The Influence of Teaching Presence in Online Group Work

[*1]Chua Tung Er, [2] Sarinah Sharif, [3]Choong Pow Yean, [4]Normah Ahmad, [5]G Sharina Shaharuddin, [6]Noor Hanim Rahmat

[1, 2, 3, 4, 5, 6] Akademi Pengajian Bahasa, Universiti Teknologi MARA, Shah Alam, Malaysia

***Corresponding Author**

DOI: https://dx.doi.org/10.47772/IJRISS.2025.924ILEIID00103

Received: 23 September 2025; Accepted: 30 September 2025; Published: 01 November 2025

ABSTRACT

Group works refer to learning experiences in which people work together on the same task. As online learning has become a mainstream learning style, especially after covid-19 pandemic, it's very common for students or learners to have online group work as well. This study is a quantitative study to explore the influence of teaching presence in online group work. The survey was conducted online with 122 respondents form a public university in Malaysia. The results show that students highly valued teaching presence the most compared to social and cognitive presence in online group work. Additionally, there are positive relationships between types of presences in online group work. Therefore, it can conclude that all presences are equally essential when it comes to online group work and teaching presence play the most important as it involves structuring the course content, setting clear learning objectives, and establishing a well-organized learning environment for learners.

Keywords: online group work, online learning, teaching presence, social presence, cognitive presence

INTRODUCTION

Background of Study

Group work is a common and essential part of studying in various education levels or professional settings. It is not only important in education but also plays a key role in the workplace after graduation. According to Oxford dictionary, group work means work done by a group of people in collaboration. It is a type of pedagogical approach that encourages interaction and collaboration among students to achieve common learning goals. As mentioned above, group work is a commonly used learning process in education institutions, however, with the rise of e-learning, a transformative force driven by technological advancement, although traditional learning is not being entirely replaced, online learning has significantly gained prominence and continue to grow in education industry. Unlike in traditional learning, with its in-person classroom setting, online learning takes place over the internet without a physical classroom and delivers the content through text, images or videos. When it comes to group work in online class, it is the process of a group of people using digital tools to collaborate on a shared task, project, or outcome, leveraging flexibility while navigating challenges like communication and accountability.

The community of inquiry (CoI) model, which includes the concepts of teaching presence, cognitive presence, and social presence, was developed from a study by Garrison, Anderson, and Archer in 2000.It is a framework to create effective online learning experiences. Over the past twenty years, these three interconnected elements have been widely used in online teaching in higher education. Based on the concept rooted in the CoI framework, social presence is defined as the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'. Cognitive presence refers to learners' ability to derive meaning and engage in critical thinking through class discussion (Garrison,2007) while teaching presence, also known as instructor's presence, is the instructor's intentional act of designing, facilitating, and directing a learning environment to achieve specific educational outcomes. Meanwhile,

teaching presence is a key element of the CoI framework as effective teaching presence helps move learners to higher cognitive phases. (Akyol & Garrison,2011)

However, how do learners perceive these three elements when it comes to online group work in online learning? Based on the stated context, the present study aims to explore the influence of social, cognitive, and teaching presence on group work within online learning environments.

Statement of Problem

Teaching presence is an essential element in online learning. It is defined in the CoI model as the act of designing, facilitating, and orienting cognitive and social processes to obtain the results foreseen according to the students' needs and capabilities. Shea et al. (2005,2006) found that teaching presence is a significant predictor of students' sense of learning community and satisfaction. It also highlighted that effective teaching promotes student engagement and perceived learning. Meanwhile, the goal of cognitive process is to promote the analysis, construction, and confirmation of meaning and understanding within a community of students through reflection and discourse (Clemente,2015). Social presence, on the other hand, shapes social outcomes, learning and the nature of social engagement on internet platforms (Rourke et al,2001). According to Li (2022), social and cognitive presences are fundamental to online interaction, which may serve as a bridge between teaching presence and student engagement since one of the major roles of teaching presence lies in bringing about social and cognitive presences. However, Anderson et al. (2001) found that teaching presence connects the functions of social presence and cognitive presence, as well as the overall goal of the educational experience in the community of inquiry framework.

There are various challenges faced in online group work. Lack of interaction including student-teacher communication and peer-to-peer interaction can lead to boredom and passive learning. Sheridan & Kelly (2010) concluded that teaching presence is one of the keys to the effectiveness of online learning and that instructors need to be actively engaged in online courses. One of the most effective ways to limit the isolation and perceived lower educational experience is to increase the instructor's teaching presence in online courses (Mandernach et al., 2006). Thus, it is important to understand the influence of social, cognitive and particularly teaching presence in online group work.

Objective of the Study and Research Questions

This study is done to explore the perception of learners in online group work. Specifically, this study is done to answer the following questions.

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

LITERATURE REVIEW

Theoretical Framework of the Study

Community of Inquiry (CoI) model introduced by Garrison et al. (2000)**,** consists of three presences. There is social presence - ability of learners to project themselves socially and emotionally; cognitive presence – construction of meaning through reflection and discourse; and teaching presence – design, facilitation, and direction of learning. These 3 presences are foundational models used to assess how presence affects online group collaboration and discourse.

Five years later, Siemens (2005) claimed that traditional theories such as behaviourism, cognitivism, constructivism do not fully explain learning in the digital era. Learning is no longer individualistic—it's networked. Connectivism theory is a learning theory for the digital age, emphasizing the role of networks, digital tools, and social connections in learning (Siemens ,2005). However, as a learning theory for the digital

age, connectivism theory faces several challenges not only related to digital and network literacy, but challenges related to assessment, and the need for self-directed learning. Connectivism faces criticism for lacking a strong theoretical foundation and empirical validation. Some scholars label it more a pedagogical viewpoint than a fully-fledged theory, pointing to its overlap with existing theories and limited scientific evaluation (Corbett & Spinello,2020).

Presence in Online Group Work

Social presence, cognitive presence and teaching presence are the three dimensions of presences identified by Garrison et al. (2000) for online learning. These 3 presences are vital in online group work as online group work is part of online learning nowadays. Among three presences, Richardson & Swan (2003) stated that students with higher perceived social presence had better perceived learning outcomes. Presence is not just about "being there" but feeling connected and recognized by peers. On the other hand, Akyol & Garrison (2011) stated that as sustained interaction is necessary to deepen cognitive presence; surface participation often results in minimal learning. However, Garrison et al. (2001) found that higher levels of cognitive presence were less frequently achieved in online group work without facilitation. Teaching presence includes facilitation discourse and designing learning experience, and instructors who guide discussions and scaffold group work enhance collaboration and the development of both cognitive and social presence. Shea et al. (2006) also agree strong teaching presence fosters higher levels of both cognitive and social presence among group members. A study by Borup et al. (2014) about the impact of instructor feedback on presence revealed that video feedback increased perceptions of teaching presence and built rapport in group settings. To sum up, for a smooth online group work, students at first feel connected and recognized by peers (social presence), then to the extension on which students are able to construct and confirm meaning through sustained reflection and discourse in a community of inquiry(cognitive presence) .Eventually, with the guidance and facilitation of instructor(teaching presence),meaningful learning can happen.

Past Studies

Past studies on online group work

There have been many past studies on online group work. Aderibigbe (2021) explored whether online discussions could support deep learning among students in general education courses. The study analysed posts from 60 undergraduate students using a mixed-methods approach. Results showed that most students produced high-quality contributions that reflected deep learning, particularly when engaging in discussions and reflective assignments. The findings suggest that online discussions can indeed promote deep learning—but only when instructors provide clear guidelines and give students enough time to meaningfully interact with their peers**.** Overall, the study highlights the value of well-structured online discussions in encouraging critical thinking and deeper engagement and emphasizes the importance of intentional design and active support from instructors to make these activities effective.

Koh and Hill (2009) investigated how students experienced group work in an online graduate course, paying particular attention to both the benefits and the challenges of working collaboratively in a virtual setting. The study involved 23 graduate students and used qualitative methods, including open-ended surveys, course discussion transcripts, and reflective writings. Students appreciated the chance to connect with peers, learn from different perspectives, and build their collaboration and communication skills. However, they also faced significant challenges, including unequal participation, scheduling difficulties, and communication issues**,** which impacted group effectiveness and satisfaction. The researchers emphasized that for online group work to be truly effective, instructors need to provide clear expectations, strong structure, and ongoing support—things like assigning roles, helping with time management, and ensuring fair grading—to encourage meaningful participation and reduce common frustrations.

Focus on cooperative learning in online settings, Johnson et al (1998) found out that when online group work is well-structured, it can significantly enhance learning outcomes, strengthen interpersonal skills, and improve student retention. This means educators need to be intentional in how they design and manage group activities

or group works—teaching collaboration skills clearly and keeping a close eye on how groups function to make sure every student benefit from the experiences.

Donelan and Kear (2023) carried out a systematic literature review to explore ways to make online group work more effective. After reviewing 114 recent studies on online group projects in higher education—and focusing in detail on the 57 most relevant ones—they identified three main challenges: low and uneven student participation, unclear instructions and preparation, and weak interpersonal relationships within groups. Their findings highlight that to make online group work both meaningful and successful, educators need to focus on thoughtful course design and provide consistent support. This not only helps students stay engaged and confident but also fosters better collaboration and learning outcomes.

Curtis and Lawson (2001) explored how collaborative learning behaviours manifest in online asynchronous learning environments by analysing student interactions in online workgroups. The study focused on graduate students enrolled in a distance education course, although the exact number of participants was not specified. By analysing students' messages qualitatively, the researchers found clear signs of important collaborative behaviours such as sharing information, building on each other's ideas, and offering mutual support, behaviours that typically appear in face-to-face group work. At the same time, they noticed that collaboration online works a bit differently, mostly because of the delays and nature of asynchronous communication. Their findings suggest that online collaboration can be effective, but instructors need to understand these unique dynamics and provide the right kind of guidance and support to help students engage fully and work well together. With clear instructions, common goals, and motivation, students can build meaningful collaborative relationships even in an online setting.

In conclusion, past studies on online group work demonstrate the importance of social, cognitive and particularly the role of instructor in teaching presence. While existing studies have demonstrated the interconnectedness in creating effective online group work environments, more nuanced study is necessary to better understand the influence of CoI presences in online group work. Since teaching presence plays such an important role in online group work mentioned by researchers above, exploring the influence of teaching presence in online group work could provide valuable insights for educators aiming to enhance online classes.

CONCEPTUAL FRAMEWORK OF THE STUDY

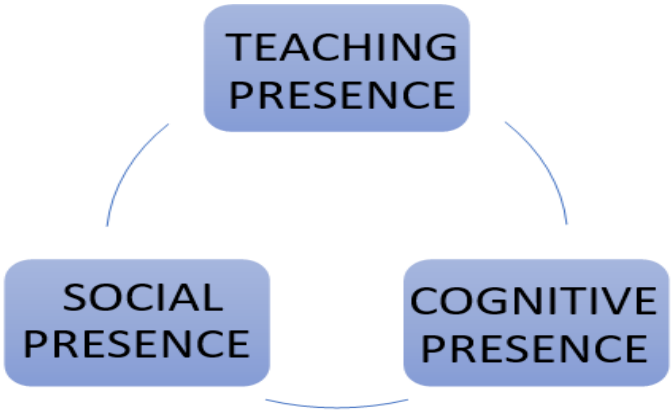
In the theory of online learning by Anderson (2008), two important components are learner-centred community-centred. One way to encourage learner-centred is through group work. Group work can be done online, and participants' interaction encourages the construction of new knowledge. Next, another aspect of theory of online learning is that learning is community centred. Community-centred learning calls forth the idea that students working together even in the online mode.

Learning today demands connections (Siemens, 2005) and the way people learned has changed due to that. Non-face-to-face learning has pushed many changes in the classrooms. Initially, we learn to cope with online learning. Now, we realize that many activities done face-to-face can be done online. For example, online group work is a common online learning task today. Figure 1 reveals the conceptual framework of the study. This study explores three types of presence in online group work, and they are teaching, cognitive and social presence presented by Aderibigbe (2021). For effective teaching presence, the teacher/instructor needs to use suitable materials, plans the class activity well and provides good models to learners. For cognitive presence, the instructor needs to plan the lessons in such a way as that groups can exchange information and ideas well. For social presence, the learners are given ample opportunity to interact with one another while performing learning tasks.

Nevertheless, community and learner-centred classroom depend on careful planning by the teacher. Even in online mode, teaching presence is still the essence of a successful class. Teacher presence is important as it creates connection in the class. This is essential for engagement to take place in the lesson. Active teacher presence creates a supporting where learners feel supported. Learners need to feel the support to gain confidence in learning (Rahmat, et.al., 2021).

This study explores if there is a relationship between teaching and cognitive presence. It also explores the relationship between cognitive and social presence as well as social and teaching presence.

Figure 1- Conceptual Framework of the Study The Influence of Teaching Presence in online Group Work



METHODOLOGY

This quantitative study is done to explore group work online. A convenient sample of 122 participants responded to the survey. The instrument used is a 5 Likert-scale survey. Table 1 below shows the categories used for the Likert scale; 1 is for Never, 2 is 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 shows the distribution of items in the survey. This study is replicated from Aderibigbe (2021) to reveal the variables in table below. Section B has 7 items for Cognitive Presence. Section C has 8 items on Social Presence. Section D has 8 items on Teaching Presence.

Table 2- Distribution of Items in the Survey

SECTION	ELEMENTS (Aderibigbe, 2021)	NO. OF ITEMS	
B	COGNITIVE PRESENCE	7	.871
C	SOCIAL PRESENCE	8	.874
D	TEACHING PRESENCE	8	.930
	TOTAL ITEMS	23	.934

Table 2 also shows the reliability of the survey. The analysis shows a Cronbach alpha of .871 for Cognitive Presence, .874 for social presence and .930 for Teaching Presence. The overall Cronbach Alpha for all 23 items

is .934; thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS AND DISCUSSION

Demographic Analysis

Table 3- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	60%
		Female	40%
2	Semester	1-3	40%
		4-6	53%
		7 and above	7%
3	Discipline	Social Sciences & Humanities	46%
		Engineering	54%
4	Online Learning Experience	Less than one year	46%
		1 year and above	54%
5	Duration of online learning per week	2-4 hours per week	37%
		5-8 hours per week	39%
		More than 8 hours per week	24%
6	Class type	Mostly lectures	57%
		more activities than lectures	5%
		More lectures than activities	35%
		Mostly activities	3%

Table 3 above shows the percentage for demographic profile. 60 % of the respondents are male students while 40% are female. Next, the analysis also revealed 40% of the students are in semesters 1-3. 53% are from 4-6 semesters while 7 % reported to be in semester 7 and above. When it comes to discipline, 46% of the respondents are from social sciences and humanities courses while 54% are from engineering faculties. For online learning experience, 46% reported they had less than one year of online learning experience while 54% said they had more than one year experience. As far as online learning experience, 37% said they had 2-4 hours per week, 39% said they had 5-8 hours per week and 24% said they had more than 8 hours a week. Finally, when it comes to class type, 57% said they had mostly lectured, 5% had more activities than lectures, 35% had more lectures than activities and 3% had mostly activities.

Descriptive Statistics

FINDINGS for Teaching Presence

This section presents data to answer research question 1- How do learners perceive teaching presence in online group work?

Figure 2- Mean for Teaching Presence

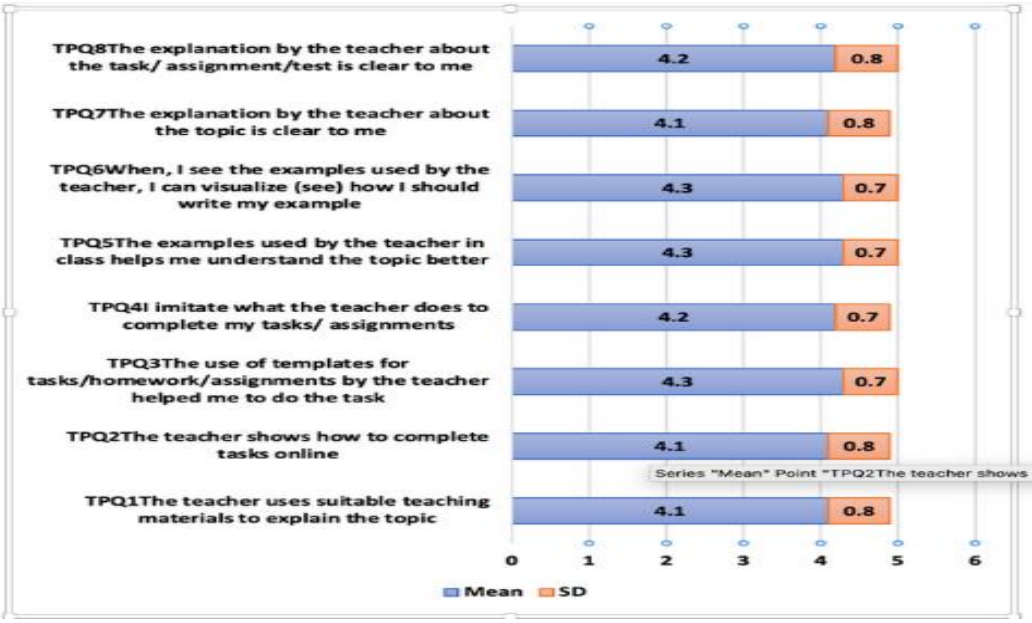


Figure 2 represents the mean for teaching presence. The highest mean scores with 4.3 are item 3, item 5and item 6(SD=0.7). The use of templates for tasks by teachers help students a lot in doing their tasks while the examples used by teachers in class help students understand the topic better. When students see the examples used by the teacher, it can help students visualize how they should write their examples. This shows that guidance of a teacher during online group work is highly valued by students. There are also 3 items for the lowest mean scores which are item 1, item 2 and item 7 (mean=4.1, SD=0.8). This shows that when a teacher shows how to complete tasks online, explaining a topic or using suitable teaching materials to explain the topic are less significant compared to other items in teaching presence.

Findings for Cognitive Presence

This section presents data to answer research question 2- How do learners perceive cognitive presence in online group work?

Figure 3- Mean for Cognitive Presence

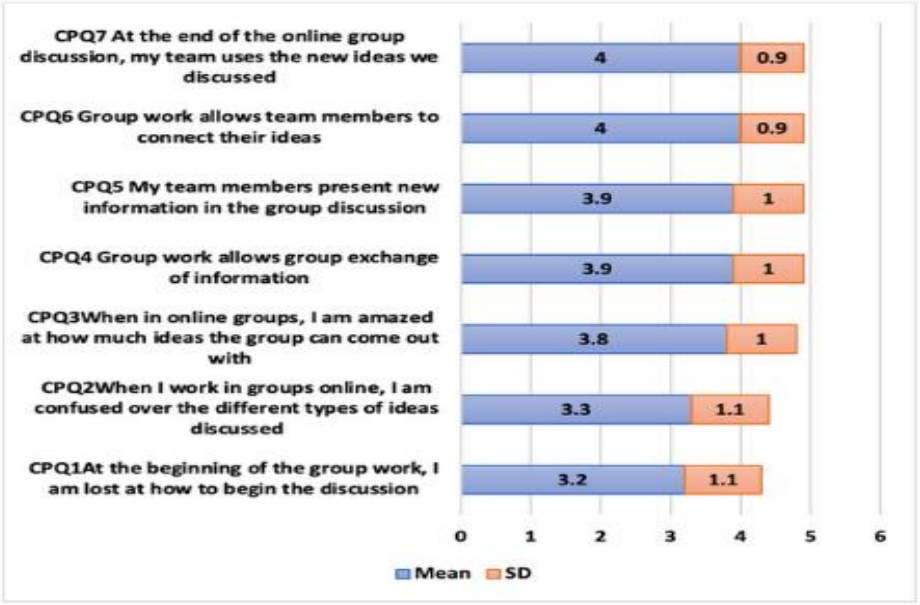


Figure 3 shows the mean for Cognitive Presence. Two items share the highest mean of 4. Firstly, item 6 (mean=4, SD=0.9) states that group work allowed the team members to connect their ideas. Next, item 7 (mean=4, SD=0.9) states that at the end of the online group work discussion, the team used the new ideas discussed. The lowest mean is 3.2 (SD=1.1) for item 1 that states that at the beginning of the group work, the students felt lost at how to begin the discussion.

Findings for Social Presence

This section presents data to answer research question 3- How do learners perceive social presence in online group work?

Figure 4- Mean for Social Presence

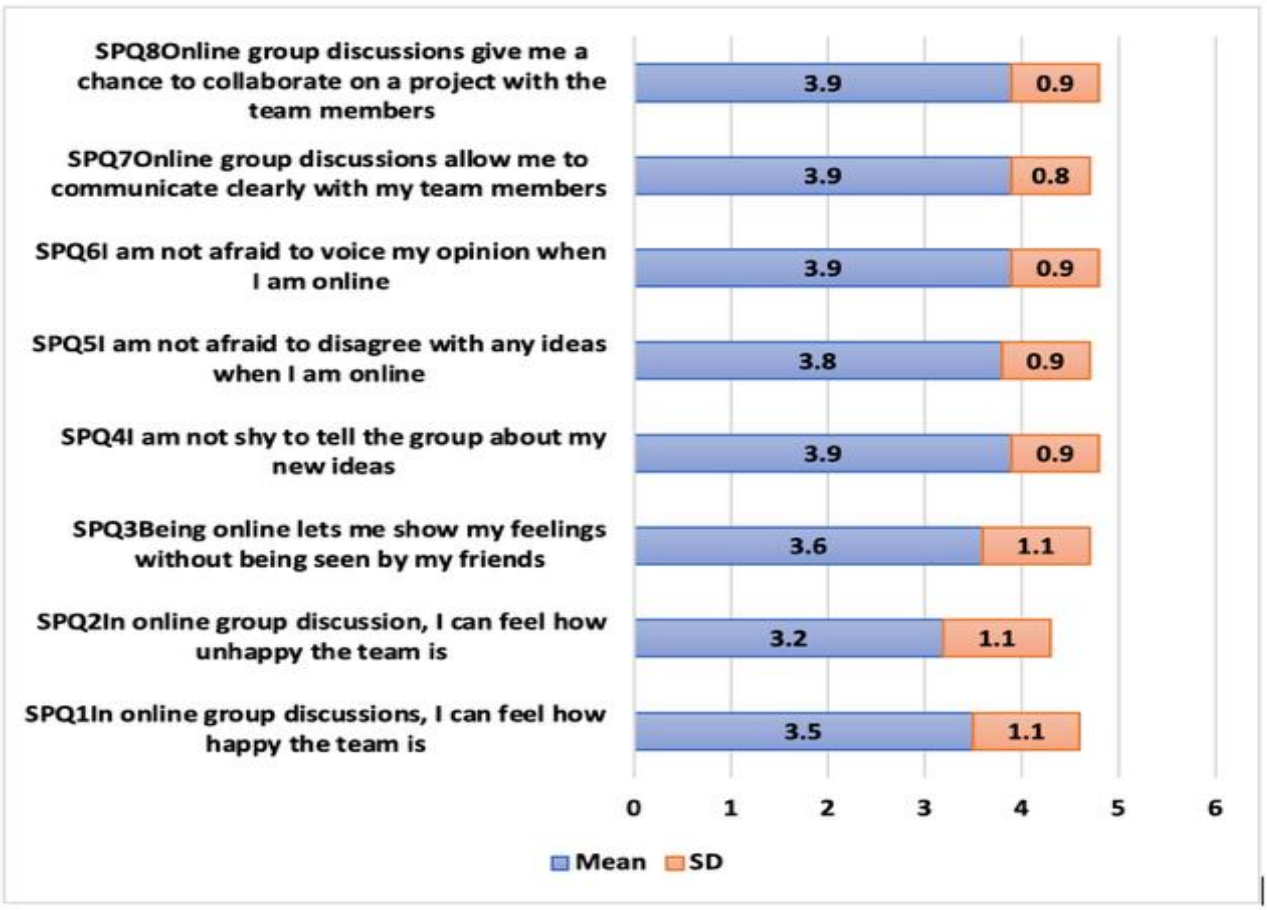


Figure 4 above demonstrates the mean for social presence. The 4 items that achieved the highest mean score (SD=0.9) are item 4,5, 6 and 8, where students don't feel shy or afraid to tell the group about their ideas, opinions and to disagree with other ideas. Students also believe that online group discussions give them a chance to collaborate on a project with the team members. Meanwhile, item 2 'in an online group discussion, I can feel how unhappy the team is' obtained the lowest score (mean=3.2, SD=1.1).

Exploratory Statistics

Findings for Relationship between types of presence in group work.

This section presents data to answer research question 4- Is there a relationship between types of presence in group work?

To determine if there is a significant association in the mean scores between types of presence in group work, data is analysed using SPSS for correlations. Results are presented separately in table 4, 5 and 6 below.

Table 4- Correlation between Teaching and Cognitive Presence

		TEACHING	COGNITIVE
TEACHING	Pearson (Correlation	1	.465**
	Sig (2-tailed)		.000
	N	122	122
COGNITIVE	Pearson (Correlation	.465**	1
	Sig (2-tailed)	.000	
	N	122	122

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

Table 4 shows there is an association between teaching and cognitive presence. Correlation analysis shows that there is a moderate significant association between teaching and cognitive presence (r=.465**) and (p=.000). According to Jackson (2015), 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. This means that there is also a moderate positive relationship between teaching and cognitive presence.

Table 5- Correlation between Cognitive and Social Presence

		COGNITIVE	SOCIAL
COGNITIVE	Pearson (Correlation	1	.734**
	Sig (2-tailed)		.000
	N	122	122
SOCIAL	Pearson (Correlation	.734**	1
	Sig (2-tailed)	.000	
	N	122	122

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

Table 5 shows there is an association between cognitive and social presences. Correlation analysis shows that there is a high significant association between cognitive and social presences (r=.734**) and (p=.000). According to Jackson (2015), 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. This means that there is also a strong positive relationship between cognitive and social presences.

Table 6- Correlation between Social and Teaching Presence

		SOCIAL	TEACHING
SOCIAL	Pearson (Correlation	1	.498**
	Sig (2-tailed)		.000
	N	122	122
TEACHING	Pearson (Correlation	.498**	1
	Sig (2-tailed)	.000	
	N	122	122

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

Table 6 shows there is an association between social and teaching presence. Correlation analysis shows that there is a moderate significant association between social and teaching presence (r=.498**) and (p=.000). According to Jackson (2015), 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. This means that there is also a moderate positive relationship between social and teaching a presence.

CONCLUSION

Summary of Findings and Discussions

In conclusion, learners strongly perceive social, cognitive and teaching presence in online group work. Especially in teaching presence, who achieved the highest mean score among 3 presences. This shows that learners are highly influenced by teaching presence online group work. The results aligned with past studies stated that teaching presence is crucial to the success of online learning environments. Shea (2006) believe that teaching presence is a strong predictor of both cognitive and social presence. Students who perceived their instructors as present, engaged, and responsive reported greater levels of collaboration, reflection, and community. Without strong teaching presence, students may lack of the direction, motivation, or support needed to engage in higher-order thinking and collaborative inquiry (Garrison et al.,2001). Additionally, Akyol and Garrison (2011) added that teaching presence plays a critical role in supporting the development of metacognitive awareness and regulation in online learning environments. Therefore, it can conclude that teaching presence provides the structure, guidance, and support students need to stay engaged, feel connected, and to achieve meaningful learning outcomes.

The correlations between all types of presences in group work are high. This shows that all presences need to work together. The interplay of cognitive, social, and teaching presence is foundational in online learning research, especially within the widely accepted Community of Inquiry (CoI) framework developed by Garrison, Anderson, and Archer. They argued these three presences must interact synergistically for effective, meaningful learning to occur online. Teaching presence supports social presence and cognitive presence by structuring and guiding discourse (Garrison et al.,2000,2001). Therefore, interrelatedness of the three presences is indispensable in fostering a strong online learning community.

Implications and Suggestions for Future Research

Drawing from the theoretical foundation of this study and the insights of previous research, teaching presence plays a vital role in shaping online group works. It not only nurtures cognitive presence, encouraging critical thinking and the search for meaning, but also fosters social presence, helping to build trust and a genuine sense of community among learners. Because of this, educators have a powerful responsibility to thoughtfully design group works that invite deep, meaningful conversations and authentic social connections—both of which are essential for collaborative learning and the co-creation of knowledge.

Teachers are called to be active guides in this process: facilitating discussions, offering timely and constructive feedback, and providing the scaffolding learners need to stay engaged both intellectually and socially. This guidance includes clearly setting goals, demonstrating positive collaborative behaviours, and gently navigating any conflicts that arise—actions that are fundamental to the success of online group learning.

Looking ahead, there is a pressing need for future research to explore how varying levels and styles of teaching presence influence group cohesion, communication, and collaborative problem-solving in online settings. Understanding these dynamics more deeply will be key to enhancing the effectiveness and richness of digital learning experiences.

REFERENCES

1. Aderibigbe, S.A. (2021) Can Online Discussions Facilitate deep learning for students in General Education? Heliyon, Vol 7(3), pp 1-6. Retrieved from https://doi.org/10.1016/j.heliyon.2021.e06414
2. Akyol, Z., & Garrison, D. R. (2011). Assessing metacognition in an online community of inquiry. The Internet and Higher Education, 14(3), 183–190. https://doi.org/10.1016/j.iheduc.2011.01.005

3. Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. Journal of Asynchronous Learning Networks, 5(2), 1–17. https://doi.org/10.24059/olj.v5i2.1875
4. Anderson, T. (2008). Towards a theory of online learning. In T. Anderson & F. Elloumi (Eds.), Theory and practice of online learning (2nd Edition, pp. 45-74). Athabasca: Athabasca University. Retrieved from: http://www.aupress.ca/index.php/books/120146
5. Borup, J., West, R. E., Thomas, R., & Graham, C. R. (2014). The impact of video feedback on instructor presence in blended courses. The International Review of Research in Open and Distributed Learning (IRRODL), 15(3), 232–256.
6. Clemente, E. C. M. (2015). Cognitive presence in virtual learning environments: A literature review. Turkish Online Journal of Distance Education (TOJDE), 16(2), 1–15.
7. Corbett, F., & Spinello, E. (2020). Connectivism: A knowledge learning theory for the digital age? Educational Technology Research and Development, 68(1), 289–313. https://doi.org/10.1007/s11423-019-09709-3
8. Curtis, D. D., & Lawson, M. J. (2001). Exploring collaborative online learning. Journal of Asynchronous Learning Networks, 5(1), 21–34. https://doi.org/10.24059/olj.v5i1.1878
9. Donelan, H., & Kear, K. (2023). Online group projects in higher education: Persistent challenges and implications for practice. Education and Information Technologies, 36, 435–468. https://doi.org/10.1007/s10639-022-11259-y
10. 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.
11. Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. American Journal of Distance Education, 15(1), 7–23. https://doi.org/10.1080/08923640109527071
12. Garrison, D. R. (2007). Online community of inquiry review: Social, cognitive, and teaching presence issues. Journal of Asynchronous Learning Networks, 11(1), 61–72. https://doi.org/10.24059/olj.v11i1.1735
13. Jackson, S.L. (2015) Research methods and Statistics-A Critical Thinking Approach (5^{tH} Edition) Boston, USA: Cengage Learning.
14. Johnson, D. W., Johnson, R., & Holubec, E. (1998). Advanced cooperative learning (3rd ed.). Edina, MN: Interaction Book Co.
15. Koh, M. H., & Hill, J. R. (2009). Student perceptions of groupwork in an online course: Benefits and challenges. International Journal of E-Learning & Distance Education, 23(2), 69–92. https://www.ijede.ca/index.php/jde/article/view/477
16. Li, F. (2022). "Are you there?": Teaching presence and interaction in large online literature classes. Asian-Pacific Journal of Second and Foreign Language Education, 7, Article 45. https://doi.org/10.1186/s40862-022-00180-3
17. Mandernach, B. J., Gonzales, R. M., & Garrett, A. L. (2006). An examination of online instructor presence via threaded discussion participation. MERLOT Journal of Online Learning and Teaching, 2(4), 248–260.
18. Rahmat, N. H.., Sukimin, I. S.., Sim, M. S.., Anuar, M.., & Mohandas, E. S. (2021). Online Learning Motivation and Satisfaction: A Case Study of Undergraduates vs Postgraduates. International Journal of Asian Social Science, 11(2), 88–97. https://doi.org/10.18488/journal.1.2021.112.88.97
19. Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Methodological issues in the content analysis of computer conference transcripts. International Journal of Artificial Intelligence in Education, 12(1), 8–22.
20. Shea, P., Swan, K., Li, C. S., & Pickett, A. (2005). Developing learning community in online asynchronous college courses: The role of teaching presence. Journal of Asynchronous Learning Networks, 9(4), 59–82. https://doi.org/10.24059/olj.v9i4.1885
21. Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online courses. The Internet and Higher Education, 9(3), 175–190. https://doi.org/10.1016/j.iheduc.2006.06.005
22. Sheridan, K., & Kelly, M. A. (2010). The indicators of instructor presence that are important to students in online courses. Journal of Online Learning and Teaching, 6(4), 767–779.

23. Siemens, G. (2005). Connectivism: A learning theory for the digital age. International Journal of Instructional Technology & Distance Learning, 2, 3-10. http://www.itdl.org/Journal/Jan_05/article01.htm
24. Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. Journal of Asynchronous Learning Networks, 7(1), 68–88. https://doi.org/10.24059/olj.v7i1.1864