

## Is There a Relationship between all Types of Presence in Online Group Work?

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i5/17037>

DOI:10.6007/IJARBSS/v13-i5/17037

*Published Date:* 16 May 2023

### Abstract

This study is conducted to look at the relationship between all types of presence in online group work. Notably, this study is aimed at providing answers to the following questions: a) how do learners perceive cognitive presence in online group work?, b) how do learners perceive social presence in online group work?, c) how learners perceive teacher presence in online group work? and d) is there a relationship between different types of presence in online group work? The respondents of the quantitative study consisted of 331 ESL undergraduates from a public university. A four-part questionnaire was distributed via online. The 5-Likert scale survey instrument was extracted from Aderibigbe (2021) to reveal the association of cognitive, social and teaching presence in online group work. The findings from the study in general show a significantly strong relationship between all three types of presence during online group work. Statistics obtained from the questionnaire indicated impactful roles played by the presence of the three elements during online group work. Majority of the students collectively agree that the presence of cognitive, social and teacher presence have a positive role on their learning experience during online group work. This can provide insights for future educators, researchers as well as students on the importance of understanding the core elements needed during online group work; hence, improving the quality and productivity.

**Keywords:** Social Presence, Cognitive Presence, Teacher Presence, Online Group Work

**Introduction****Background of Study**

Online learning has become a global norm due to the Covid-19 pandemic when education was heavily impacted, leaving us with non-other than a 360 degrees turn from the conventional face-to-face classes to 100% online classes. The pedagogical aspect of teaching and learning shifted from physical classes to classes via online. All class' activities since then are expected to be carried out using the online medium to facilitate teaching and learning. Class activities such as group work and group discussion are required to be done online. Tasks given by the teacher are no longer able to be executed physically together, but virtually from a distance.

Online channels seem more convenient and easily accessible (Nambiar, 2020), but can be a daunting experience for students. Students need to delve more and be extra cautious when doing work online (Nambiar, 2020). While face-to-face meetings are look upon as utmost importance during teaching and learning in the past (Kivijarvi et al., 2019), online platform offers easy accessibility and reachability that allow students to engage with one another for multiple causes, such as knowledge sharing as well as peer support. Nevertheless, it cannot be assumed that all students find online learning to be beneficial to them as they are already well equipped with the conventional learning strategies, mainly where teachers provide significant contribution during face-to-face classes (Balakrishnan & Lay, 2016 as cited in Aderibigbe, 2021), as compared to having to be more independent during online group work with other students.

From various studies looking at online teaching and learning, specifically on the challenges of carrying out online group work, no doubt the findings would provide relatable input on how the three presence, namely cognitive, social and teacher are crucial in guaranteeing a successful session of online group work. Bringing this knowledge into the Malaysian education context would definitely be beneficial as it provides a clearer vision and understanding on the elements that would greatly help teaching and learning during online group work.

**Statement of Problem**

The COVID-19 crisis has had a significant effect on the delivery of educational programs, affecting many students all over the world (UNICEF, 2020). Schools and higher education institutions have to incorporate hybrid and virtual content delivery methods into their regular instructional practices and accept them as the new mode of teaching and learning. As instructors work to make the course material available both online and in-person, online learning, particularly hybrid and blended modes of instruction, is anticipated to emerge as a panacea to issues they encounter. Merely creating a discussion group, giving reading materials and tasks, and providing the technology for an online learning environment does not result in students' rich and fulfilling learning experience. For students to learn effectively in an online learning setting, instructors must establish a community where they can interact with one another and the instructor, and complete well-designed collaborative learning tasks (Feng et al., 2017; Sanders & Lokey-Vega, 2020; Tolu & Evans, 2013). Proponents of collaborative online learning emphasise the importance for students to have a strong sense of community to increase the academic benefits, foster student cooperation and dedication, and help students reach their goals (Dixon, 2015). According to Berry (2019), students who actively collaborate in a group setting as part of their learning strategy are better able to explore concepts in depth, have improved learning experiences and exhibit increased

confidence, participation, satisfaction, and feeling of accomplishment. Thus, there is a critical need to research the relation of cognitive, social and teacher presence in online learning setting on students' satisfaction and motivation to learn. The results have significant practical consequences by identifying the dynamics of each presence and their correlation with perceived learning and satisfaction.

### **Objective of the Study and Research Questions**

This study is done to explore perception of learners on their use of learning strategies. Specifically, this study is done to answer the following questions;

- How do learners perceive cognitive presence in online group work?
- How do learners perceive social presence in online group work?
- How learners perceive teacher presence in online group work?
- Is there a relationship between different types of presence in online group work?

### **Literature Review**

#### **Disadvantages and Advantages of Online Learning**

The rapid and sudden shift to online learning prompted by COVID-19 brought about many issues and concerns to the education system, teachers, parents, and students. The challenge of having to design lessons using online platforms was a struggle for teachers and educators especially those who were not familiar or competent with technology. Students also had to adapt to the new virtual learning environment amidst absence of technological support and devices. Embracing this change, online learning has now become part of the education system and continued to be practiced and developed over time. Online learning now can be seen as more appealing, accommodating to all learning styles, with better flexibility (Taib et al., 2021). However, online learning has its own challenges, which not only involves the technical aspects but also whether the said approach suits students' learning style and students' engagement (Taib et al., 2021).

Online learning entails the understanding of how to promote knowledge construction and create learning environments that support meaningful student engagement and interactions which translates to students' achievement. The community of inquiry (CoI) framework by Garrison et al (2000) is one of the most widely used frameworks to study the effectiveness of online learning. The CoI framework portrays online learning as a collaborative process defined by three components: teaching presence, cognitive presence, and social presence (Tsakeni, 2021) which are interrelated. Tsakeni (2021) further added that teaching and cognitive presence determines the level of social presence in an online class. When students are motivated to learn, learning would be effective resulting in positive performance (Kovanovic et.al., 2015). Cooperation among students fosters cognitive presence through brainstorming, discussions and interaction, however it is difficult to sustain motivation in online learning as students may encounter technical difficulties and lack of participation by other members (Guo et.al., 2021). They added that teacher presence is crucial in providing a conducive learning environment, as students need to be comfortable to share and express their ideas. Teachers need to design attractive and interesting activities through various platforms to develop cognitive presence in online lessons. However, this is the biggest hurdle in online learning where teachers lack literacy in preparing and creating instructional content and face technological anxiety (Rasheed et. al., 2020). The lack of teacher engagement and feedback in online lessons result in low participation thus jeopardising the learning outcome (Kovanovic et.al., 2015).

### *Disadvantages and Advantages of Group Work*

Group work is used by educators as a means for students' learning at all levels of education. Group work has been viewed both positively and negatively by students. According to Bebe and Matterson (2003) cited in Burke (2011); Kokemuller (2021) and Chiriac (2014), there are advantages and disadvantages of group work. One of the advantages of group work is having different or new perspectives (Chiriac, 2014; Kokemuller, 2021). In group work, it allows the students to gain more information because between them they are able to exchange information as they come from various knowledge backgrounds. Another advantage of group work is it allows shared responsibilities Kokemuller (2021), in which students are able to make the most of each individual's strengths based on each other's capability (McDonald, 2020). On the other hand, there are also disadvantages of group work. According to Kokemuller (2021), the disadvantages of group work are inefficiency in decisions and varying attitudes. A study by Chiriac (2014) on 210 students from two universities in Sweden found that group work can hamper students' learning. Based on the questionnaire, the students view group work as ineffective because they lose focus as they get side-tracked instead of focusing on the task. Hence, students' motivation to learn can be impacted by being in a group (Chiriac, 2014). Motivation of the group members can play a strong role in achieving success in a group work as a group that lacks motivation will not always work well together.

### *Past Studies on Online Group Work*

Over the past decade, there is continuing interest in research in the online collaborative learning to improve the quality of virtual or blended learning approach as an important long-term strategy for higher education institutions (Jeong, 2019; Kucuk & Richardson, 2019; Molinillo et al., 2018). In their study, Molinillo et al (2018) found social presence and teacher presence have both direct and indirect positive influence on students' active learning, through emotional engagement within the context of social web-based collaborative learning (SWBCL). Additionally, Tsai and Tsai (2013) findings suggest that online collaboration encourages group members to view other members of the group from new perspectives, increasing the likelihood of the students to engage in meaningful and fruitful language learning. Their findings were in line with Hernandez-Selles (2019) findings that there is a positive relation of student-student interaction as well as teacher-student interaction in groups during the online collaboration process. It shows that emotional support linked to intragroup work in particular acts as a fundamental pillar in collaborative learning.

Whereas, in a study of the relationship between social tasks and students' perceptions of sense of community while working as part of an online group, Cameron et al (2009) found limited significant relationships between social presence and online collaboration. Even though students recognised the value of social tasks, they seemed to be more focus on the group project grade rather than developing a sense of community in the online learning environment.

In summary, studies of online collaborative learning reveal conflicting relationships between social, cognitive and teacher presence and meaningful learning.

### **Conceptual Framework**

Figure 1 shows the conceptual framework of the study. Group work is commonly done in traditional face-to-face classrooms. Group interactions help learners practice negotiation skills (Rahmat, 2022). This study investigates the perception of learners on group work done

online. According to Aderibigbe (2021), in online group work, learners can still benefit from cognitive presence, social presence and even teacher presence. Cognitive presence in online group work is achieved when learners are given the opportunity to discuss the content of the lessons via online in their own groups. Next, social presence is also achieved in online group work because learners are still communicating and interacting with their peers to complete group tasks. Finally, teacher presence is achieved when teachers make sure there is interaction between students and the instructor; perhaps through questions and answer sessions or through interactive teaching.

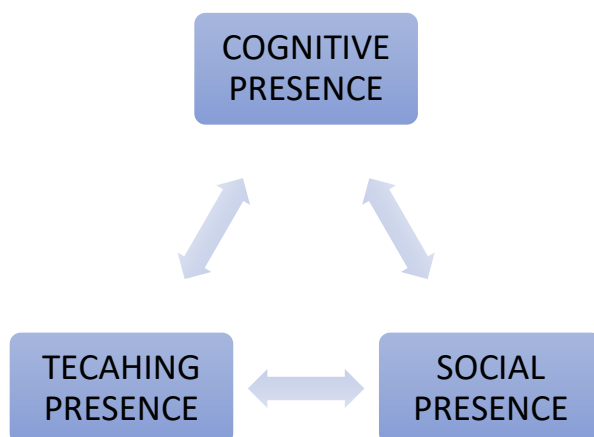


Figure 1- Conceptual Framework of the Study- Relationship between types of Online Presence in Group Work

**Methodology**

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 331 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Aderibigbe (2021) to reveal the variables in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 8 items on cognitive presence. Section C has 8 items on social presence while section D has 8 items on teaching presence.

Table 1  
*Distribution of Items in the Survey*

SECTION	ELEMENTS	NO.OF ITEMS
B	COGNITIVE PRESENCE	8
C	SOCIAL PRESENCE	8
D	TEACHING PRESENCE	8
		24

Table 2  
*Reliability of Survey*

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.906	24

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .906, 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

#### Findings for Demographic Profile

##### Q1 Gender

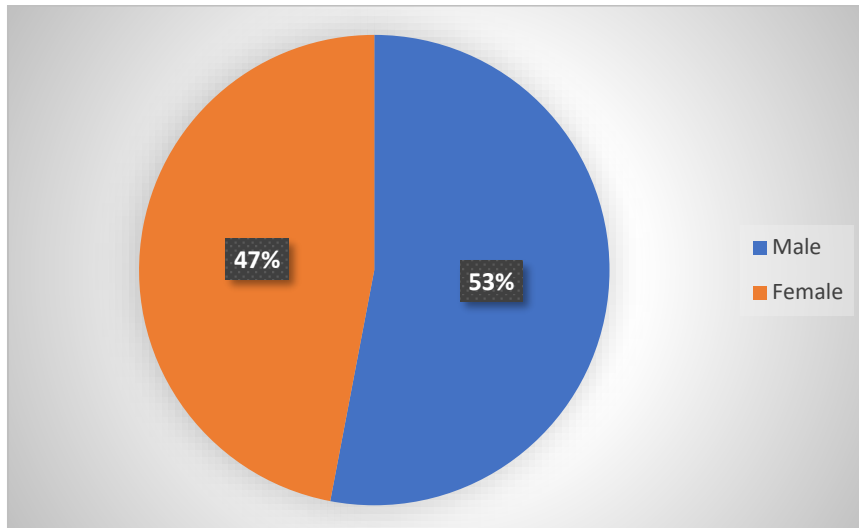


Figure 1 -Percentage for Gender

Figure 1 shows the percentage of gender. Data revealed that the respondents were made up of 53% male and 47% female.

##### Q2 Age Group

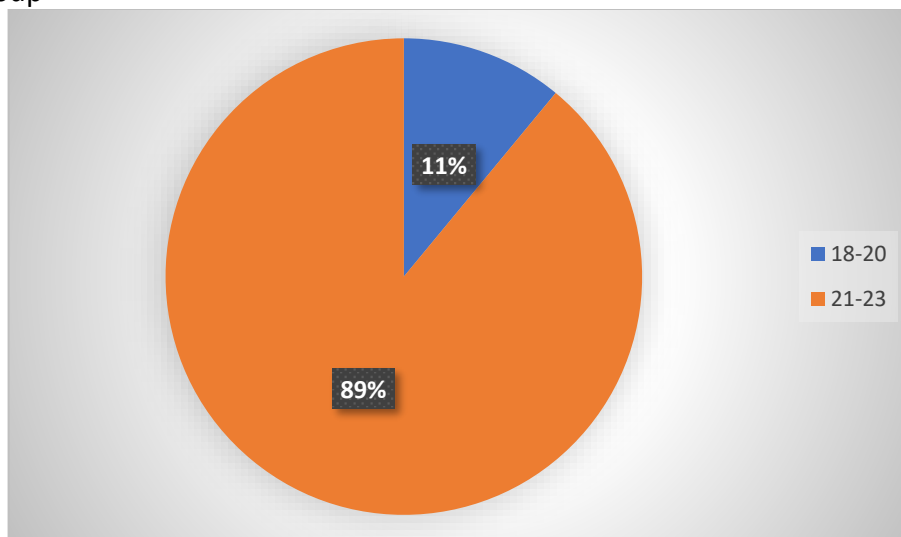


Figure 2 -Percentage for Age Group

Figure 2 shows the percentage of age groups. Data revealed that 89% of the respondents were within the age range of 21-23 years and 11% of the respondents were within the age range of 18-20.

Q3 Faculty

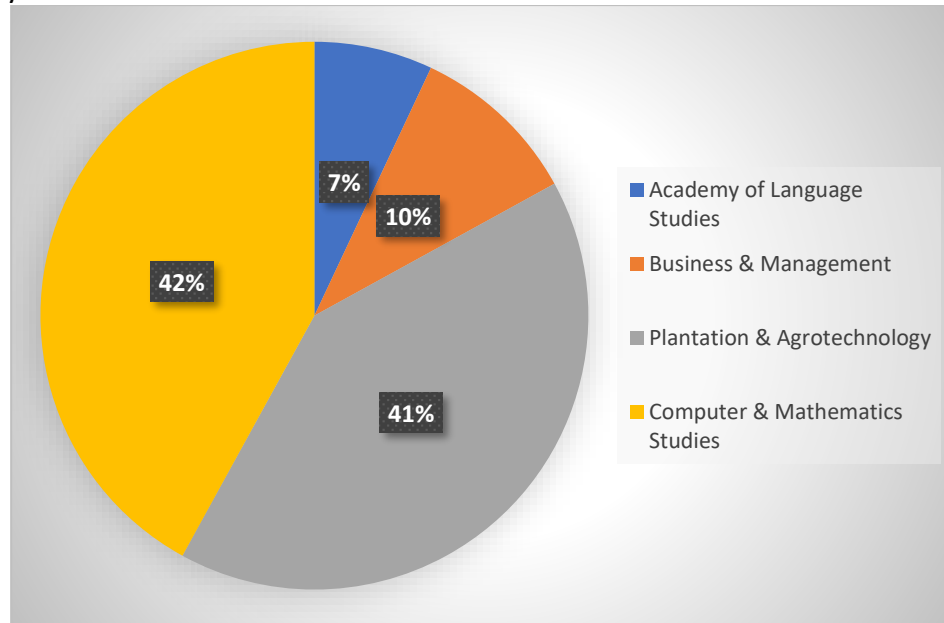


Figure 3 -Percentage for Faculty

Figure 3 shows the percentage for faculty. Data revealed that 42% of the respondents were from the faculty of Computer and Mathematical Studies, 41% were students of Plantation and Agrotechnology, 10% of the respondents are students of the Business and Management Faculty and only 7% of the respondents were from the Academy of Language Studies.

*Findings for Cognitive presence*

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

Cognitive Presence

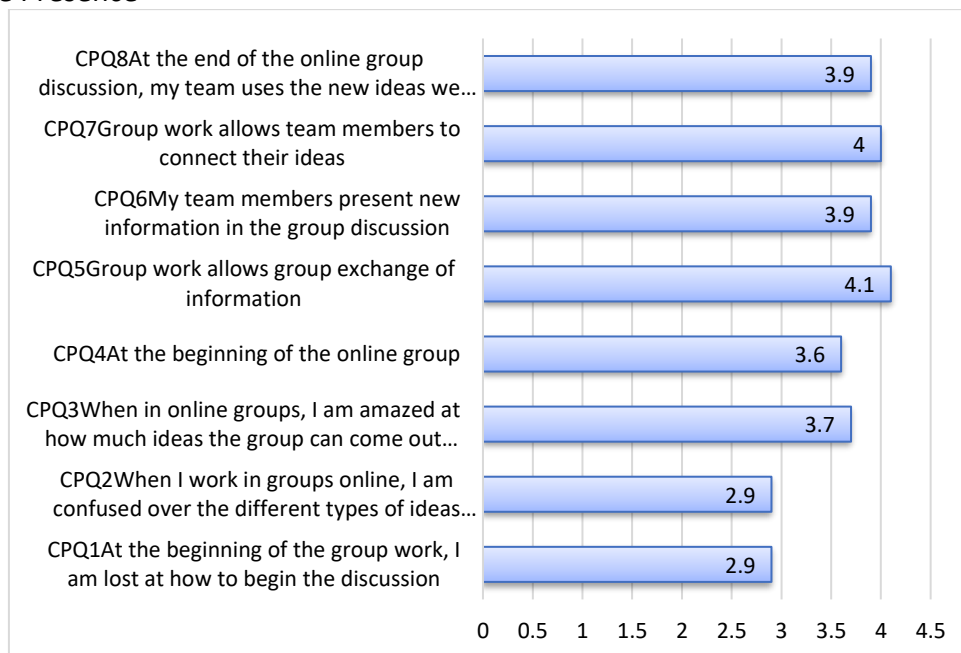


Figure 4: Mean for Cognitive Presence

When asked if group work allows group exchange of information, the majority of respondents -with a mean score of 4.1 – revealed that they frequently think that group work allows them to be able to share each other’s ideas and knowledge. With a mean score of 4, the second highest, the respondents consider that group work allows team members to connect ideas. Respondents believed they rarely felt lost at how to begin the discussion at the beginning of the group and also confused over the different types of ideas discussed when working in groups online in which both with the mean score 2.9.

### *Findings for Social presence*

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

### Social Presence

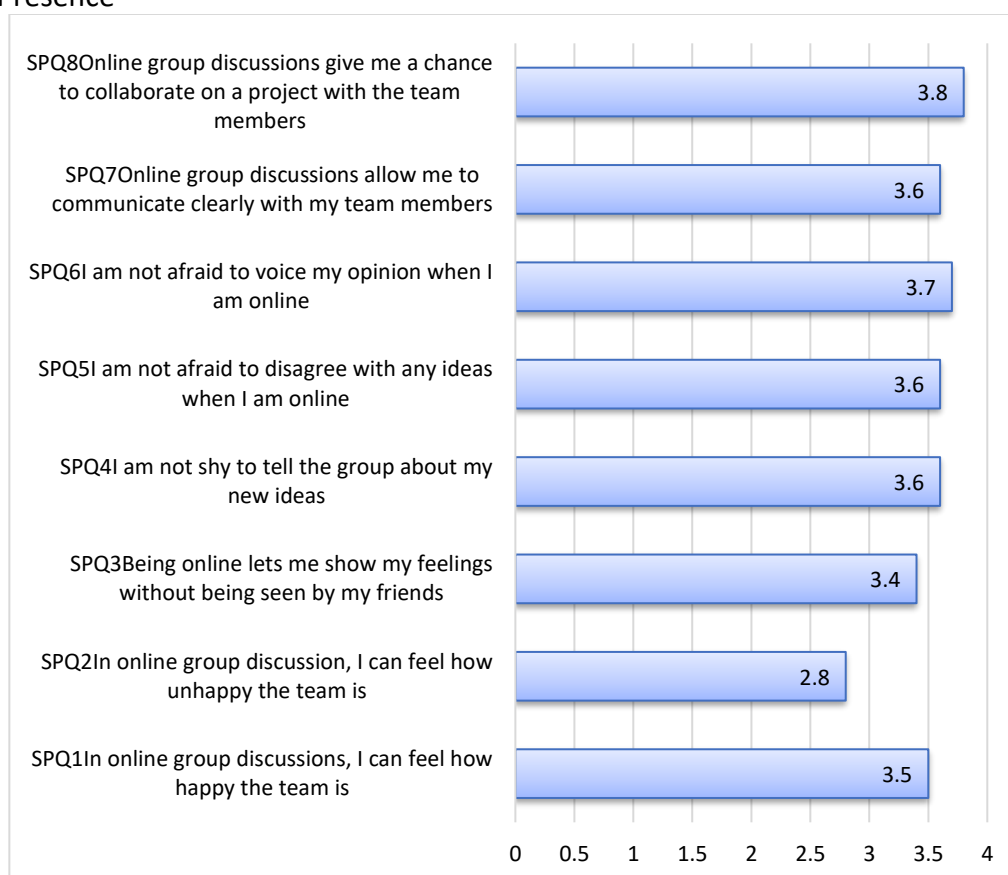


Figure 5: Mean for Social Presence

From these results, most of the respondents agreed that there is an enhanced opportunity to work together with team members to complete a given task with a mean score of 3.8. They also agreed that there is strong intra-group emotional support given by team members with a mean score of 3.7 to share their ideas. The study found that there was a high collaboration amongst students in their respective groups. Thus, collaborative learning can be seen as an agent for promoting group discussion. This explains why most of the respondents were content to have online group work which is reflected in the low mean score of 2.8 for item SPQ1.



*Findings for Teacher Presence*

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

Teaching Presence

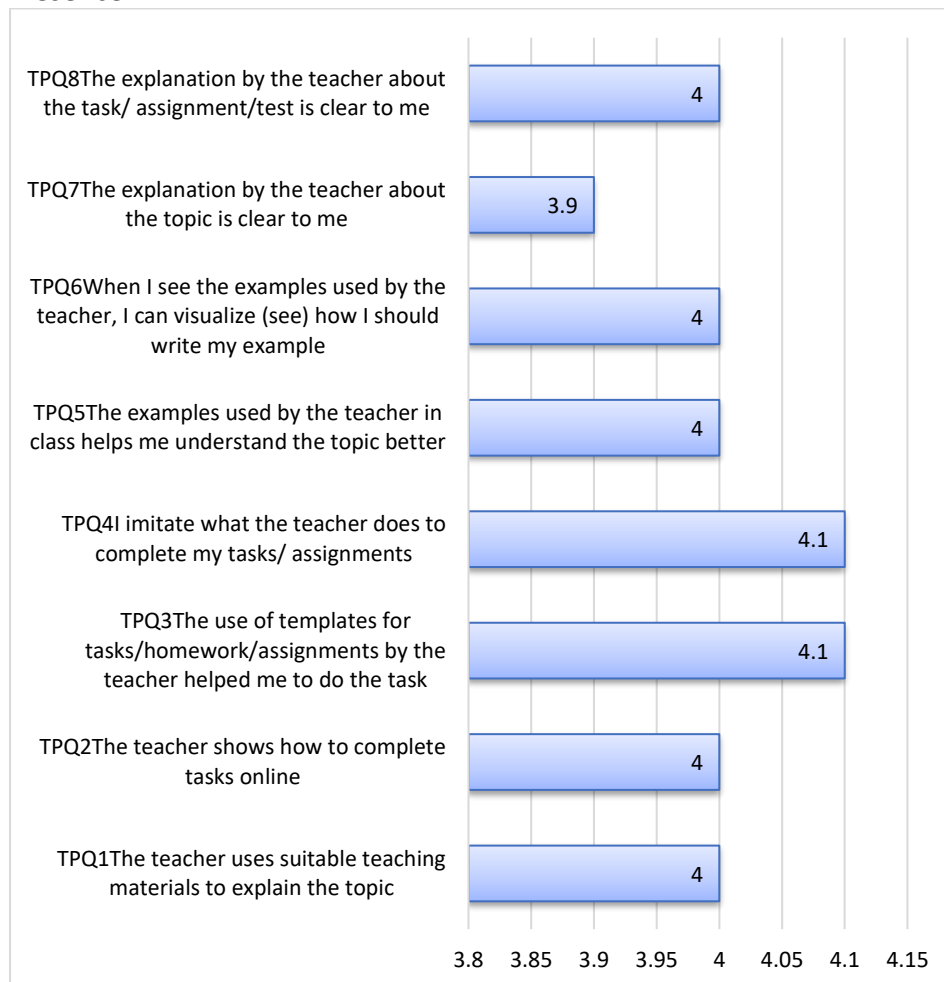


Figure 6: Mean for Teaching Presence

Results indicated that the respondents very strongly agreed that there is a high level of instructor’s assistance in the online collaborative learning with 4.1 mean score for both useful samples given to help them complete given tasks and they are able to follow the guideline given by instructor. They also agreed that the instructor's explanation on topics covered in class is clear and very useful for them to achieve their learning goals with a mean score of 3.9.

*Findings for Relationship between types of presence in online group work*

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

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social and affective strategies data is analysed using SPSS for correlations. Results are presented separately in table 3, 4, 5 and 6 below.

Table 3  
Correlation between Cognitive and Social presence

### Correlations

		TOTALMEAN COGNITIVE	TOTALMEAN SOCIAL
TOTALMEANCOGNITIVE	Pearson Correlation	1	.546**
	Sig. (2-tailed)		.000
	N	331	331
TOTALMEANSOCIAL	Pearson Correlation	.546**	1
	Sig. (2-tailed)	.000	
	N	331	331

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

Table 3 shows there is an association between cognitive and social presence. Correlation analysis shows that there is a high significant association between cognitive and social presence ( $r=.546^{**}$ ) 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 presence.

Table 4  
Correlation between Cognitive and Teaching Presence

### Correlations

		TOTALMEAN COGNITIVE	TOTALMEAN TEACHING
TOTALMEANCOGNITIVE	Pearson Correlation	1	.522**
	Sig. (2-tailed)		.000
	N	331	331
TOTALMEANTEACHING	Pearson Correlation	.522**	1
	Sig. (2-tailed)	.000	
	N	331	331

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

Table 4 shows there is an association between cognitive and teaching presence. Correlation analysis shows that there is a high significant association between cognitive and teaching presence ( $r=.522^{**}$ ) 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 teaching presence.

Table 5

*Correlation between Social and Teaching Presence***Correlations**

		TOTALMEAN SOCIAL	TOTALMEAN TEACHING
TOTALMEANSOCIAL	Pearson Correlation	1	.508**
	Sig. (2-tailed)		.000
	N	331	331
TOTALMEANTEACHING	Pearson Correlation	.508**	1
	Sig. (2-tailed)	.000	
	N	331	331

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

Table 5 shows there is an association between social and teaching presence. Correlation analysis shows that there is a high significant association between social and teaching presence ( $r=.508^{**}$ ) 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 social and teaching presence.

**Conclusion***Summary of Findings and Discussions*

The findings from this study show that cognitive presence, social presence and teacher presence are three core elements needed during online group work. For cognitive presence, the majority of respondents revealed that they frequently think that group work allows them to be able to share each other's ideas and knowledge. This proves that cognitive presence is an essential requirement in ensuring the work quality of the online group work as it allows for students to collaboratively form knowledge positively with each other (Sadaf et al., 2021). As for social presence, most of the respondents agreed that there is an enhanced opportunity to work together with team members to complete a given task. One concept that has been explored in relation to the quality of the online learning experience is social presence, the degree to which a person is perceived as "real" in mediated communication (Cobb, 2009). As for teacher presence, the majority of the respondents very strongly agreed that there is a high level of instructor's assistance needed in the online collaborative learning to aid in their learning. Having a teacher present during online group work gives a stronger reassurance as the role of the teacher is to monitor the discussions and providing a conducive and supportive environment for students to feel comfortable when doing work, as well as providing necessary feedback to improve the student's learning process (Kilis & Yildirim, 2019).

It can be concluded that there is a significantly strong positive relationship between all three presences when students engage in online group work. In an overlapping, interconnected manner, the cognitive, social and teaching presences assist students develop strong senses of community to support their individualised learning which enhances their motivation. These findings contribute to the literature on the importance of cognitive, social and teacher presences during online group work. The results also provide valuable insights

that can assist education policy makers as well as educational practitioners on how to make online group work more meaningful and beneficial to the learning and teaching sessions. Apart from that, this research further adds to the improvement of tackling students during online group work as well as aid in the probability of the three presence to be further developed and facilitated in the future. Hence, it is recommended for students and teachers to acknowledge and perceive these three elements as crucial when engaging in online group work as they are able to facilitate better results and productivity during teaching and learning.

#### *(Pedagogical) Implications and Suggestions for Future Research*

The study highlights several implications for future research. Now that the findings show strong association between the three presence, it is recommended for future researchers to focus on identifying other logical presence, if any, to improve online group work. It is hoped more researchers will use the findings of this research as a stepping stone to initiate more studies on the possibility of other presence apart from cognitive, social and teacher presences. Also, future studies should look into the effectiveness of each element in great detail to provide better understanding on their specific roles during online group work. Furthermore, future researchers could look into exploring the relationship between the presence of the three elements during online group work and how they are interconnected. Other methods of collecting data could also be considered to produce a more comprehensive understanding towards the effectiveness of cognitive, social and teacher presence during online group work.

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