed in the course. The relatively low standard deviations across all items indicate consistent agreement among respondents. These findings suggest that students were actively engaged in exploratory cognitive activities during their online learning experience.

Table 13- Mean (M) and Standard Deviation (SD) for Integration (IN)

ITEM	M	SD
INQ1 Combining new information helped me answer questions raised in course activities.	4.24	0.70
INQ2 Learning activities helped me construct explanations/solutions.	4.38	0.69
INQ3 Reflection on course content and discussions helped me understand fundamental concepts in this class.	4.27	0.73

Table 13 presents the mean and standard deviation scores for the Integration construct of cognitive presence. INQ2 received the highest mean ($M = 4.38$, $SD = 0.69$), indicating strong agreement among students that learning activities helped them construct explanations and solutions. INQ3 followed with a mean of 4.27 ($SD = 0.73$), reflecting that reflection on course content and discussions contributed to students' understanding of fundamental concepts. INQ1 also recorded a positive mean of 4.24 ($SD = 0.70$), suggesting that combining new information was effective in helping students address questions raised during course activities. The consistently high means



and moderate standard deviations across all items indicate that students were actively integrating new knowledge with existing understanding, a key indicator of meaningful learning in online environments.

Table 14- Mean (M) and Standard Deviation (SD) for Resolution (RE)

ITEM	M	SD
REQ1 I can describe ways to test and apply the knowledge created in this course.	4.01	0.74
REQ2 have developed solutions to course problems that can be applied in practice.	4.01	0.72
REQ3 I can apply the knowledge created in this course to my work or other non-class related activities.	4.06	0.77

Table 14 shows the findings for Resolution (RE) which suggest that respondents generally perceived the course as effective in helping them apply and utilise the knowledge gained in practical contexts. Among the three items, REQ3 recorded the highest mean score ($M = 4.06$, $SD = 0.77$), indicating that the respondents agreed they were able to apply the knowledge created in the course to their work or other non-class-related activities.

Both REQ1 and REQ2 obtained similar mean scores ($M = 4.01$), with standard deviation values of 0.74 and 0.72 respectively, suggesting that the respondents were able to describe ways to test and apply the knowledge gained and develop practical solutions to course-related problems. In sum, the relatively high mean scores and low standard deviation values demonstrate consistent positive perceptions among respondents, indicating that the course successfully supported the practical application and transfer of knowledge beyond the classroom context.

Exploratory Statistics

According to He (2024), correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. It's a common tool for describing simple relationships without making a statement about cause and effect. This section presents data to answer research questions on correlation.

Findings for the Relationship between all Types of Presence in Online Classes

This section presents data to answer research question 4 - Is there a significant relationship between all types of presence in online classes?

H_{01} : There is no significant relationship between all types of presence in online classes.

To determine if there is a significant association in the mean scores between all types of presence in online classes, data is analysed using SPSS for correlations. Results are presented separately in Table 15.

Table 15- Correlation between Social Support and Expectancy Components

		Teaching	Social	Cognitive
Teaching	Pearson (Correlation)	1	.643**	.748**
	Sig (2-tailed)		<.001	<.001
	N	79	79	79
Social	Pearson (Correlation)	.643**	1	.821**
	Sig (2-tailed)	<.001		<.001
	N	79	79	79
Cognitive	Pearson (Correlation)	.748**	.821**	1



	Sig (2-tailed)	<.001	<.001	
	N	79	79	79

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

According to He (2024), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0.

Teaching and Social Presence

There is an association between teaching and social presence. The relationship is a positive and strong relationship ($r=0.643^{**}$).

Social and Cognitive Presence

There is an association between social and cognitive presence. The relationship is a positive and strong relationship ($r=0.821^{**}$).

Cognitive and Teaching Presence

There is an association between cognitive and teaching presence. The relationship is a positive and strong relationship ($r=0.748^{**}$).

CONCLUSION

Summary of Findings and Discussions

This study investigated undergraduate students' perceptions of teaching presence, social presence, and cognitive presence in online classes and examined the relationships among these dimensions. The findings revealed that students perceived teaching presence most positively. Among the teaching presence constructs, instructor communication of important deadlines, course goals, and learning activities received particularly favourable evaluations. These findings suggest that students value clear instructional design, effective facilitation, and timely guidance in online learning environments. This result is consistent with the Community of Inquiry framework proposed by Garrison, Anderson, and Archer (2000) and further extended by Garrison and Arbaugh (2007), which emphasises teaching presence as a crucial element for supporting meaningful online learning experiences. The findings also support previous studies by Nasir and Ngah (2022) and Tan et al. (2021), which reported that clear instructional guidance and effective facilitation significantly contribute to students' satisfaction and engagement in online learning environments.

The findings further showed that students demonstrated relatively strong cognitive presence. Learners reported positive engagement in exploring information, integrating new knowledge, and applying learning to practical contexts. In particular, learning activities that supported explanation building and problem-solving were highly valued. This finding supports the argument by Garrison and Arbaugh (2007) that cognitive presence develops through structured inquiry processes that encourage learners to construct and apply knowledge actively. The result also aligns with the findings reported by Rahmat (2025), which highlighted the importance of learner engagement in facilitating meaningful online learning experiences. Furthermore, the findings are consistent with Connectivism theory proposed by Siemens (2005), which explains that knowledge construction occurs through interaction, collaboration, and participation within digital learning networks. The findings also correspond with Dong et al. (2025), who found that collaborative interaction and meaningful communication support students' cognitive engagement and knowledge construction in asynchronous online learning environments.

In contrast, social presence received comparatively lower evaluations than teaching and cognitive presence. While students generally felt comfortable interacting with peers and participating in discussions, lower ratings were observed for group cohesion, particularly regarding the ability to disagree while maintaining trust. This

finding suggests that although online platforms facilitate communication, fostering deeper interpersonal connections and collaborative learning remains challenging. The result reflects concerns raised by Akyol and Garrison (2008), who observed that social presence may decline over time even when teaching presence remains strong in online learning environments. Similarly, Chatterjee and Parra (2022) emphasised that social presence plays an important role in shaping students' sense of belonging and participation in online classes. The findings also support Mutezo and Mare (2023) and Miao and Ma (2022), who reported that social interaction and connectedness significantly influence students' engagement and learning experiences in online environments.

The correlation analysis revealed significant positive relationships among all three dimensions of online presence. The strongest relationship was found between social presence and cognitive presence, followed by the relationship between cognitive presence and teaching presence. A strong positive relationship was also observed between teaching presence and social presence. These findings support the Community of Inquiry framework, which proposes that effective online learning emerges through the interaction of teaching, social, and cognitive presence (Garrison & Arbaugh, 2007). The results further reinforce the argument by Fiock (2020) that meaningful online learning experiences depend on the balanced integration of these three presences. In addition, the findings align with recent studies by Zhang et al. (2023), Edumadze et al. (2024), and Gökoğlu et al. (2024), which demonstrated that teaching presence, social presence, and cognitive presence collectively influence students' engagement and learning quality in online environments. Overall, the findings suggest that improvements in one dimension are likely to contribute positively to the others, ultimately enhancing students' overall online learning experience.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The findings provide empirical support for the Community of Inquiry framework by demonstrating that teaching, social, and cognitive presence are strongly interconnected in online learning environments. The strong correlations among the three presences reinforce the proposition that meaningful learning occurs through the interaction of instructional support, social engagement, and cognitive development. Furthermore, the findings complement perspectives from Connectivism, suggesting that learning is strengthened through interaction, communication, and knowledge sharing within online networks. The study therefore contributes additional evidence supporting the applicability of these theoretical perspectives in contemporary higher education settings.

Pedagogical Implications

The findings highlight the importance of maintaining a strong teaching presence through clear communication, effective facilitation, and timely feedback. Online instructors should continue to provide well-structured learning activities and explicit guidance to support student engagement. Given the comparatively lower ratings for social presence, educators may consider incorporating collaborative tasks, peer discussions, breakout-room activities, and community-building exercises to strengthen interpersonal interaction among learners. In addition, learning activities that encourage inquiry, reflection, and problem-solving should be integrated regularly to sustain cognitive presence and promote deeper learning. A balanced emphasis on all three dimensions can contribute to more meaningful and engaging online learning experiences.

Suggestions for Future Research

Future studies may expand the sample size by involving students from multiple universities and academic disciplines to improve the generalisability of the findings. Researchers may also investigate potential differences in online presence across demographic variables such as academic level, field of study, gender, and online learning preferences. In addition, qualitative approaches such as interviews or focus group discussions could provide deeper insights into students' experiences of teaching, social, and cognitive presence. Finally, future research may explore how emerging educational technologies, including artificial intelligence-supported learning tools and immersive virtual learning environments, influence the development of online presence among university students.



REFERENCES

1. Ahmad, N., Alias, F.A., Hamat, M., & Mohamed, S.A. (2024) Reliability Analysis: Application of Cronbach's Alpha in Research Instruments. *SIG: e-Learning@CS*, 114-119. <https://appspenang.uitm.edu.my/sigcs/>
2. Akyol, Z., & Garrison, R. (2019). The Development of a Community of Inquiry Over Time in an Online Course: Understanding the Progression and Integration of Social, Cognitive and Teaching Presence. *Online Learning*, 12(3-4), 3-22. <https://doi.org/10.24059/olj.v12i3-4.1680>
3. Aldalalah, O. M. A. A. (2025). Connectivism and E-Collaborative learning: A Framework for Enhancing Digital Self-Efficacy in Higher Education through Big Data Organization. *Educational Process: International Journal*, 19, e2025584. <https://doi.org/10.22521/edupij.2025.19.584>
4. Aliyu, J., Osman, S., Kumar, J. A., Talib, C. A., & Jambari, H. (2022). Students' Engagement through Technology and Cooperative Learning: A Systematic Literature Review. *International Journal of Learning and Development*, 12(3), 23-40. <https://doi.org/10.5296/ijld.v12i3.20051>
5. Al-Saggaf, M. A., & Rosli, A. S. (2021). The level of Community of Inquiry (CoI) presences in online classes among MSU BTESL students. *TESOL and Technology Studies*, 2(1), 65-78. <https://doi.org/10.48185/tts.v2i1.175>
6. Alshammari, S.H. & Alrehaili, T.A. (2025). The effect of teaching, social, and cognitive presence on student engagement in online courses: a structural equation modelling approach. *Acta Psychologica*, 258, 105183. <https://doi.org/10.1016/j.actpsy.2025.105183>
7. Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample. *The Internet and Higher Education*, 11(3-4), 133-136. <https://doi.org/10.1016/j.iheduc.2008.06.003>
8. Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping Research in Student Engagement and Educational Technology in Higher Education: A Systematic Evidence Map. *International Journal of Educational Technology in Higher Education*, 17(1), 1-30. <https://doi.org/10.1186/s41239-019-0176-8>
9. Bozkurt, A., Karakaya, K., Turk, M., Karakaya, Ö., & Castellanos-Reyes, D. (2022). The Impact of COVID-19 on Education: A Meta-Narrative Review. *TechTrends*, 66(5), 883-896. <https://doi.org/10.1007/s11528-022-00759-0>
10. Chatterjee, S., & Parra, J. (2022). Undergraduate students' engagement in formal and informal learning: Applying the Community of Inquiry framework. *Journal of Educational Technology Systems*, 50(3), 327-355. <https://doi.org/10.1177/00472395211062552>
11. Dong, L., Hsieh, C.-J., Watson, S. L., Yu, J. H., & Lowell, V. L. (2025). Revisiting the interrelationships between social and cognitive presences in asynchronous online courses: Insights from epistemic network analysis. *Online Learning*, 29(3). <https://doi.org/10.24059/olj.v29i3.4672>
12. Downes, S. (2005). An introduction to connective knowledge. *Stephen's Web*. <http://www.downes.ca/cgi-bin/page.cgi?post=33034>
13. Edumadze, J. K. E., & Govender, D. W. (2024). The impact of Community of Inquiry presences on student engagement in blended MOOCs: A case study of university students in a developing country. *Smart Learning Environments*, 11(19). <https://doi.org/10.1186/s40561-024-00306-9>
14. Fiock, H. (2020). Designing a community of inquiry in online courses. *International Review of Research in Open and Distributed Learning*, 21(1), 135-153. <https://doi.org/10.19173/irrod1.v20i5.3985>
15. Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)
16. Garrison, D.R. & Arbaugh, J.B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *Internet and Higher Education*, 10, 157-172. Retrieved from http://reinventnet.org/moodle/pluginfile.php/1196/mod_resource/content/3/COIreview.pdf
17. Garrison, D. R. (2017). *E-learning in the 21st century: A community of inquiry framework for research and practice* (3rd ed.). Routledge.
18. Gökoğlu, S., Yılmaz, F. G. K., & Yılmaz, R. (2024). Student engagement, Community of Inquiry, and Trans- actional Distance in online learning environments: A stepwise multiple linear regression analysis.



- The International Review of Research in Open and Distributed Learning*, 25(4), 107–127.
<https://doi.org/10.19173/irrodl.v25i4.7660>
19. He, L. (2024) The Application of SPSS Correlation Analysis in the Study of Precision Teaching of English in Universities. *Applied Mathematics and Nonlinear Science*, 9(1), 1-13.
<http://dx.doi.org/10.2478/amns-2024-1371>
 20. Hendricks, G.P. (2019). Connectivism as a learning theory and its relation to open distance education. *Progression*, 41(1), 4773. <https://doi.org/10.25159/2663-5895/4773>
 21. Kozan, K., & Caskurlu, S. (2021). Predictive effects of undergraduate students' perceptions of social, cognitive, and teaching presence on affective learning outcomes according to disciplines. *Computers & Education*, 161, 104063. <https://doi.org/10.1016/j.compedu.2020.104063>
 22. Lau, E. Y. H., Li, J.-B., & Lee, K. (2021). Online learning and parent satisfaction during COVID-19: Child competence in independent learning as a moderator of the relationship between online learning quantity and parent satisfaction. *Frontiers in Psychology*, 12, 679197.
<https://doi.org/10.3389/fpsyg.2021.679197>
 23. Li, J., & Xue, E. (2023). Dynamic Interaction between Student Learning Behaviour and Learning Environment: Meta-Analysis of Student Engagement and Its Influencing Factors. *Behavioral Sciences*, 13(1), 1-15. <https://doi.org/10.3390/bs13010059>
 24. Miao, J., & Ma, L. (2022). Students' online interaction, self-regulation, and learning engagement in higher education: The importance of social presence to online learning. *Frontiers in Psychology*, 13, Article 815220. <https://doi.org/10.3389/fpsyg.2022.815220>
 25. Mutezo, A. T., & Maré, S. (2023). Teaching and cognitive presences: The mediating effect of social presence in a developing world context. *Cogent Education*, 10(1).
<https://doi.org/10.1080/2331186X.2023.2171176>
 26. Nasir, M. K. M., & Ngah, A. H. (2022). The sustainability of online learning experiences during the pandemic: Investigating students' satisfaction using the Community of Inquiry framework. *Sustainability*, 14(15), 9633. <https://doi.org/10.3390/su14159633>
 27. Odhiambo, A. (2023). The impact of social presence on online student engagement. *Journal of Online and Distance Learning*, 3(1), 14-27.
 28. Ofosu-Ampong, K., Agyekum, M. W., & Garcia, M. B. (2024). Long-Term Pandemic Management and the Need to Invest in Digital Transformation: A Resilience Theory Perspective. In *Transformative Approaches to Patient Literacy and Healthcare Innovation* (pp. 242-260). IGI Global.
<https://doi.org/10.4018/979-8-3693-3661-8.ch012>
 29. Rahmat, N.H. (2025) A Comparison of Online Engagement for Undergraduates. *International Journal of Research and Innovation in Social Sciences*, IX(VI), 3260-3270.
<https://dx.doi.org/10.47772/IJRISS.2025.906000240>
 30. Shi, Y., Chen, M., Wei, Y., Shen, J., Wu, M., & Zhu, K. (2025). Understanding effects of engaging online learning environments on students' cognitive engagement and well-being: the role of academic self-concept and flow. *Frontiers in Psychology*, 10(16), 1614109. doi: [10.3389/fpsyg.2025.1614109](https://doi.org/10.3389/fpsyg.2025.1614109)
 31. Siemens, G. (2005). *Connectivism: Learning as Network-Creation*. Accessed May 18, 2026.
<http://www.elearnspace.org/Articles/networks.htm>.
 32. Swan, K., Shea, P., Richardson, J., Ice, P., Garrison, D. R., Cleveland-Innes, M., & Arbaugh, J. B. (2008). Validating a measurement tool of presence in online communities of inquiry. *E-Mentor*, 2(24), 1–12.
 33. Tan, K. H., Chan, P. P., & Mohd Said, N.-E. (2021). Higher education students' online instruction perceptions and satisfaction during remote learning. *Sustainability*, 13(19), 10840.
<https://doi.org/10.3390/su131910840>
 34. Teh, K. S. M., et al. (2024). Undergraduate students' academic achievement and learning interest in HyFlex learning environments. *IEEE Transactions on Learning Technologies*, 17(1), 1–14.
<https://doi.org/10.1109/TLT.2024.0105003>
 35. Van Wart, M., Ni, A., Medina, P., Canelon, J., Kordrostami, M., Zhang, J., & Liu, Y. (2020). Integrating students' perspectives about online learning: A hierarchy of factors. *International Journal of Educational Technology in Higher Education*, 17(53). <https://doi.org/10.1186/s41239-020-00229-8>
 36. Vetter, T.R. (2017). Descriptive Statistics: Reporting the Answers to the 5 Basic Questions of Who, What, Why, When, Where, and a Sixth, so What? *Anesth Analg*, 12595, 1797-1802.
<https://doi.org/10.1213/ane.0000000000002471>



-
37. Zhang, Y., Huang, J., Hussain, S., & Dong, Y. (2023). Investigating the Impact of the Community of Inquiry Presence on Online Learning Satisfaction: A Chinese College Student Perspective. *Psychology research and behavior management*, 16, 1883–1896. <https://doi.org/10.2147/PRBM.S409229>
 38. Ziegenfuss, J. Y., Casey A. E., Jennifer M. D., Meghan M. J., Thomas E. K, and Marna, C.. (202) Impact of Demographic Survey Questions on Response Rate and Measurement: A Randomized Experiment. *Survey Practice* 14 (1), <https://doi.org/10.29115/SP-2021-0010>.



APPENDIX

ODL-Community of Inquiry Survey Instrument

(teaching, social and cognitive presence)

(This instrument is adopted from Garrison & Arbaugh, 2007)

SECTION	VARIABLE (TYPE OF PRESENCE)	CONSTRUCT	ITEM INDICATOR	NO OF ITEMS
B	TEACHING	Design & Instruction	3	10
		Facilitation	4	
		Direct Instruction	3	
C	SOCIAL	Affective Expression	3	9
		Open Communication	3	
		Group Cohesion	3	
D	COGNITIVE	Triggering Event	3	12
		Exploration	3	
		Integration	3	
		Resolution	3	
		TOTAL		31

SECTION B-TEACHING PRESENCE

1	Never
2	Rarely
3	Sometimes
4	Very Often
5	Always

(i) Design & Instruction (DES)

ITEM
DESQ1 The instructor clearly communicated important course topics.
DESQ2 The instructor clearly communicated important course goals.
DESQ 3 The instructor provided clear instructions on how to participate in course learning activities.

(ii) Facilitation (F)

ITEM
FQ1 The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
FQ2 The instructor helped to keep course participants engaged and participating in productive dialogue.
FQ3 The instructor helped keep the course participants on task in a way that helped me to learn.



FQ4 Instructor actions reinforced the development of a sense of community among course participants.

(iii) Direct Instruction (DIR)

ITEM
DIRQ1 The instructor clearly communicated important due dates/time frames for learning activities.
DIRQ2 The instructor encouraged course participants to explore new concepts in this course.
DIRQ3 The instructor provided feedback in a timely fashion.

SECTION C- SOCIAL PRESENCE

(i) Affective Expression (AE)

ITEM
AEQ 1 Getting to know other course participants gave me a sense of belonging in the course.
AEQ2I was able to form distinct impressions of some course participants.
AEQ 3 Online or web-based communication is an excellent medium for social interaction.

(ii) Open Communication (OC)

ITEM
OCQ1 I felt comfortable conversing through the online medium.
OCQ2 I felt comfortable participating in the course discussions.
OCQ3 I felt comfortable interacting with other course participants.

(iii) Group Cohesion (GC)

ITEM
GCQ1 I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
GCQ2 I felt that my point of view was acknowledged by other course participants.
GCQ3 Online discussions help me to develop a sense of collaboration.

SECTION D-COGNITIVE PRESENCE

(i) Triggering Event (TE)

ITEM
TEQ1 Problems posed increased my interest in course issues.
TEQ 2 Course activities piqued my curiosity
TEQ 3 I felt motivated to explore content related questions.

(ii) Exploration (EX)

ITEM
EXQ1 I utilized a variety of information sources to explore problems posed in this course.
EXQ2 Brainstorming and finding relevant information helped me resolve content related questions.
EXQ3 Online discussions were valuable in helping me appreciate different perspectives.



(iii) Integration (IN)

ITEM
INQ1 Combining new information helped me answer questions raised in course activities.
INQ2 Learning activities helped me construct explanations/solutions.
INQ3 Reflection on course content and discussions helped me understand fundamental concepts in this class.

(iv) Resolution (RE)

ITEM
REQ1 I can describe ways to test and apply the knowledge created in this course.
REQ2 have developed solutions to course problems that can be applied in practice.
REQ3 I can apply the knowledge created in this course to my work or other non-class related activities.