

“Avoid study groups . . . choose virtual sessions”: University of Botswana Social Sciences students’ attitudes towards online group work.

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Abstract

Displayed on a small billboard standing along the road next to a busy pedestrian gate in the University of Botswana (UB) are the words “Avoid study groups . . . choose virtual sessions”. This caption motivated the author to conduct this study because research shows that group work is one of the popular instructional methods espoused by the students, but the caption seems to suggest that UB students prefer virtual group work to something else virtual. In view of the message carried by this caption, the present study sought to investigate the UB Social Sciences students’ attitudes towards online group work as compared to in person or face-to-face group work. Data for this study was collected through triangulation of questionnaire and semi-structured interview research methods. The findings of this study buttress the observations made by previous researchers that students support online group work although they did not fully do so because of its limitations and previous bad experiences of using dysfunctional Internet and “free riding” or lack of participation by some students. The findings of the current study further show that face-to-face group work was comparatively favoured more than online group work and that cultural differences did not seem to have direct influence on the students’ attitudes towards online group work.

Key words: *University students; online group work; attitudes; traditional classroom work; Social Sciences*

Introduction

A small billboard stands along the road next to a busy pedestrian gate in the University of Botswana (UB) displaying the caption “Avoid study groups . . . choose virtual sessions”. This caption captured the author’s attention and motivated him to conduct this study because research shows that group work is one of the popular instructional methods espoused by students (See for example, Gottschall et al., 2008; Phipps et al, 2001; Rau & Heyl, 1990), but the above caption seems to suggest that UB students prefer virtual group work to something else virtual. In view of this the study sought to investigate the UB Social Sciences students’ attitudes towards online group work as compared to in person or face-to-face group work.

This study was also motivated by the fact that the author’s students frequently displayed behaviour that seemed to be apathetic towards online group work during the

Communication and Academic Literacy (COM) online group assignments. It has been noted in other parts of the world that students experience problems with group work because they are often not taught how to facilitate effective group collaboration and are left to fend for themselves and to solve resultant problems (Bakir, Humpherys, & Dana, 2020).

Furthermore, in the author's knowledge, investigations of online group learning are relatively few, especially in the English as a second language (ESL) area, although online education is growing in popularity, especially during the period of the COVID-19 pandemic. Furthermore, this method of teaching and learning is still increasingly becoming a viable alternative to the lecture method in higher education (Johnson et al., 1991b; Parsons & Drew, 1996; Phipps et al., 2001). Online learning has also been found to offer valuable alternatives to traditional classrooms, especially when face-to-face learning is not an option, as was the case during COVID 19.

This study will hopefully provide suggestions on the ideal online group work environment in which the students could interact and effectively learn as a group. Collaborative learning has been found to save time, promote interaction and serve as an indicator of effective learning in an institution (Gottschall et al., 2008).

Theoretical framework

The current study primarily hinges on Vygotsky's group of theories about the way children grow within culture and society. He was a psychologist whose works established a foundation for research in cognitive development. Vygotsky's (1962) well known Sociocultural Theory posits that social interaction, profoundly influenced by culture, plays a critical role in children's learning and/or cognitive development. The theory suggests that a child gradually develops intellectually and acquires cultural values, beliefs, and problem-solving strategies through collaborative dialogues and through the assistance provided by experienced people in the social environment, such as parents, caregivers, teachers, peers, and other students. This theory was found applicable in the current study because, in the author's view, university students' academic development or learning similarly benefits from collaborative dialogues that take place as the students from different academic or cultural backgrounds interact with one another during group work. Another term used by Vygotsky (1978 p. 90) to discuss the importance of interaction in the development of cognition is called constructivism. This concept posits that learning takes place when the students play an active role in the construction of knowledge (Vygotsky, 1978). His view is that social interaction plays a fundamental role in the development of cognition among learners. Hence, the current study explored the experiences and attitudes of the participants of this study towards online group work.

Vygotsky's Sociocultural Theory proposed another concept called Zone of Proximal Development (ZPD) which differentiates between what a child can learn alone and what he or she can learn from other skilled children or students. This zone refers to the distance or point where the child can independently solve problems, and the level of development where they can no longer do so but need guidance from adults and peers through instruction, educational opportunities, parental guidance, and interaction and collaboration with peers or other students. Vygotsky believed that children or students, in fact, paid more

attention to what their friends and classmates know and do than to adults, and as a result, teachers can leverage this tendency through pair or group work. He cautioned that if the ZPD is not respected or the children or students are not helped on difficult tasks, their cognitive development will be impeded.

Vygotsky's Sociocultural Theory is relevant for the current study, as already indicated, because it underscores the importance of collaborative learning. This learning involves small and independent groups of students with common educational goals, and individual or group evaluation of work" (Johnson & Johnson, 2009). The academic, social, and psychological benefits of group learning have also been documented (Johnson & Johnson, 1977; Slavin, 1987; Tinzmann et al., 1990; Bonwell & Eison, 1991; Felder & Brent, 1994; Panitz & Panitz, 1998; Burdett, 2003; Graham & Misanchuk, 2004). The benefits include fostering deeper thinking in the classroom as well as developing students' oral communication skills, self-management, organisational skills, leadership skills, and motivational levels (Johnson et al., 2000; Hattie, 2009; Kyndt et al., 2013; Dirlikli et al., 2016; Erbil & Kocabaş, 2018).

Literature Review

Several studies have addressed the issue of students' reaction to the use of group work and, overall, the past findings support the claim that students think positively of group work as a method of instruction, although it has some associated problems (See Kimmel & Volet, 2012; Marks & O'Connor, 2013; Phipps et al., 2001; Rau & Heyl, 1990). For example, Marks and O'Connor (2013) investigated college students to gain insight into their attitudes towards group work and found that they responded positively to group work, although they preferred individual assignments more. However, they had reservations about their instructors' management of group work processes and fellow students' accountability and honesty during group work. For instance, they felt that their instructors chose group members for them instead of allowing them to do it themselves. Another example is that of Rau and Heyl (1990) who positively documented that collaborative discussion groups during class time were well received by approximately 75% of their students, whereas the remainder would rather work alone.

In contrast, online group work was found to be unpopular among students (Kulp, 2015; Kemp & Grieve, 2014). They found online group work to have a negative impact on students' work which included problems such as students' apathy towards group work, group size and processes, free riding or benefiting from group work with little or no contribution, lack of group work skills, unequal abilities of group members, unfair assessment of individual and group members, as well as withdrawal of students (Roberts & McInnerney, 2007). These problems are quite apparent even in traditional group work.

Curtis and Lawson (2001) investigated the extent to which evidence of collaborative learning could be identified in students' textual interactions in an online environment. The evidence was sought in messages posted by the students during their interactions in online group work. Their findings showed that there was extensive evidence of interactions but, comparatively, there were identifiable differences between traditional in person collaborative learning and in an asynchronous networked environment. With a view to the

above research findings, the current study sought to investigate the attitudes of UB Social Sciences students, in the author's classes towards group work. It should be noted, however, that the students in the author's classes were chosen for no specific reason apart from convenience. The above being the case, this study asked the following specific research questions:

Research Questions

1. What are the attitudes of UB Social Sciences undergraduate students towards online group work?
2. What challenges did the Social Sciences students encounter during online group work?
3. What can be done to improve online group work at university level?

Methodology

Questionnaire and semi-structured interview research methods were triangulated to collect data and to increase the credibility and enrichment of the findings of this study. Triangulation is a research strategy that refers to the use of a variety of research methods to increase validity of the researcher's findings and conclusions. More information about the methods used to collect data for this study will be discussed in the section that follows the next one.

Participant Profiles

A total of 176 First Year undergraduate students enrolled in the Faculty of Social Sciences at UB completed the questionnaire used to collect data for this study. Of these students 25% (N=44) were males and 75% (N=132) were females. Majority of the students (98.9%, N=174) were in the 16-29 age bracket while 1.1% (N=2) were in the (30-40) region. Table 1 shows the profiles of the students belonging to Economics, Statistics, Social Work, Law, Psychology, Sociology, Political Science and Public Administration and other departments in the Social Sciences. Majority of the students 54.6 (N=77) belonged to Social Work and Law departments while 19.1% (N=27) belonged to other departments that were not identified.

Table 1: Participants Profiles

Programme	%	No.
1. Law	28.4	40
2. Social Work	26.2	37
3. Other	19.1	27
4. Political Science and Administration	11.3	16
5. Psychology	7.8	11
6. Economics	5	7
7. Sociology	1.4	2
8. Statistics	0.7	1
Total	100	141

It should be noted, however, that the aim of this study was not to compare the students by departments or programmes, but to unearth their attitudes towards online group work.

However, it would be interesting to investigate, in another study, whether the students' different academic and demographic differences would have an impact on the students' preferences and practices during group work. As already indicated all the participants in this study belonged to the author's classes and were selected for this study for no special reason apart from convenience.

Data Collection Methods and Analysis

This study employed a pragmatic research approach because, as has been found, this approach has great contribution in the social science research. In a pragmatic research approach, the researcher uses one or more research methods to operationally decide what will work best in finding answers to the research questions. In other words, pragmatism is flexible and believes that there cannot always be one way of solving a problem, but a mix of approaches is inevitable for finding the truth. That being the case, the current study used the questionnaire and semi-structured interview methods to collect data for this study. These methods, as already indicated, were for pragmatic reasons used to complement each other or cater for each other's inherent weaknesses.

The advantage of the questionnaire method is that it can be used as a quick way to collect data from a diverse sample, such as the one used in this study, that comprised students from different departments, although they belonged to the same faculty. As already indicated, the purpose of this study was not to compare the backgrounds of the students who participated in this study, but to measure their attitudes as a collective, because they all belonged to the social sciences faculty. The disadvantage of using a questionnaire is that, among other reasons, it may contain ambiguous questions or yield erroneous responses from the participants that may be caused by lack of understanding of the questions.

The interview research method, on the other hand, has some advantages that include the fact that it reveals the interviewee or participants' feelings, motivations, and meanings that may not be captured by the questionnaire. An interview also helps the researcher to obtain original data directly from the participant, accompanied by the participant's nonverbal communication. However, the disadvantage of the interview research approach is that it can be time consuming and can also yield biased information from the participant. With a view to the above pros and cons of selecting a method of data collection, the current study opted for triangulation because, as previously indicated, it caters for the weaknesses of each research method and enriches the data or findings in a study such as this one in the social sciences.

Questionnaire

In the current study, as indicated above, a total of 176 questionnaires were administered in class by the author of this study and that ensured 100% return rate. It should be noted though that the author's presence could have somehow psychologically influenced the students' responses, and this therefore becomes another important limitation of this study. Other limitations will be discussed in the limitations section below. The sample of the participants who completed the questionnaire was relatively small because this study was primarily interested in measuring the attitudes of the students toward online group work in the context of the author's classes. In other words, the aim of this study was not to

generalise its findings to the entire population of the social sciences cohort because it was not an experimental study that requires random sampling of the participants.

The questionnaire in this study was administered over a period of 30 minutes by the researcher who happened to be the participants' Communication and Academic Literacy Skills lecturer as already indicated. This questionnaire comprised 5 demographic questions, as well as two identical parts each of which contained 9 close-ended attitude questions respectively asking about physical group work and online group work. In the demographic section of the questionnaire, the students were asked to provide information about their age and gender, although these variables were not important in terms of the overall question asked in the current study. In the rest of the questionnaire, the participants were required to answer these close-ended questions on a 4-point Likert-scale comprising 'Strongly Disagree' (1), 'Disagree' (2), 'Agree' (3), and 'Strongly Agree' (4).

The next part of the questionnaire consisted of 20 open-ended questions respectively asking the students to list negative and positive aspects of online group work. Another question following these two asked the students to agree or disagree whether they thought online group work in COM could be improved. The final question asked the students to give reasons for not agreeing that online group work in COM could be improved if necessary. Data from the questionnaires were descriptively analysed using SPSS software. The overall attitude toward group work was measured by averaging each student's score on the attitude scale.

Interviews

As already indicated, the interview method was used to enrich the questionnaire findings in the current study. Semi-structured interviews were conducted with 6 students consisting of 2 males and 4 females from the same class who had completed the questionnaire. The small number of interviewees was selected for no other reason than to obtain the in-depth understanding of their views related to the research questions. According to Guilefoyle and Hill (2002), the number of interviewees need not be a problem because the interviewee sampling is not done to get enough people but to collect sufficient data. Similarly, in the current study, the researcher was more interested in the participants' feelings and attitudes towards online group work rather than on how many were interviewed. Each interview lasted for about 30 minutes. The interviewees were asked to provide honest answers and feel free to substantiate their views and to provide as much information as they wished. A semi-structured interview protocol was used to ask about their attitudes towards group work in general and online group work in particular; major obstacles they met during group work; their reactions to the obstacles; how they coped when dealing with challenging situations during the group sessions; and what they learned from the group work experiences. The interview responses were hand recorded and analysed according to the research questions.

Ethical considerations

In view of the essence of ethical considerations in research, the participants in the current study were verbally informed that they had the right to abstain from the exercise, and that the information they were going to provide was confidential and would be used for research

purposes only. Ethical consideration in research refers to the principles that must be adhered to by the researchers to guide their research designs and practices. These considerations, among other reasons, protect the research participants and maintain academic integrity.

Results and Discussion

This study sought to investigate the UB social sciences undergraduate students' attitudes towards online group work, as well as to identify the challenges they encountered during the online group work. As previously indicated, the findings would hopefully inform the students, as well as their lecturers and stakeholders about what could be done to improve online group work in the University.

Attitudes towards online group work

The results of this study show an overall Mean of 2.43 (SD=.299) which on the 4-Likert scale used in this study is below the "Agree (3)" scale. This suggests that the Social Science students at the time of this study did not fully support the use of online group work in teaching. The highest individual item, "*I enjoy any other method of teaching over online group work*")" shows that the students almost agreed (M=2.88, SD, .913) to the fact that they enjoyed the online group work teaching method. This is confirmed by their disagreement in the third item, "*Working in online groups is better than working alone*" (M=2.64: SD=1.03). Even though the students almost agreed that "*Lecturers should spend less time using online group work*" (M=2.70, SD, .849), they ironically almost agreed that "*Online group work increases students' ability to work with others*" (M=2.56: SD=.914). This suggests that the students thought online group work should be mixed with other teaching methods. That might be the reason they disagreed (M=2.07: SD=.874) that "*Students learn more when working in online groups.*" The students indeed disagreed that "*Online group work is a waste of students' time*" (M=2.17: SD=.805) and that "*Good lecturers don't use online groups*" (M=2.11: SD=.831). See Table 2 for more results. So, all in all the students did not fully support the use of online group work method of teaching.

Table 2: Attitudes Towards Online Group Work

ITEM	N	M	SD
16. I enjoy any other method of teaching over online group work.	171	2.88	.913
14. Lecturers should spend less time using online groups.	169	2.70	.849
18. Working in online groups is better than working alone.	172	2.64	1.03
12. Online group work increases students' ability to work with others.	171	2.56	.914
17. Online group work should be used more in teaching.	170	2.32	.861
15. I think more lecturers should use online group work.	167	2.31	.835
11. Online group work is a waste of students' time.	171	2.17	.805
13. Good lecturers don't use online groups.	169	2.11	.831
10. Students learn more when working in online groups.	169	2.07	.874

The students were also asked to share their views about physical or in person group work to find out if they generally detested group work or had problems with the online one. The

results show that the students fully supported physical group work as shown by the items, “Group work increases students’ ability to work with others” (M=3.61: SD=.623) and “Working in groups is better than working alone” (M=3.14: SD=.949). Furthermore, the students disagreed that “Lecturers should spend less time using groups” (M=2.26: SD=.884), and that “Group work is a waste of students’ time” (M=1.59: SD=.766). The above results suggest that the students felt that even physical group work should be improved so that they could benefit more from it.

The attitudes towards physical and online group work methods are summed up in the following students’ interview narratives:

Student 1 (Female):

Group work is effective because many brains complement one another but if it is online it suffers from problems of internet connectivity. Physical group work is more efficient because it makes the group brainstorm, plan, and finish the work together. However, online group work is also important because it develops one’s patience, Group work taught me cooperation and networking. I was also able to learn about Microsoft Teams and Zoom. In terms of my preference, I would rate group work 9 out of 10 and online group work 6 out of 10 because of network related problems. Yes, I do agree that students should be given group work, but online issues should be addressed.

Even though I did not experience major obstacles with online group work, one of the members did not do his duty and that made it difficult for us to merge our presentation parts. I did not really feel like giving up on the group work and as a result we were able to pull through because our goal was not to get marks and we ignored those who were absent. One other problem is that we are assigned lazy people who don’t want to work.

Student 2 (Female):

Physical group work is more efficient because it makes the group brainstorm, plan, and finish the work together. However, online group work is also important because it develops one’s patience, although comparatively it is distractive because you would hear some people talking in the background while you are online. Some students take advantage of online group work by not coming to school. Online group work is also convenient because you can work while traveling or at home in the evening. I did not feel like giving up on online group work although it was not the most exciting because of coordination problems and mixed schedules. I prefer physical group work 8 out of 10 and online group work 6 out of 10.

Student 3 (Male):

I prefer physical group work to online group work because it shows facial expressionsand builds a sense of participation and cooperation. However, online group work is good too because it happens anytime anywhere any moment even during emergency . . . and it helps one do quick research. The challenge of online group work is to that some students do not participate or just ignore the messages from other group members. . . I learnt that online group work requires a lot of patience. I prefer physical group work 8 out

10 and online group work 6 out of 10. I would encourage students to participate during online group participation and advise them to reduce social media.

Student 4 (Female):

With physical group work you get group members' opinions without being intimidated. Online group work makes you feel like people criticise you hiding behind the technology . . . also people do not fully participate online. Some students lose direction during online group work because of social media. Towards deadline some members submitted unfinished work . . . and I had to finish the work alone. Group work taught me communication skills, respect for time and determination. However, honestly, I would rate my preference for physical group work 5 out 10 and online group work 4 out of 10.

Student 5 (Female):

Group work is necessary because it helps us interact and increase our knowledge, teamwork, and communication. Online group work is less productive especially for us teenagers because we feel it give us too much work . . . and we find it difficult for us to find a common slot for meetings . . . and we are not always focused because of distractions at home. Despite the problems we were determined to do good work and to improve our grades. I prefer physical group work 6 out 10 because it helps us know each other, and 4.5 out of 10 because of battery issues.

In summary, the above findings suggest that although the Social Sciences students supported online group work, they had reservations about some aspects of its implementation. This, thus, suggests a more effective use of the online group work teaching method, that would motivate the students and make them appreciate its value. The improvement of online group work method can be done by, for example, encouraging the students to use more technology, defining the objectives of the online group work rather than making the students perceive it as extra work, and building the culture of personal accountability for the group assignments they are given. It should be noted, however, that some students of course appreciated the value of online group work as summed up by the following interviewee's comments:

Student 6 (Male):

I prefer online group work 10 out 10 and physical group work 7 out 10. Our group was always able to meet on WhatsApp. . . When other members did not come, we just met and sent our work to them through WhatsApp. We never had problems and online was good. I learned the importance of teamwork and not to depend on someone for everything.

However, it is worth noting that only one student outrightly or strongly rejected online group work as summarised in the following comment made in one of the open-ended questions: *"I selected No as I am strongly against the use of online group work. Nothing good will come out of it. Group work should be physical. We must abolish online classes and group work"*. This strong feeling against online group work could be attributed to the challenges faced by the students before or during group work, which are summarised below.

Challenges faced by students on the use of online group work

Challenges of online group work, as reported by the students in the questionnaire, are summarised in Table 3. The major challenges that impeded the students' use of online group work were Internet connectivity, prohibitive costs, and lack of technical know-how, lack of participation and/or cooperation by other students, as well as unequal responsibilities, distractions and poor priorities set by the students, students' laziness, lack of seriousness, poor communication, understanding of concepts, and self-expression by the students.

Table 3: Influence of multicultural Factors Online Group Work

Challenges	%	N
1. Internet connectivity, costs, and lack of equipment and tech know how.	34.2	157
2. Lack of participation, cooperation, and unequal responsibilities.	26.6	122
3. Distractions and poor priorities, laziness, and lack of seriousness.	15.3	70
4. Poor communication, understanding of concepts, and self-expression.	8.9	41
5. Poor time management and organisation.	5.2	24
6. Unable to see nonverbal cues and perceive feelings, and interactions.	4.6	21
7. Dishonesty, bad attitude, and plagiarism	1.5	7
8. Increases workload	1.3	6
9. Lack of creativity and confidence in meeting online	0.9	4
10. Health issues e.g. poor eyesight	0.2	1
11. Does not improve social skills	0.4	2
12. Time consuming	0.9	4
Total	100	459

Implications and Recommendations

Several implications emerge from the findings of this study. The first implication is that the value of online group work was not given the recognition it deserves, as perceived by the students who participated in this study. Some students appreciated online group work for its flexibility, and convenience. For example, they felt that during COVID 19 their engagement in online group work protected them from being exposed to the COVID virus, and that it promoted their teamwork, interpersonal relationships, and research skills. With the above in mind, this study therefore recommends more promotion or support for online group work, especially in the Communication and Academic Literacy course from which the participants of this study came. The students recommended that online group work should be promoted by blending it with in person group work, whereby the groups present to half of the class physically and to the other half attending online. The above recommendations are summed up in the following comment made by one of the students:

"I strongly believe this group work in COM should be improved in the sense that this course is about communication and academic literacy skills, which in short are the skills

used to give out nothing but the best response to another part, either by writing or speaking to another party. Having groups will also help boost our confidence as students and having physical group presentation will also help in boosting self-esteem and self-confidence”.

The second implication of this study is that, probably, the online group work, to which the participants of this study were exposed, was not well organised and monitored, but was rather treated as an extra assignment or just another method of teaching. The participants of this study suggested that lecturers should play a more visible role in encouraging the students to be more respectful to each other and to be more accountable during online group work. The lecturers should monitor the online group work, ensure equitable distribution of tasks, and involve the students more in interactive tasks such as debates, and research based online presentations. The above recommendations suggest that the online group work should not be regarded as a ‘by the way’ activity but it should be planned for and carefully implemented.

The third implication of this study is that the students who participated in this study felt that they were not offered training on how to conduct group work or were not equipped with requisite teamwork and cooperation skills. The students themselves suggested that they should be taught time management skills, given clearer objectives to know exactly what is expected of them during group work. They further indicated that they should be empowered by providing necessary tools to conduct group work, such as internet modems, laptops, smartphones, airtime, and computers; and that the Internet should be made more accessible to them and improved in terms of quality. Furthermore, they indicated that they should be empowered with more research opportunities using the Internet and helped to showcase their online group work.

Limitations of this study

Because the aim of this study was not to generalise its findings across all faculties or to compare the students from the different departments in the Social Sciences, the sample used was small. The author recommends a larger sample for a future study that might be interested in comparing the above variables. However, the importance of a larger sample cannot be under-emphasized because it reduces the risk of bias and false reporting by the participants. To augment the limitation of using a small sample for this study, the interviews were conducted to provide richer data that explained reasons behind the attitudes of the students towards online group work. Another limitation of this study is that it involved participants who happened to be the researcher’s students. The disadvantage of using one’s students is that they may feel obliged to participate in the study in order to avoid conflict with their lecturer. However, as previously indicated, consent was sought from the students, and they were given the option of withdrawing from the study to cater for ethical considerations.

Conclusion

In conclusion, the findings of this study buttress the observations made by previous researchers that online group work is supported by students, although in the current study, the students had reservations about how the online group work was implemented and monitored. For example, they were more concerned about, among others, issues of internet

connectivity and lack of accountability by some students. It is worth noting, however, that some students disliked online group work, but favoured face-to-face group work because the latter provides the opportunity to read nonverbal communication and to tangibly see the group members' feelings and behaviour that are not visible in online group work.

The benefits of group work as identified by the students in this study lend further credence to Vygotsky's postulation that collaborative learning leverages interaction and learning. The students themselves testified that group work increased interaction, teamwork, and reduced workload. The author of the current study concurs that lecturers should plan and manage the online group work in a way that will motivate students, for example, by explaining the value of online group work to the students and teaching them to organise their groups and share responsibilities before they embark on the online group work. The students further suggested that online group work should be monitored by the lecturers, and appropriate punishment should be meted on the students who do not cooperate or participate.

This study recommends further research on strategies for improving online group work across all levels of education. This study should also be replicated using a larger sample within and across all faculties at UB. This will shed more light on the impact of multicultural factors or cultural diversity on the implementation of online group work. Furthermore, this study recommends training activities or provision of tasks that will familiarise the students with online group work before they embark on group projects. The study further recommends an in-depth and wider comparison of students' attitudes towards online group work, especially in Botswana, because online work is the in thing now for social, economic and political reasons.

Furthermore, more research on the impact of online group work on the academic performance of communication and academic literacy students is recommended because, as previously indicated, there is a dearth of research in this area that addresses issues of online learning.

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