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Online Group Interactions in Online Classrooms: Does Experience Matter?

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Abstract

Group work has found to be a useful tool for teaching especially in the traditional classroom. Students learn to assimilate disparate ideas and merge them into a single solution, while simultaneously learning to work and communicate within a group in a constructivist environment. Group work can improve cognitive learning among its students. However, the online classroom has made group work more challenging. Thus, this study investigates the experiences of learners from different levels of study in online group work. In addition to that, some learners had more experience being in online classes than their peers and that can be of some difference. Three aspects were reviewed in terms of teaching presence, social presence, and cognitive presence. Specifically, this study is done to explore group interactions during online learning across experience. 175 respondents were purposively chosen to answer the survey. The survey has 4 main sections. Section A has items on the demographic profile. Section B has 8 items on teaching presence. Section C has 8 items on social presence and section D has 8 items on cognitive presence. A general overview of the findings reveals the importance of having more experience in the online class environment in order to gain most of what is taught. Findings for each of type of the presence bear interesting implications for the teaching of learning of online classes using group work approach.

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

Introduction

Background of Study

Group work has found to be a useful tool for teaching since in the traditional classroom. Students learn to assimilate disparate ideas and merge them into a single solution, while simultaneously learning to work and communicate within a group in a constructivist environment (Tarricone & Luca, 2002). Group work can improve cognitive learning among its students. It not only gives practical experience and grant students to practice the concepts they have learned, but also teach the students creative construction and group dynamics (Ekblaw, 2016). Thus, students prefer to work in groups rather than individually as they believe that collaborative learning encourages everyone to work best with others and enhances socialization among members (Ghavifekr, 2020).

Due to COVID-19 related constraints, teachers around the world were forced to adapt their teaching to online, remote settings during the pandemic. Diverse new teaching and learning methods were introduced to achieve the best result of online learning. This study took place in a public university in Malaysia which had also implemented the online learning since pandemic in 2020. Online group work is one of the most popular approaches in the language teaching of the university, it can help develop many interpersonal and transferable communication skills. In this study, the students' experience with online group work varied, as their level of study ranged from less than a year to more than a year. The level of engagement and acceptance of online group work methods also varied according to the different levels of study.

The study provides an overview of the effect of online experience on group interaction in online classrooms, it allows instructors to design instruction accordingly to achieve their online teaching aims.

Statement of Problem

Ideally, group work is a frequently used strategy in online learning, as it gives collaborative nature and constructivist framework (Bates & Poole, 2003; Garrison & Anderson, 2003; Jonassen, 2005). In this situation, collaborative learning processes are greatly dependent on the interactions that are built up among the participants. The types of interactions that occur within such groups can impact their knowledge convergence processes and are often influential for its success. The success of a group is highly dependent on their patterns of work, characterized by negotiation, research, conception and production. Besides, patterns of work make decisive contributions for the participants' shared knowledge and knowledge convergence (Oliveira et al., 2011).

However, conflicts in group discussions occur when team members cannot talk about different ideas, or even listen to different opinions (Sim et al., 2021; Rahmat, 2020). Many instructors believe that it is difficult to properly implement group projects and teamwork when the participants are scattered geographically and unable to meet face-to-face (Whatley et al., 2001). The study of Chang and Kang (2016) reported that online group work can be complicated because of its asynchronous characteristics and lack of physical presence, and its demand for skills in handling technology, human relationships, and content-related tasks.

Therefore, Chang and Kang (2016) suggested that instructors split group work into individual portions, use peer evaluation, establish guidelines for communication, use tools such as Google Drive to streamline duplicate works, monitor the process of the group work, and give group members freedom, ownership, and autonomy in their group work. Ekblaw (2016) also examined and determined the best methods of supporting effective teamwork in online group projects. However, when learners do not express their feelings, opinions, and situation, this can create serious obstacles to communication. These challenges should be addressed to improve the quality of learning and enhance students' satisfaction with online group work experiences (Koh & Hill, 2009).

Thus, this study investigates the experiences of learners from different levels of study in online group work. Three aspects were reviewed in terms of teaching presence, social

presence, and cognitive presence. Comparing the experiences gained by learners will help to enhance the implementation of online group work.

Objective of the Study and Research Question

This study is done to explore group interactions during online learning. Specifically, this study is done to answer the questions below:

- How is teaching presence portrayed during online group interactions?
- How is social presence portrayed during online group interactions?
- How is cognitive presence portrayed during online group interactions?

Literature Review

Introduction

This part includes online learning theory, advantages and disadvantages of online learning, experience with online learning, past studies on online engagement, past studies on group work online and conceptual framework.

Online Learning

Hrastinski (2009) suggested an initial theory of online learning. It is argued that online learner participation (1) is a complex process of taking part and maintaining relations with others, (2) is supported by physical and psychological tools, (3) is not synonymous with talking or writing, and (4) is supported by all kinds of engaging activities. Participation and learning are inseparable and co-constitutive. The implication of the theory is simple: if we are to enhance online learning, we need to increase the participation of online learners.

However, positive and negative views have emerged about online learning. Dhawan (2020) believed the online learning provides advantages in independent learning and developing new skills in the process leading to life-long learning. Watermeyer et al (2021) observed the online migration as a digital renaissance and an unparalleled opportunity for teachers' pedagogical reinvention and reflective practice, which brought about enhancement of digital competence and personality, such as growing humility, empathy, optimism, and resilience. The universities also gain benefits through the implementation of online learning as it is more cost effective with a large audience and no necessities of physical infrastructure (Misko et al., 2004).

In contrast, the negative perception (Yandell, 2020; Moser et al., 2021) saw the swift online migration as a disorienting and even an unpleasant experience despite teachers' plentiful adjustments to policies and expectations. The teachers faced hardship in preparing materials for the online method, which is a very time-consuming process. Also, the online learning become challenging tasks in assisting the students in accessing the learning materials as online learning requires less supervision (Selvanathan et al., 2020). Deng and Sun (2022) studied the adversity of 220 underserved students in online distance education at a minority-serving institution in the United States. The study demonstrated six major barriers to e-learning: technical, cultural, environmental, balance, social, and financial barriers, and identified new underlying dimensions. Besides, the study found that technical barriers are often coupled with other types of barriers and underserved students are more likely to experience multiple learning barriers.

Experience with Online Learning

The introduction of the World Wide Web in the early 1990s has given rise to an increased use of web-based tools in the delivery of education. Sheriff (2012) studied the degree of familiarity of academic staff and students with information technology (IT) and Web 2.0 applications and examined the relationship between technology and pedagogy. A combination of qualitative and quantitative methodologies has been adopted. Online questionnaires were completed by 22 members of academic staff and 107 students from the University of Bradford's School of Engineering, Design and Technology. Interviews with university staff and the undergraduate students supplemented the questionnaires. The results show that technology is well understood and used by both academic staff and students, with certain Web 2.0 applications (particularly social networking) being widely used by students, but less so by academic staff. Overall, technology is largely seen as a positive contribution to the learning experience.

The COVID-19 pandemic outbreak triggered many emergency adaptation measures in many countries, which had to suddenly adopt exclusive distance learning methods without adequate preparation. Yan et al (2021) studied how Chinese students at different stages of their K-12 education reacted to the mandatory full-time online learning during the COVID-19 pandemic. The researchers conducted a province-wide survey study in which the online learning experience of 1,170,769 Chinese students was collected from the Guangdong Province of China. They performed cross-tabulation and Chi-square analysis to compare students' online learning conditions, experiences, and expectations. The results of this research study show that students' online learning experiences differ markedly from one academic year to the next.

Hjiej et al (2022) conducted a study in Morocco to assess the engagement of medical students in their acutely implemented distance learning and to identify factors that may be associated with students' levels of engagement in learning. 3174 medical students took part in the study, with a mean age of 20.4 +/- 1.8 years old, and 65.4% of them were women. 90% of the participants reported moderate to drastic change of their sleeping habits and 65% suffered depression symptoms. 20.7% of students didn't engage at all in their learning, 26% studied for less than one hour daily, and only 53.3% studied for one hour or more daily. Only 46.4% of the participants had access to multimedia studying resources and only 20.9% were offered online interactive sessions with their teachers. 41.8% of the participants were unsatisfied from their distant learning experience. Lower learning participation rates were significantly associated with older age, male gender, changes in sleep patterns, depressive symptoms, lack of multimedia learning resources and poor overall satisfaction with the distance learning experience.

Mostafa et al (2022) integrated extensive data from students' institutional records at a large Historically Black College and University (HBCU) institution with data from a students' survey about the impact of COVID-19 on learning during the Spring 2020 semester to examine the impact of the transition to emergency remote instruction (ERI) on students' performance and identify the key factors explaining changes in students' performance. The main findings of the analysis were: (a) students' university experience was positively correlated with performance (continuing students who spent at least one academic year at the university prior to the outbreak had better performance than freshman and new transfer students), (b)

students' perceived change in performance after the transition was positively correlated with actual performance (students who perceived a decline in their performance after transition to ERI had significantly worse performance than other students), and (c) students' prior online learning experiences and students' emotional experiences with the COVID-19 disease were not significantly associated with performance. These results suggest that the approaches adopted by higher education institutions to support students during times of crisis should pay special attention to certain groups of students.

Past Studies

Past Studies on Language learning and online engagement

In a study of Han et al (2021), the researchers examined the sustainable development of university EFL learners regarding their engagement, satisfaction, and self-efficacy in online learning environments during the outbreak of COVID-19. In a questionnaire survey with a sample of 428 Chinese undergraduate EFL learners, the students disclosed positive view of online learning environments and subjective learning outcomes. Behavioral engagement was positively connected with involvement. Emotional engagement was positively connected with student cohesiveness and negatively connected with teacher support. Satisfaction was not related to any of the learning environment factors. Self-efficacy mediated the effect of student cohesiveness and student involvement on behavioral engagement, emotional engagement, and satisfaction. The findings have implications for producing a sustainable online learning environment and elevating EFL learners' sustainable development.

Wei (2021) revealed that currently universities and colleges are looking for innovative approaches to effective teaching in the translation process which can not only strengthen students' engagement but build up the interactions between instructors and learners as well. As the accessibility of web-centred pedagogical knowledge expands, translation teaching from the perspective of computer-assisted instruction and online platforms have flourished. Flipped classroom (FC) is one of these new approaches used in higher education nowadays which can attract learners' attention. This study explores its effects on students' engagement and teacher-student interaction in translation classes. The researcher suggested that in the time of pandemic worldwide, EFL teachers should adapt to FC online teaching and focus on EFL learners' adaptation to flipped learning style.

Ruiz-Alonso-Bartol et al (2022) examined students' experiences during the Emergency Online Transition of Spring 2020 in a Spanish language program at a large public university in the United States. The findings proved that students' overall stress levels reduced from beginning to end of the academic term but that individual experiences were extremely varied. While some students enjoyed the expanded autonomy and self-paced learning chances of the online format, others felt distressed in this less directed method and pointed out the negative effect of diminished social interactions on their levels of engagement. Only few students declared technological difficulties as a main challenge in their learning process, but many believed that they had learned less than in traditional face-to-face courses. Instructors' views differed in this respect, as they considered that the smaller group-size of synchronous Zoom sessions allowed them to hear more of each student, which they saw as evidence of increased student talk as compared to the usual whole-class face-to-face sessions.

Ironsi (2022) investigated the perceptions of preservice teacher and language instructors on the use of Google Meet (GM) as a synchronous language learning tool for a distant online program in Cyprus. A quantitative research design was used for this study. The study was able to highlight the use of GM could be very effective if it is well managed by the teachers to motivate student engagement during lessons. However, the study demonstrated that the unavailability of internet data, poor internet connection are possible constraints to the efficiency of GM.

Past Studies on Group Work Online

The study by Elshami et al (2020) was done to identify factors that affect students' and faculty's satisfaction on online learning. 370 students and 81 faculty staff responded to and questionnaires. The questionnaires included closed and open-ended questions. The questions were organised into two parts: socio-demographic information and satisfaction with online learning. Descriptive statistics were used to analyse the responses to the satisfaction scales. Data was analysed using thematic analysis method. The response rate was 97.8% for students and 86.4% for faculty. Findings showed that the overall satisfaction among students was 41.3% compared to 74.3% for faculty. The highest areas of satisfaction for students were communication and flexibility, whereas 92.9% of faculty were satisfied with students' enthusiasm for online learning. Technical problems led to reduced student satisfaction, while faculty were hampered by the higher workload and the required time to prepare the teaching and assessment materials.

Another study was done by Kemp and Grieve (2014) to compare undergraduates' preference for, and academic performance on, class material and assessment online versus in traditional classrooms. 67 psychology students at an Australian university completed completed written exercises, a class discussion, and a written test on two academic topics. The activities for one topic were conducted face-to-face, and the other online. The results showed that students preferred to complete activities face-to-face rather than online, but there was no significant difference in their test performance. In their written responses, students expressed a strong preference for class discussions to be conducted face-to-face, reporting that they felt more engaged, and received more immediate feedback, than in online discussion

Conceptual Framework

This study is adapted from the study by (Aderibigbe, 2021). Figure 2 illustrates the conceptual framework of this study. Originally, Aderibigbe (2021) states that group work online need to allow learners to feel the teacher's presence, they also need to gain social and cognitive presence. In the context of this study, there is a need to look at if there are difference for these three types of presence if learners have different online experience.

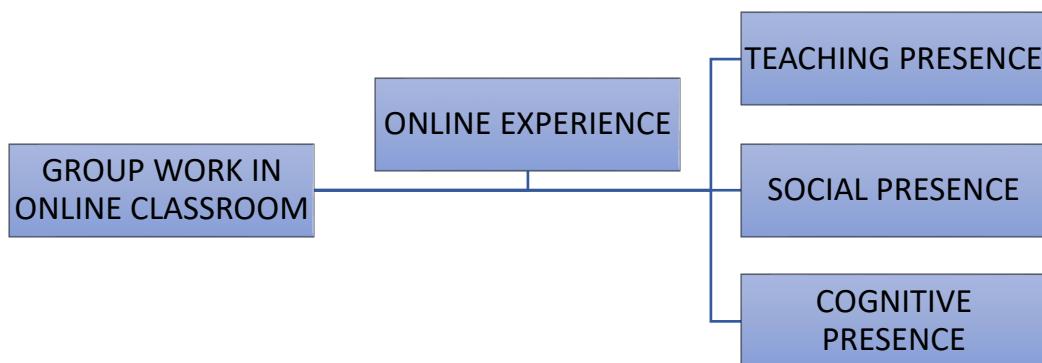


Figure 2- Conceptual Framework of the Study- Group Work in Online Classroom

Methodology

This quantitative research is done to investigate group interactions during online learning. The instrument used is a survey adapted from (Aderibigbe, 2021). 175 respondents were purposively chosen to answer the survey. The survey has 4 main sections. With reference to Table 1, section A has items on the demographic profile. Section B has 8 items on teaching presence. Section C has 8 items on social presence and section D has 8 items on cognitive presence.

Table 1

Distribution of Items in the Survey

A	DEMOGRAPHIC PROFILE			
B	TEACHING PRESENCE	(a)	Instructional Management	4
		(b)	Building Understanding	2
		(c)	Direct Instruction	2
C	SOCIAL PRESENCE	(a)	Emotional Expression	2
		(b)	Open Communication	4
		(c)	Group Communication	2
D	COGNITIVE PRESENCE	(a)	Triggering Events	4
		(b)	Exploration	2
		(c)	Integration	1
		(d)	Resolution	1
				24

Table 2

Reliability Statistics of the Instrument

Reliability Statistics	
Cronbach's Alpha	N of Items
.872	24

Table 2 presents the reliability statistics for the instrument. SPSS analysis revealed a Cronbach alpha of .872 thus showing a high internal reliability of the instrument used. Data is collected online via goggle form. Data is then analysed using SPSS version 26. Analysed data is presented in the form of percentages and mean scores to answer the 2 research questions.

Findings

Findings for Demographic Profile

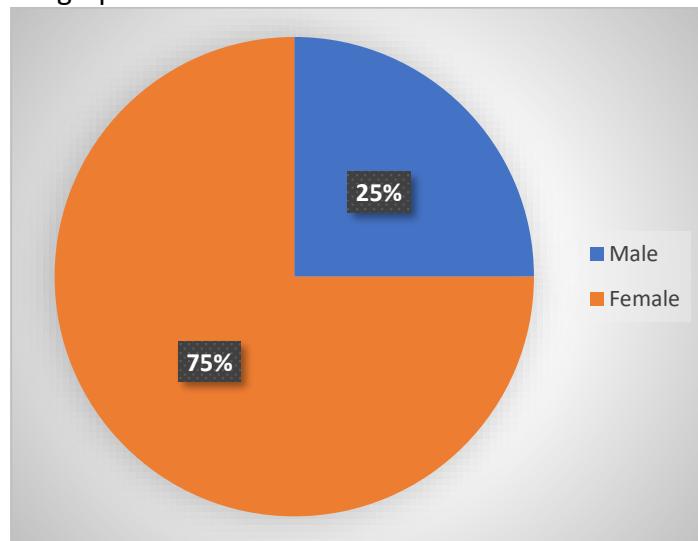


Figure 2- Percentage for Gender

Data (refer to figure 2) were collected from 175 respondents in the university. Out of 175 respondents, there were 44 (25.0%) male and 131 (75.0%) female.

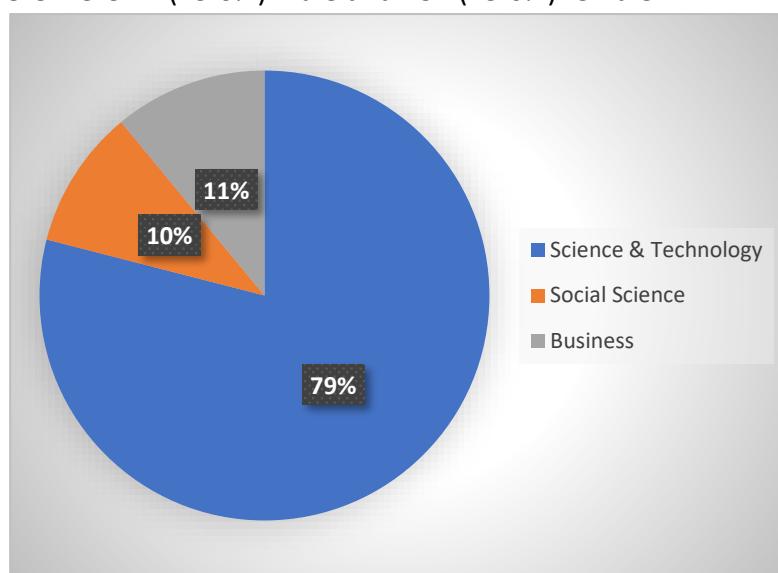


Figure 3- Percentage for Cluster

Based on the data in figure 3 above, 138 (79.0%) of the respondents were from Science & Technology cluster, 18 (10.0%) from Social Science cluster, and 19 (11.0%) from Business cluster.

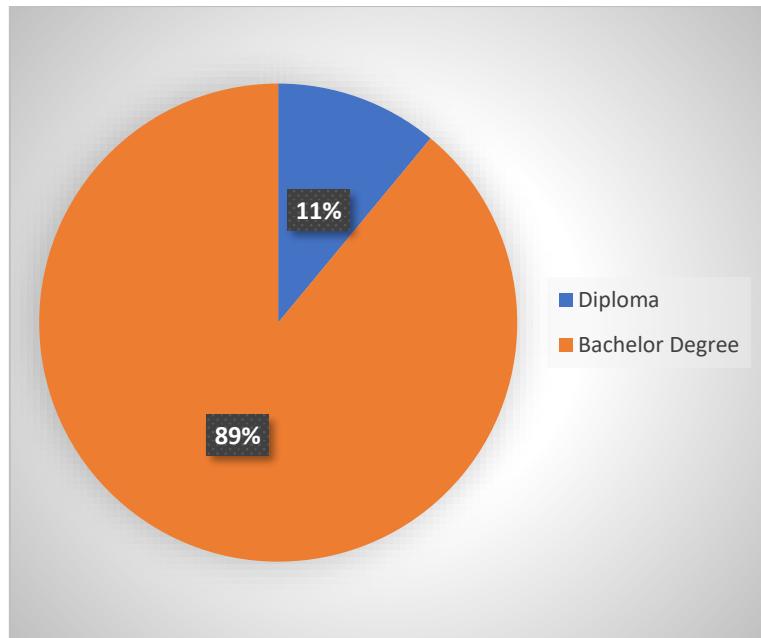


Figure 4- percentage for Level of Study

Based on figure 4, the respondents of this study were 19 (11.0%) students pursuing their diploma studies, and 156 (89.0%) students pursuing their degree studies.

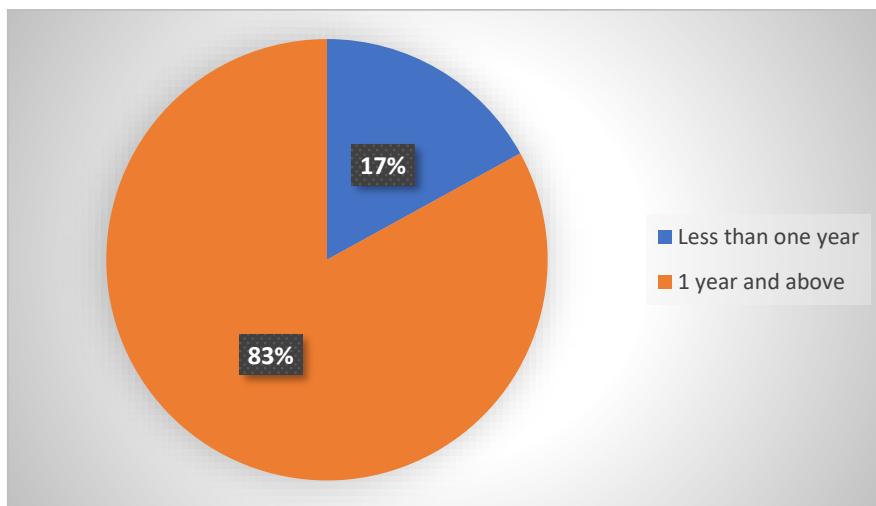


Figure 5- Percentage for Online Learning Experience

With reference to Figure 5, 145 (83.0%) of the respondents have more than one year experience engaging in online learning. The remaining 30 (17.0%) of the respondents have less than one-year online learning experience.

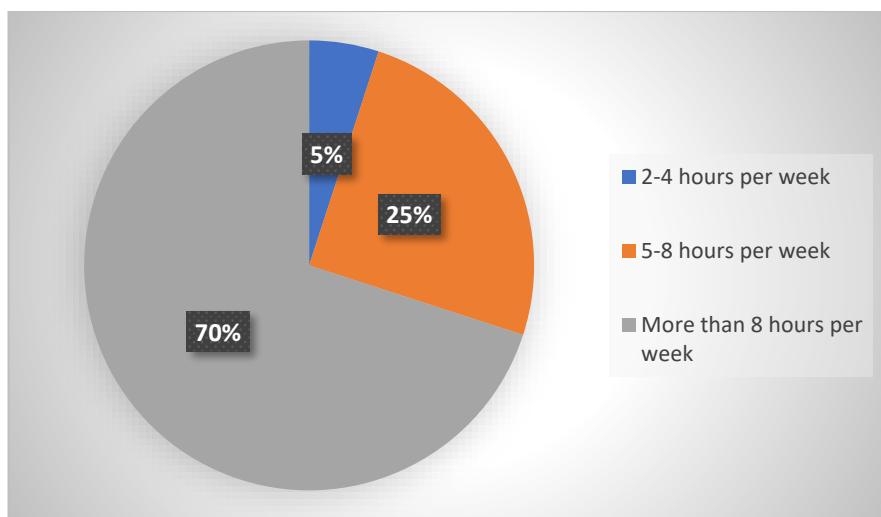


Figure 7-Percentage for Duration of online learning per week

With reference to figure 6, regarding the duration of online learning, 122 (70.0%) of the respondents spent more than 8 hours, 44 (25.0%) of the respondents spent 5-8 hours and 9 (5.0%) of the respondents spent 2-4 hours per week.

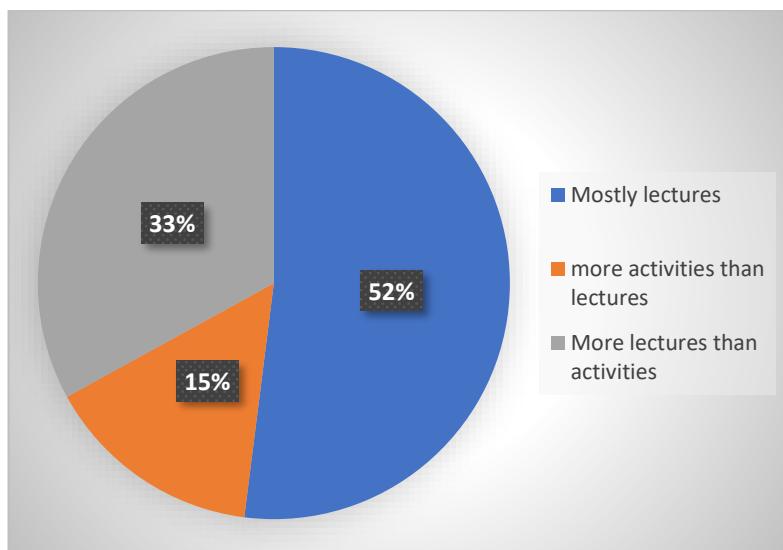


Figure 7- Percentage for Online Activities

With reference to figure 7, more than half of the respondents (52.0%) claimed that the online activities was mostly lectures. 58 (33%) of them asserted that they experienced more lectures than activities. On the contrary, 26 (15%) of the respondents declared that they engaged in more activities than lectures.

Findings for Teaching Presence

This section presents data to answer research question 1: How is teaching presence portrayed during online group interactions? Teaching presence is achieved through (a) instructional management (defining and initiating discussion topic), (b) building understanding (sharing personal meaning), and (c) direct instruction (focusing discussion).

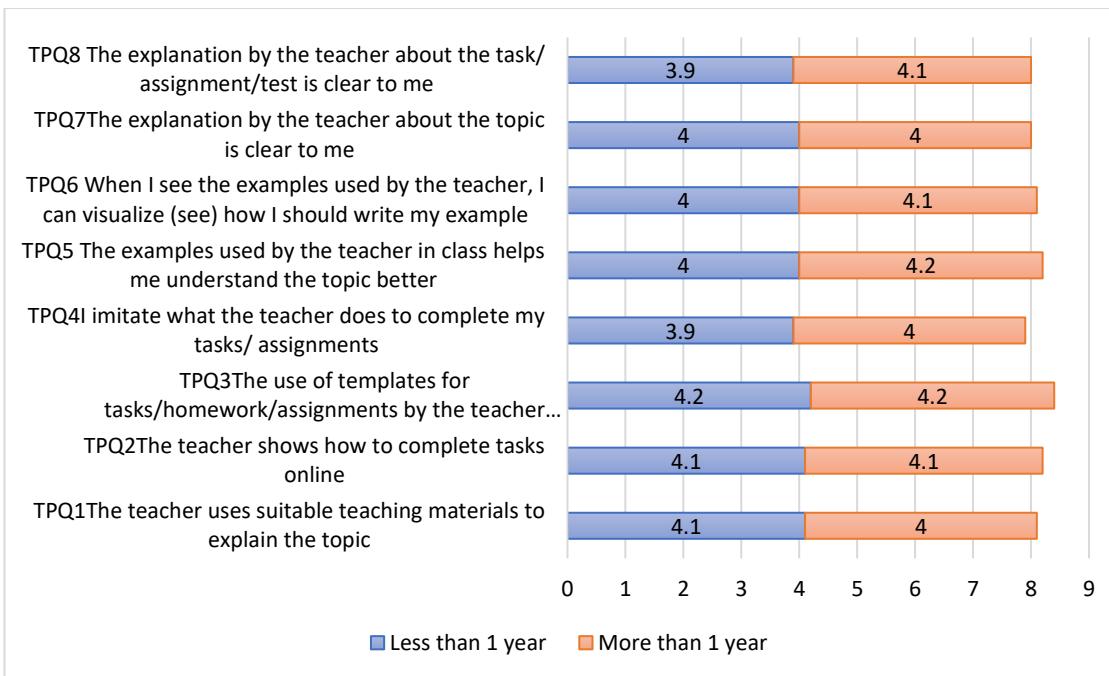


Figure 8- Mean for Teaching Presence

The mean (refer to figure 8) for those with more than one year experience is higher for three items and they are item on “The examples used by the teacher in class helps me understand the topic better” (more than one year mean =4.2; less than one year mean= 4). This is also for “When I see the examples used by the teacher, I can visualize (see) how I should write my example” (more than one year mean= 4.1; less than one year mean= 4) and also “The explanation by the teacher about the task/ assignment/test is clear to me” (more than one year mean=4.1; less than one year mean=3.9).

Findings for Social Presence

This section answers research question 2: How is social presence portrayed during online group interactions? Social presence is achieved through (a) emotional expression (emotions), (b) open communication (risk-free expressions), and (c) group communication (encouraging collaboration).

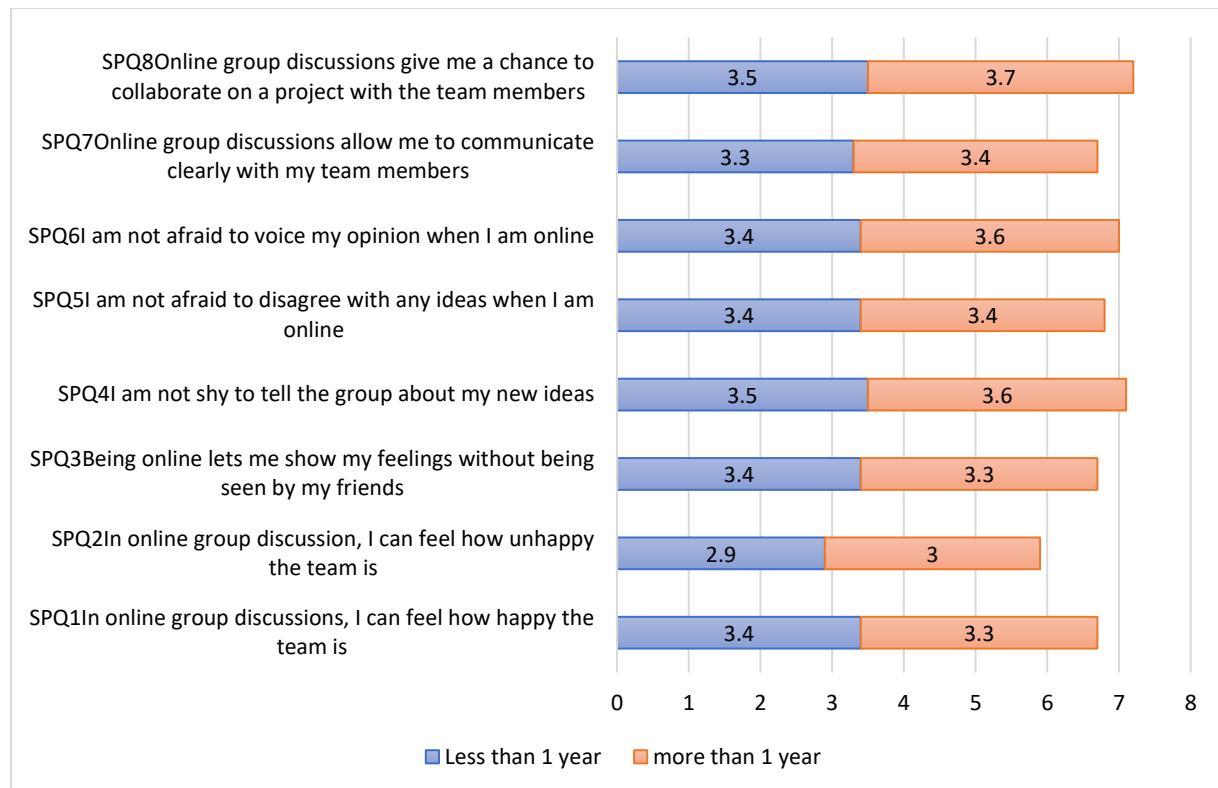


Figure 9- Mean for Social Presence

With reference to figure 9, for item number 2, the mean for those who has more than one year experience is higher (3.0) compared to those who have less than 1 year experience (2.9). In online group discussion, the more experienced respondents admitted that they can feel how unhappy the team was. For item number 4, the mean for those who have more than one year experience is higher (3.6) compared to those who have less than 1 year experience (3.5), that means the more experienced respondents were not shy to tell the group about their new ideas. For item number 6, the mean for those who has more than one year experience is higher (3.6) compared to those who have less than 1 year experience (3.4). The more experienced respondents were not afraid to voice their opinion when they are online. For item number 7, the mean for those who has more than one year experience is higher (3.4) compared to those who have less than 1 year experience (3.3). The more experienced respondents agreed that online group discussions allowed them to communicate clearly with their team members. For item number 8, the mean for those who has more than one year experience is higher (3.7) compared to those who have less than 1 year experience (3.5). The more experienced respondents asserted that online group discussions gave them a chance to collaborate on a project with the team members.

Findings for Cognitive Presence

This section presents data to answer research question 3: How is cognitive presence portrayed during online group interactions? Cognitive presence is achieved through (a) triggering event (sense of puzzlement), (b) exploration (information exchange) and (c) integration (connecting ideas), and (d) resolution (apply new ideas).

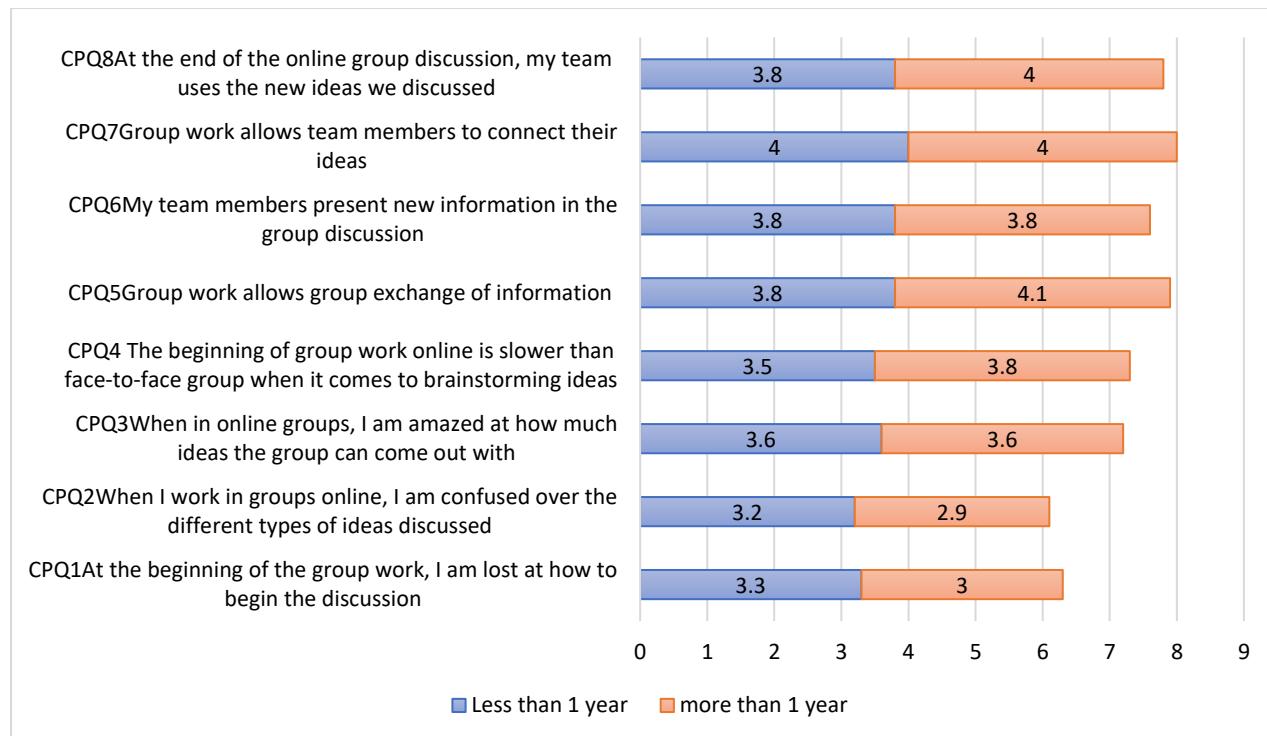


Figure 10- mean for Cognitive Presence

With reference to figure 10, for item number 4, the mean for those who has more than one year experience is higher (3.8) compared to those who have less than 1 year experience (3.5). The more experienced respondents claimed that the beginning of group work online was slower than face-to-face group when it came to brainstorming ideas. For item number 5, the mean for those who have more than one year experience is higher (4.1) compared to those who have less than 1 year experience (3.8), that means the more experienced respondents felt that group work allowed group exchange of information. For item number 8, the mean for those who has more than one year experience is higher (4.0) compared to those who have less than 1 year experience (3.8). The more experienced respondents expressed that at the end of the online group discussion, their team used the new ideas that they had discussed.

Conclusion

Summary of Findings and Discussions

A general overview of the findings reveals the importance of having more experience in the online class environment in order to gain most of what is taught. Generally, those with more experience learning in the online environment would be able to benefit most from the virtual presence of the teacher. The study by Wei (2021) found that learners depended on teacher presence to make sense of the lesson. Next, social presence is easily felt if learners had more experience being in an online environment. Similarly, Han et al (2021) found that social presence is appreciated as learners gain emotional engagement in the interactions. Finally, cognitive presence is more felt by those who had more experience learning in an online environment. Cognitive presence can be more difficult to achieve learners faced technical problems during the lesson. The study by Ironsi (2022); Elshami et.al (2020) also emphasized the need to have technical-worry free during the lessons so learners can concentrate on

improving the cognitive presence of the lesson, otherwise some may prefer face-to-face when it comes to group work (Kemp and Grieve, 2014).

Pedagogical Implications and suggestions for future research

Group work is good; no matter the mode of class; be it face-to-face traditional classrooms or online settings, group interactions are beneficial in many ways. The challenges of group work online far outweigh the benefits. The fact that learners who have had more experience with online learning are able to gain maximum benefits of teacher, social and also cognitive presence, goes to show that online classes are here to stay as positive addition to classroom learning. Future researchers could venture into exploring more online activities that encourage group interactions. Future studies could also be done to look into factors that make-or-break group interactions via online.

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