



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i6/17109>

DOI:10.6007/IJARBSS/v13-i6/17109

Received: 10 April 2023, **Revised:** 12 May 2023, **Accepted:** 26 May 2023

Published Online: 14 June 2023

In-Text Citation: (Mahat et al., 2023)

To Cite this Article: Mahat, A., Ibrahim, N., Michael, Z., Bakar, Z. A., Jama, S. R., Ahmad, N. I. S., & Rahmat, N. H. (2023). Is There a Relationship between Equity with Camaraderie and Achievement in Online Group Work? *International Journal of Academic Research in Business and Social Sciences*, 13(6), 2271 – 2287.

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Vol. 13, No. 6, 2023, Pg. 2271 – 2287

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www.hrmar.com

ISSN: 2222-6990

Is There a Relationship between Equity with Camaraderie and Achievement in Online Group Work?

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Abstract

Collaborative learning in class is common in the teaching and learning process. Considering the flexibility of access to online learning, the majority of tasks involved online group work and required engagement from peers. In addition, commitment from group members is important to make it a success. Thus, further exploration is required to understand how learning occurs in collaborative learning contexts. The present study is done to investigate the relationship between equity with camaraderie and achievement in online group work. Specifically, this study is done to gain insight into learners' perspectives on online group work. The sample consisted of 236 undergraduates from various fields who answered a survey created by the researcher. The survey has 29 items as Section A has items on the demographic profile. Section B with 7 items on equity, Section C has 14 items on camaraderie and Section D has 8 items on achievement. The finding showed that there is a positive relationship between equity and camaraderie. Data further revealed that there is a positive association between camaraderie and achievement. Consequently, the outcomes of this study are relevant for both teachers and learners in online learning as well as proposed research directions and practices in online group work.

Keywords: Online Group work, Equity, Camaraderie, Achievement, Online Learning, Interaction.

Introduction

Background of Study

The shift towards online learning has prompted many educators to incorporate online groups into their classes. There are various universities in Malaysia and around the world that implement online learning for both undergraduates and postgraduates students in their institutions. One of the famous public universities in Malaysia, namely Universiti Teknologi MARA introduced the concept of blended learning by combining face to face and online learning. Although it aims to prepare students for independent learning, there is still a lack of general satisfaction with the theory and practical applications (Seman et al., 2019). Online learning environments are created in a variety of methods that use a range of strategies to fulfill the needs of the students. Many studies on the impact of online learning in education were conducted and both negative and positive attitudes, emotions, and perceptions have been recorded (Drachsler et al., 2021). According to Peacock et al. (2020), they did qualitative research on participation in online learning and found that educator-student relationships are essential so that students feel known "as equal rather than reference numbers" (p. 29). Online peer learning can enhance students' performances and stimulate them to perform better academically (Razak & See, 2010). In line with this finding, the integration of technology in the classroom enables students to have more interaction with their friends virtually. Thus, social collaboration especially in online group work requires students' commitments to make it a success.

Statement of Problem

Lack of communication support in the learning environment is one of the problems in online group work. This study indicates that a learning environment should include adequate communication support, and preferably, communication should be implemented naturally through text, spoken language, visual expressions, or a combination of them (Wang, 2009). Therefore, teamwork that focuses on the concept of togetherness and eliminating competition will have a positive effect on each team member's attitude. The proposed study has the potential to create a more positive learning environment and make teams more productive and respectful towards one another (Sharan, 1980).

Objective of the Study and Research Questions

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

- How do learners' perceive equity in online group work?
- How do learners perceive camaraderie in online group work?
- How do learners perceive achievement in online group work?
- What is the relationship of relationship between equity with camaraderie and achievement in online group work?

Literature Review

Group Work Online

Group work has been a cornerstone of traditional classroom settings for many years, as it has been found to promote collaborative learning and enhance critical thinking, problem solving, and communication skills (Oliveira et al., 2012). However, with the proliferation of technology, online group work has emerged as a popular approach to collaborative learning. Online group work allows learners to work together on projects regardless of their

geographical locations, and has been found to be effective in enhancing the learning experience of students (Smith et al., 2009). Studies have shown that online group work can lead to higher levels of engagement and participation, as well as better academic outcomes. However, despite its benefits, online group work poses several challenges, including lack of social presence, difficulty in coordination and communication, and unequal participation among group members (Oliveira et al., 2012; Hashmi, 2013). To overcome these challenges, researchers are exploring ways to optimize the design and implementation of online group work activities, such as by providing clear guidelines, using technology tools to facilitate communication and collaboration, and ensuring equal participation among group members (Oliveira et al., 2012). Additionally, a study of the effect of group size on collective intelligence in online groups suggests that the optimal group size is between 25 and 35, allowing for more people to be productively involved in group decision-making (Hashmi, 2013; Oliveira et al., 2012; Smith et al., 2009).

Past Studies on Group work across discipline

Studies have indicated that collaboration in groups enhances multidisciplinary experiences. Firstly, (Torabi, 2016) in his study is to ascertain the relationship between teamwork group-level factors and human resource empowerment in the branches of the Keshavarzi Bank of Tehran as a primary goal, with the secondary goal being to offer suggestions for ways to increase human resource empowerment by utilising the elements of teamwork group-level factors. The sample consists of 271 individuals who were chosen at random from among the Keshavarzi Bank branches in Tehran. The data was gathered using the questionnaire and library methods, and the questionnaire itself had been validated and shown to be reliable. The data of the variables of collaboration group-level factors and employees' empowerment variables were collected through the use of a questionnaire. The findings of correlation and multiple regression analysis suggest that there is a strong and generalizable relationship between "teamwork group-level factors" and their subsets, namely "structure, norm and group size" and "human resource empowerment" (the significance level is lower than 0.05). The coefficient indicates that there is a direct and positive association between teamwork group-level characteristics and human resource empowerment with an intensity of 0.669. In addition, as a result of the coefficient of determination that was established, the variable of collaboration group-level variables and its components are able to predict the changes in the human resource empowerment variable.

Understanding the necessity of guiding components of group structure and task in order to achieve goals was one of the most important and valuable lessons that was obtained from the analysis of the team (Natvig & Stark, 2016). Despite the fact that concerns concerning equitable workloads for nursing faculty have been well documented, there is no standardised system for workload management. When two distinct educational institutions were merged into a single institution, it became the responsibility of a project team to devise a method for managing the academic burden. A workload project team's methods and efficacy were examined using Tuckman's model of small group development as the framework. Primary sources of information included meeting agendas, notes, and minutes of previous meetings. The team's difficulties were identified through analysis. The utilisation of a team charter proved to be a useful instrument in facilitating the transformation of the group into a highly productive entity. It takes skill to organise a heterogeneous bunch into a highly effective team. A systematic method for reviewing and comprehending group activities and tasks was made available by the application of Tuckman's Small Group Development Model.

Past Studies on Group work across class mode

Recent years have seen a rise in the use of technology in education, because of the COVID-19 epidemic. With the prevalence of online learning, there is an increasing need to comprehend how it influences collaboration and group work in the class. To examine the effects of the shift to online learning on group work and to contrast them with face-to-face interactions several research studies have been conducted. Goñi et al (2020) in his study compared face-to-face and online team dynamics in project-based engineering courses using the Adaptive Instrument for Regulation of Emotions questionnaire. The findings revealed that specific issues and techniques were less common among online students, indicating less group discussion. However, the study provides evidence for the "equivalency theory" between online and face-to-face learning in a context where all systemic levels transitioned to a digital modality.

Smith (2011) in his study determined the characteristics that influence student group work experiences and how they vary in face-to-face and online settings over the course of three years. This study evaluated graduate students' experiences in both types of group work contexts. Students' impressions of group work were found to be significantly influenced by communication problems, personal opinions about group members and their engagement. Due to the online norms of working alone and asynchronously, online students were less positive about group work than face to face students. Because there were fewer communication channels and face to face meetings were less, online students were less satisfied with group work, which made it more difficult to tackle the logistical issues related to it.

Two-way exchanges between students and between lecturers and students define an active learning group work course at a university in Japan. In 2020 and 2021, synchronous online lessons replaced in-person instruction due to the COVID-19 outbreak. In this mixed-methods study, information from a structured and open-ended questionnaire filled out by 5,268 students is analysed. In this study (Sugawara & Okuhara, 2022) revealed that online lessons significantly outperformed in-person lessons in terms of improving students' comprehension of student life, sense of belonging, expressing one's opinions and listening to those of others, self-regulation of attendance and gaining a thorough understanding of the course material. However, face-to-face lessons were preferred for small class sizes, interactions with students who have different ideas and group learning activities.

Conceptual Framework

Group work is a popular activity in the classrooms; be it face-to-face or online. Instructors choose group work for many reasons. Some choose to "reduce class size", some choose to maximise communication for students within smaller groups, while some use group interaction to complete an otherwise complex task. Regardless of the objectives according to (Rahmat, 2022), knowledge is formed during the interaction within team members. This is because the team members go through different stages of team work before they complete the assigned task. According to Tuckman (1956) team members go through the forming, storming, norming and finally the performance stage in group work. In addition to that, Sirota et al (2005) reported three main stages of team work. The first is the Equity/Fairness stage. This is the basic need towards working together. Team members expect to be heard. They expect that their contribution in the group is respected and rewarded accordingly. The second stage is Camaraderie. According to Sirota et al (2005) one reason why people enjoy or are

tolerant in group work is the friendship that is gained. The need to be socially engaged with one another. The last stage is Achievement. The team members need to be rewarded (in one way or another) in the group’s achievement.

Figure 1 below shows the conceptual framework of the study. This study is rooted from the three main stages (Sirota et al., 2005). The three stages are used to scaffold the three stages by Tuckman (1956) to reveal the framework in figure 1 below.

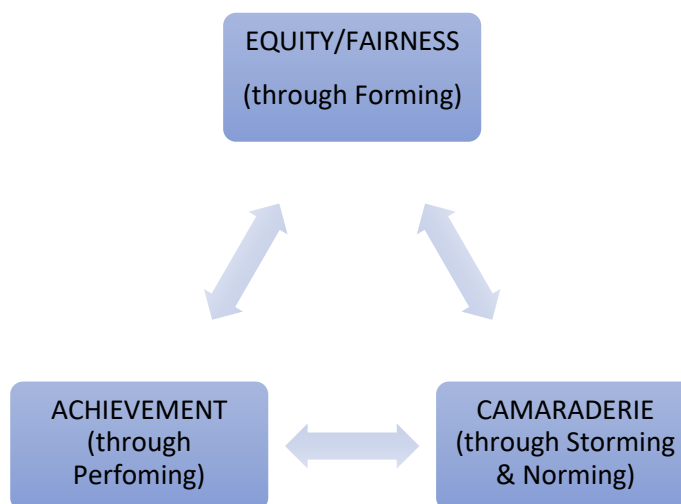


Figure 1- Conceptual Framework of the Study-
Is there a relationship between Equity with Camaraderie and Achievement?

Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 236 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is replicated from the study by Sirota et al (2005); Tuckman (1965) to reveal the variables in table 1 below. The survey has 5 sections. Section A has items on demographic profile. Section B 7 items on equity. Section C has 14 items on camaraderie and section D has 8 items on achievement.

Table 1
Distribution of Items in the Survey

SECTION	SIROTA’s THREE -FACTOR THEORY	STAGE	Items	
B	EQUITY/FAIRNESS	FORMING	7	7
C	CAMARADERIE	STORMING	6	14
		NORMING	8	
D	ACHIEVEMENT	PERFORMING	8	8
			29	29

Table 2
Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.922	29

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .922, 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

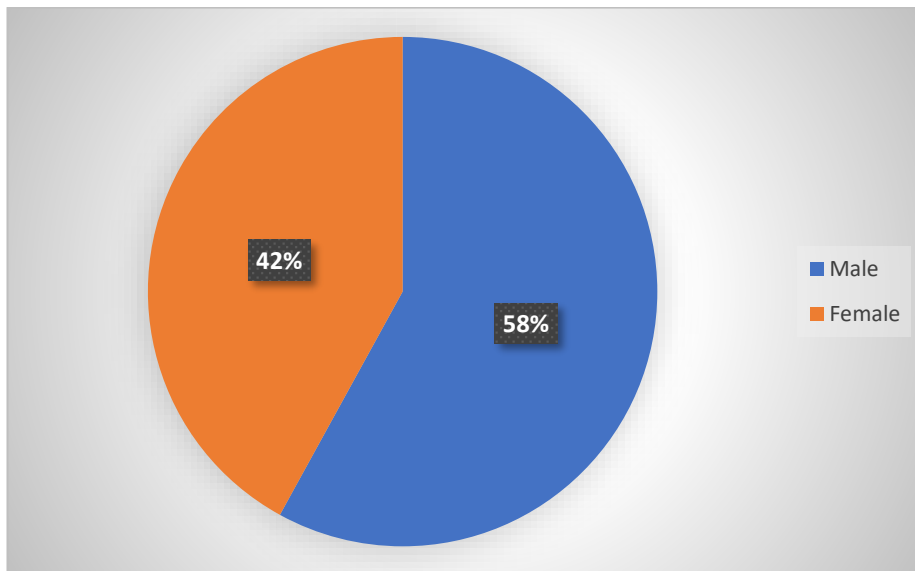


Figure 2 -Percentage for Gender

Figure 2 shows demographic information regarding their gender. It is revealed that 58% from all of the respondents are male while only 42% respondent are female.

Q2 Discipline

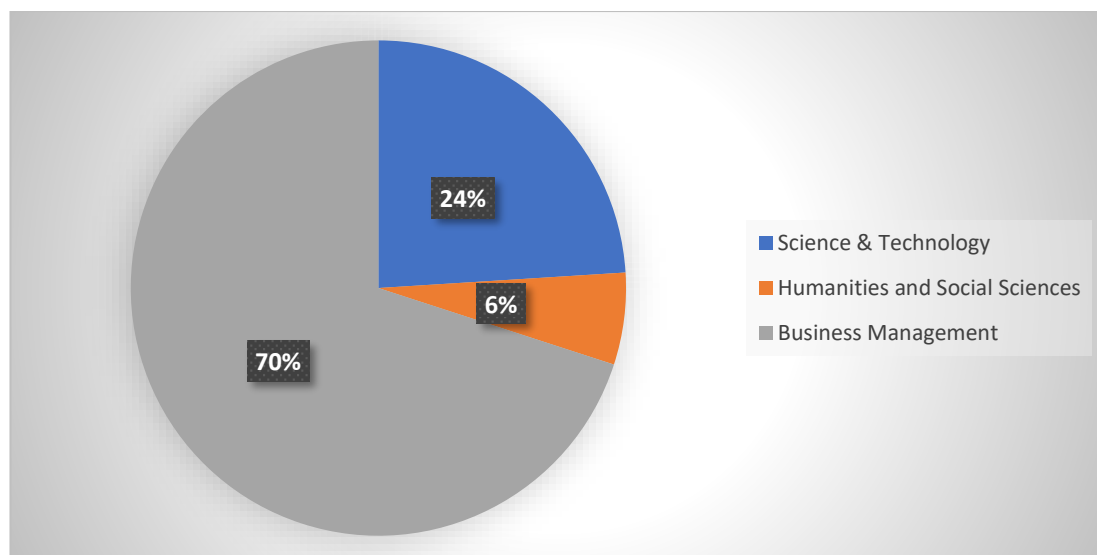


Figure 3 -Percentage for Discipline

There are three disciplines for students to choose namely Science and Technology, Humanities and Social Sciences and Business Management. Most of the respondents are from the Business Management discipline with a percentage of 70%. The second highest are Sciences and Technology with 24% respondent while the lowest respondent are students from Humanities and Social Sciences with only 6% from overall respondent.

Q3 Class mode

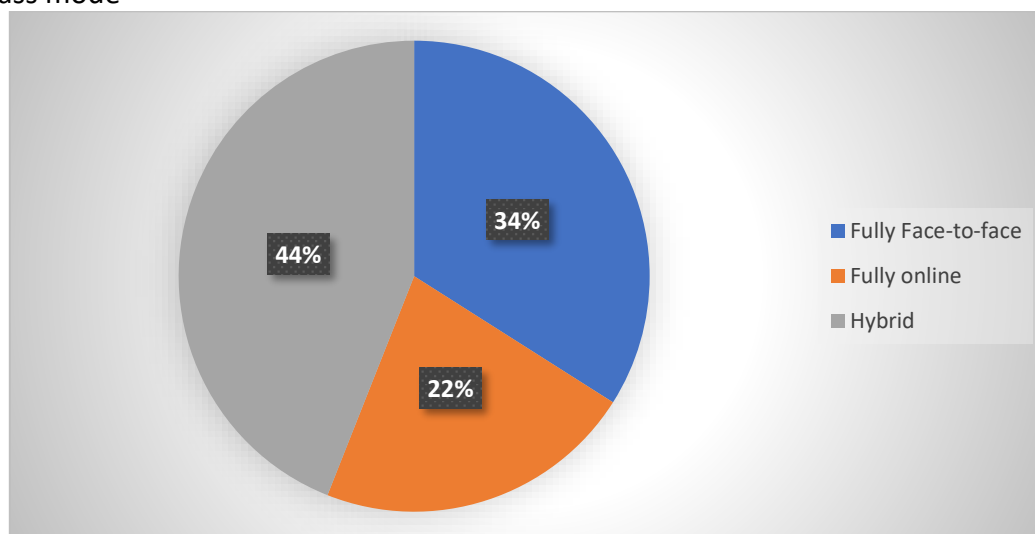


Figure 4 -Percentage for Class Mode

Respondents need to choose one of the class modes that they learn in the past semester. Class modes that they can choose are between fully face to face, fully online and hybrid. From the figure above, hybrid is the highest among other modes with 44% and the lowest percentage is 22% by using fully online mode. Other students choose fully face to face as their mode of learning with a percentage of 34%.

Q4 Best number of team members

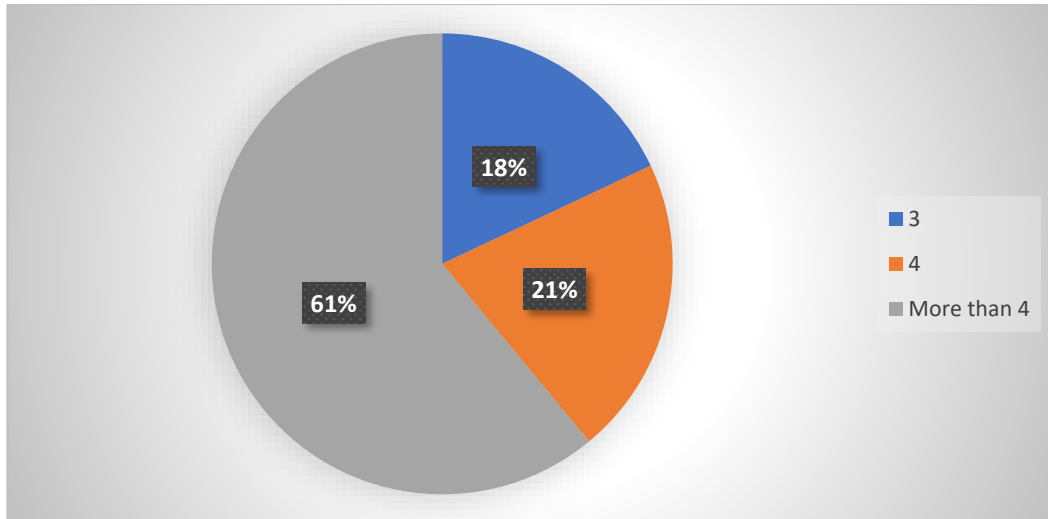


Figure 5 -Percentage for Team members

This question is to find out students' opinions on the best number of team members. Students can choose between 3, 4 and more than 4 team members. Out of all choices more than 4 have the highest percentage that have been chosen by the students which is 61%. This followed by 21% of all the respondents choosing 4 is the best number of team members. Only 18% respondent choose 3 is the best number of team members which indicate that number 3 are less preferred by the respondents.

Q5 Level of education

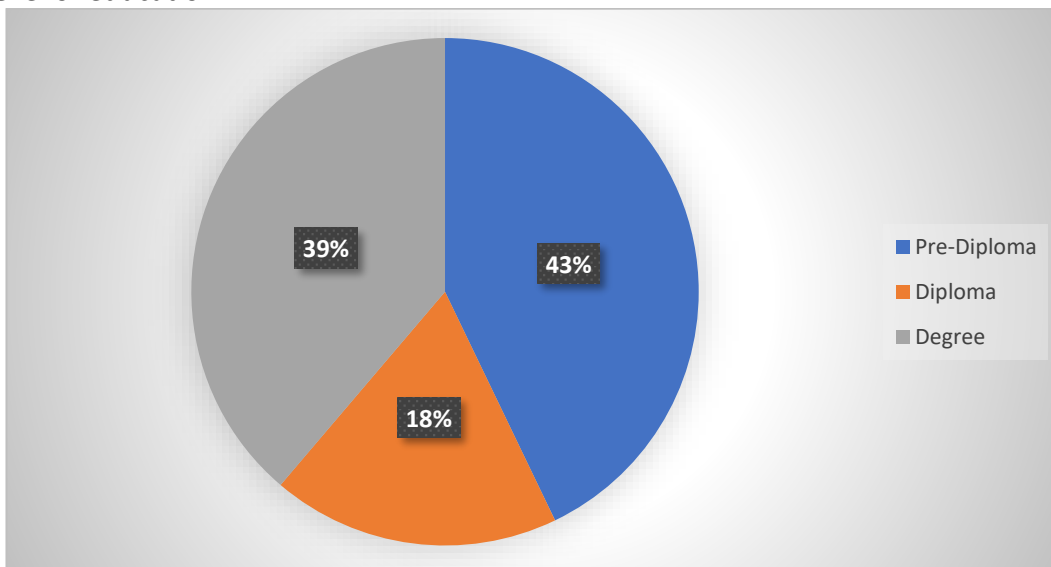


Figure 6 -Percentage for Level of Education

The last section in the demographic information respondents were asked about their current education. Students can choose from pre-diploma, diploma and degree. Most of the respondents are from pre diploma students with a percentage of 42%. The second highest percentage is 38% from degree students while the lowest percentage is from diploma students with only 18%.

Findings for Equity

This section reports findings to answer research question 1: How do learners' perceive equity in online group work? In the context of this study, equity is measured by items in the forming stage.

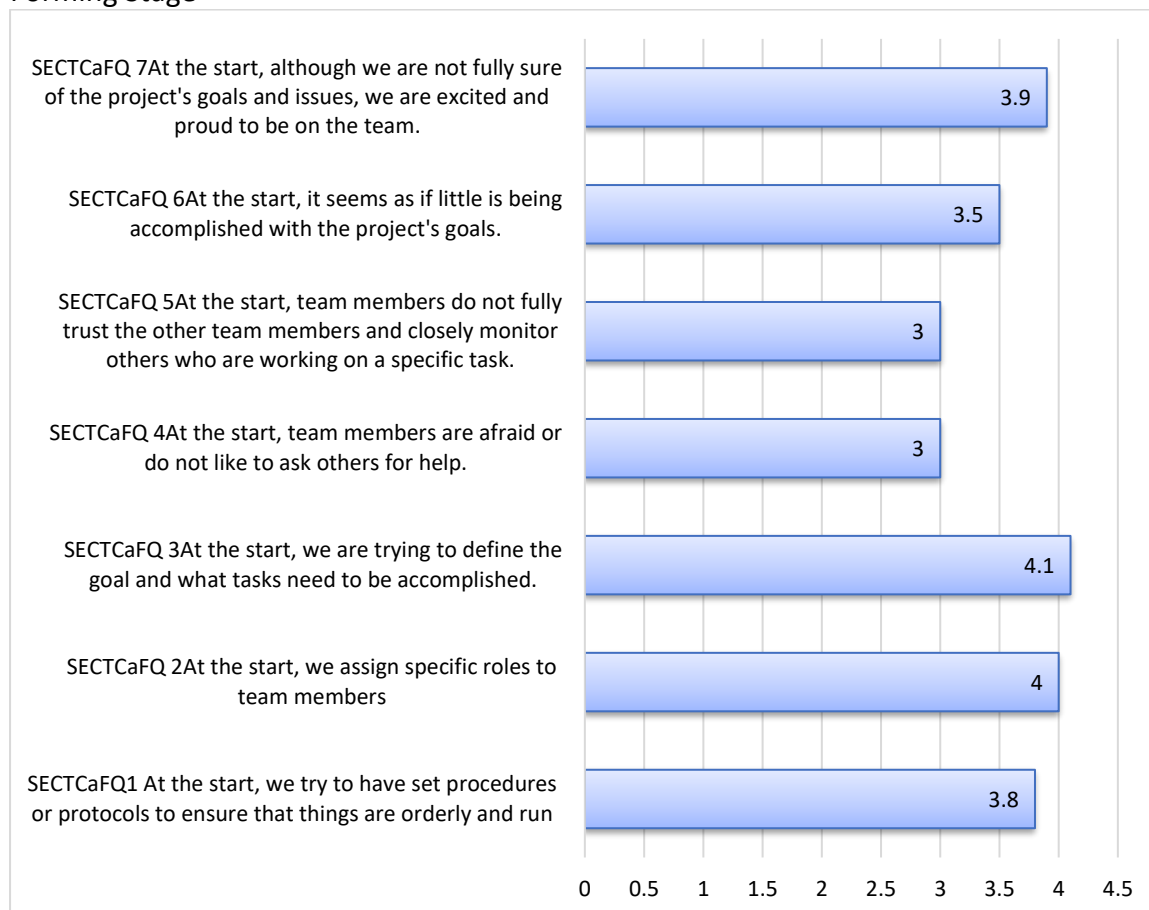
Forming Stage

Figure 7-Mean for Forming Stage

At the start of the project, the team tries to establish set procedures or protocols to ensure order and efficiency with a mean value of 3.8. Additionally, specific roles are assigned to team members, which receive the mean value of 4. The team also focuses on defining the project's goals and tasks to be accomplished, which received the highest mean value of 4.1. However, team members may initially be hesitant to ask for help from others, which received the lowest mean value of 3.0, and may not fully trust each other, closely monitoring others who are working on a specific task, which also received a relatively low mean value of 3.0. While it may seem like little progress is being made towards the project's goals, which received a mean value of 3.5, team members are still excited and proud to be part of the team, even though they may not be fully sure of the project's goals and issues, which received the third-highest mean value of 3.9.

Findings for Camaraderie

This section reports findings to answer research question 2: How do learners perceive camaraderie in online group work? In the context of this study, this is measured by the (a) storming stage and (b) norming stage.

Storming Stage

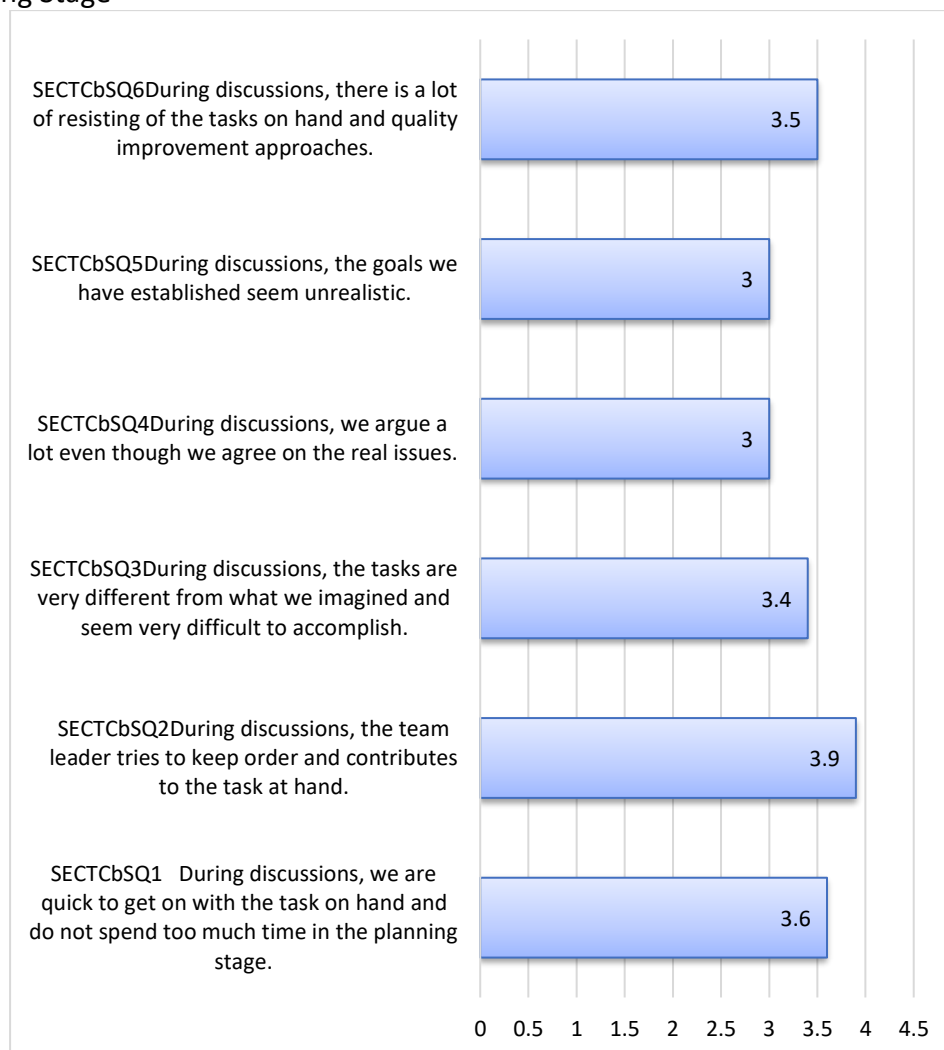


Figure 8-Mean for Storming Stage

The theoretical framework created by Tuckman (1965) defines the second stage as the storming stage. According to the findings of the survey, the storming stage, which occurs during the process of discussion, has the highest mean value of 3.9, which refers to the question "the team leader tries to keep order and contributes to the task at hand." This is followed by a mean value of 3.6, which refers to the question "we are quick to get on with the task at hand and do not spend too much time in the planning stage." The question "there is a lot of resistance to the tasks on hand and quality improvement approaches" has the following highest mean value, with a value of 3.5. The question "the tasks are very different from what we imagined and seem very difficult to accomplish" attained 3.4 as the mean value. The two questions "we argue a lot even though we agree on the real issues" and "the goals we have established seem unrealistic" each had a mean score of 3, which is the lowest. According to the survey, the majority of students believe that the group leader is crucial in delegating responsibilities and providing directions.

Norming Stage

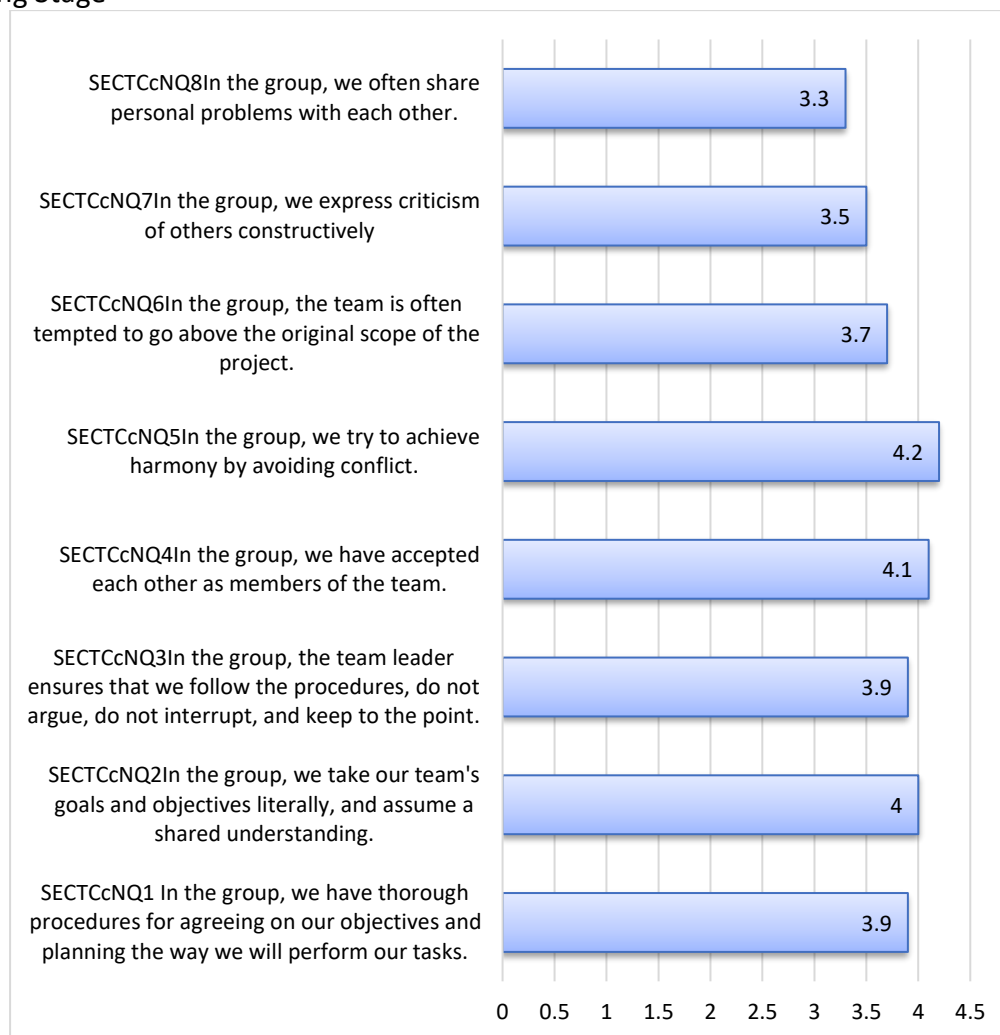


Figure 9-Mean for Norming Stage

Third stage in Tuckman (1965) which is the Norming Stage focuses on how students perceive camaraderie in online group work, is presented to students at the middle of the project. The statement 'We try to achieve harmony by avoiding conflict', which has a mean value of 4.2, is the highest mean out of all the ones provided. The second highest mean is "we have accepted each other as members of the team," which has a mean value of 4.1. The phrase "we take our team's goals and objectives literally and assume a shared understanding" is followed by a mean value of 4. Additionally, the statement 'we have thorough procedures for agreeing on our objectives and planning the way we will perform our tasks' and 'the team leader ensures that we adhere to the procedures, do not argue, do not interrupt, and keep to the point' shared the same mean value with 3.9. A mean score of 3.7 is assigned to the claim, "The team is regularly persuaded to expand upon the project's original scope." The statement 'we express criticism of others constructively' receives the second-lowest score for the norming stage, which has a mean value of 3.5. The statement 'we often share personal problems with each other' receives the lowest mean value for this stage, which has a mean value of 3.3.

Findings for Achievement

This section reports findings to answer research question 3: How do learners perceive achievement in online group work?

Performing Stage

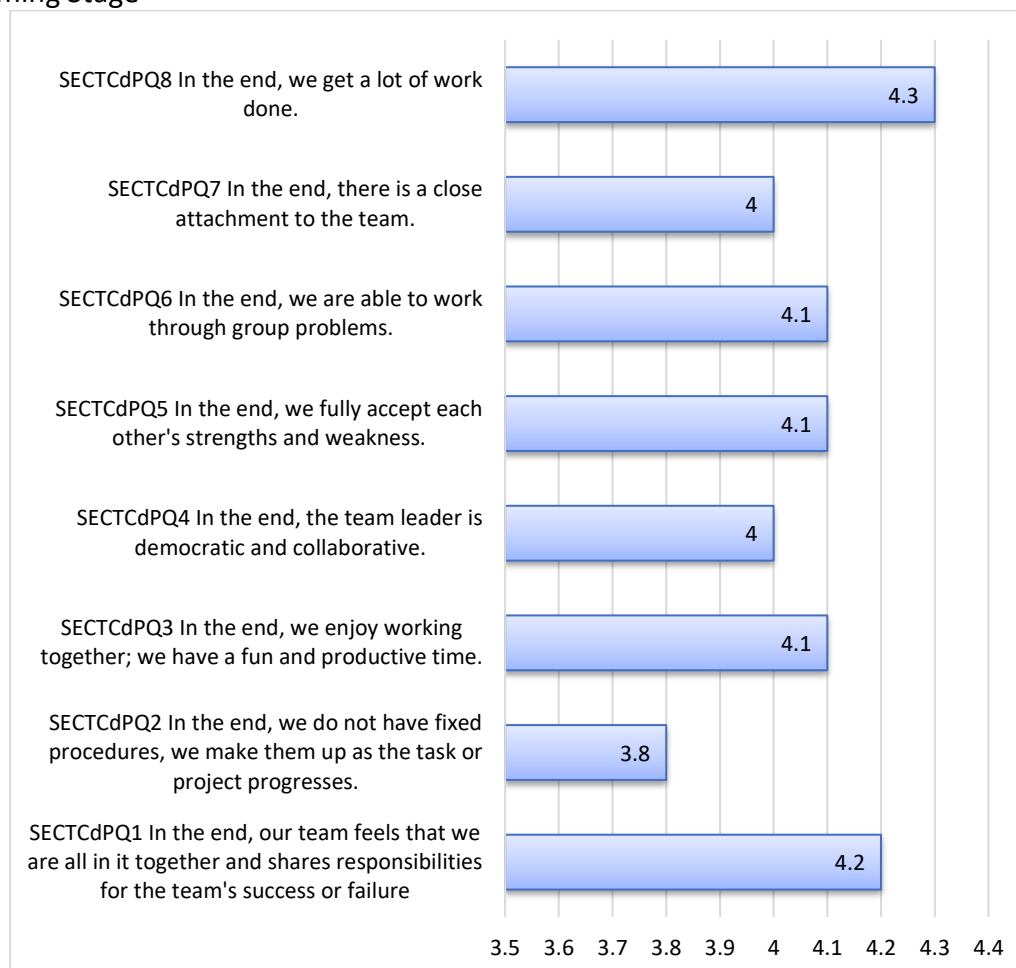


Figure 10-Mean for Performing Stage

In the last stage, students are given statements regarding the performing stage. In this stage, students were mainly asked about how learners perceive achievement in online group work. From all the statements given, the highest mean is 4.3 with the statement 'In the end, we get a lot of work done'. The second highest mean is 4.2 with the statement 'In the end, our team feels that we are all in it together and shares responsibilities for the team's success or failure'. The second lowest value for the performing stage are 4 with statement 'In the end, the team leader is democratic and collaborative' and the lowest value of mean from this stage will be 3.8 with the statement 'In the end, we do not have fixed procedures, we make them up as the task or project progresses'.

Findings for Relationship of group work across disciplines

This section reports findings to answer research question 3: What is the relationship between equity with camaraderie and achievement 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, and 5 below.

Table 3

Correlation between Equity and Camaraderie

Correlations

		TOTALequity	TOTALcamaraderia
TOTALequity	Pearson Correlation	1	.603**
	Sig. (2-tailed)		.000
	N	236	236
TOTALcamaraderia	Pearson Correlation	.603**	1
	Sig. (2-tailed)	.000	
	N	236	236

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

Table 3 shows there is an association between equity and camaraderie. Correlation analysis shows that there is a high significant association between equity and camaraderie ($r=.603^{**}$) 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 equity and camaraderie.

Table 4

Correlation between Equity and Achievement

Correlations

		TOTALequity	TOTALachievement
TOTALequity	Pearson Correlation	1	.391**
	Sig. (2-tailed)		.000
	N	236	236
TOTALachievement	Pearson Correlation	.391**	1
	Sig. (2-tailed)	.000	
	N	236	236

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

Table 4 shows there is an association between equity and achievement. Correlation analysis shows that there is a high significant association between equity and achievement ($r=.391^{**}$) 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 equity and achievement.

Table 5
Correlation between Camaraderie and Achievement

		TOTALcamaraderia	TOTALachievement
TOTALcamaraderia	Pearson Correlation	1	.650**
	Sig. (2-tailed)		.000
	N	236	236
TOTALachievement	Pearson Correlation	.650**	1
	Sig. (2-tailed)	.000	
	N	236	236

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

Table 5 shows there is an association between camaraderie and achievement. Correlation analysis shows that there is a high significant association between camaraderie and achievement ($r=.650^{**}$) 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 camaraderie and achievement.

Conclusion

Summary of Findings and Discussions

This section summarizes the findings of this study. In the context of this study, the perception of online group work is facilitated through the inclusion of equity and camaraderie towards students' achievements. The findings in this study indicated that learners perceived equity in online group work by defining the goal and tasks to be accomplished among their group members. The finding also revealed that the team leader tried to keep order and contributed to the task at hand in order to perceive camaraderie in the group work. Furthermore, learners perceived achievement as they managed to perform a lot of tasks in their group. Overall, the outcomes showed a positive relationship between equity with camaraderie and accomplishment.

Pedagogical Implications and Suggestions for Future Research

The current study offered some light on the online group work in online education. Group work is beneficial for learners to improve their communication skills as it requires their participation in online tasks with teammates. When learners have equity in performing a task, it will enable them to have a clear goal and complete tasks in groups easily. Furthermore, camaraderie in the storming and norming stage helps learners to achieve success in online learning. Although this study gives some insights into the possible benefits of online group work, it also has significant limitations that future researchers should address. Firstly, the responses were gathered only through a survey to investigate the participants perception on online group work. Thus, qualitative methods should be employed in the future studies consisting of interview, questionnaires, observation or journal log to provide better insight into the process of online group work. On the other hand, future research should look into

participants from different geographical locations to gain a wide perspective on online group work.

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