



Students' Perception on Group Work in Online Class: Lessons from Covid 19 Pandemic

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ABSTRACT

One of essential component of traditional learning is group work. It refers to a collaborative effort for students to achieve the goal of learning and accomplish the assignment. However, during the COVID-19 pandemic, the learning was shifted into online which also posed the adaptation of group work in online learning. A questionnaire of students' perception on group work in online learning was distributed online to 51 students at one private university in Indonesia. Students perceived benefits of group work in online learning including promoting responsibility, improving participation and collaboration, and developing understanding. They also preferred to have group work than individual work. Lastly, they faced discomfort of group work in online learning. This study shed a light that the pandemic has essentially taught that group work in online learning should be carried out with several careful considerations.

Keywords: COVID-19, Online Learning, Group Work

Introduction

The COVID-19 pandemic has greatly impacted the global school system (Pratama et al., 2020). Thus, schools and universities worldwide have been pushed to adopt new teaching and learning approaches rapidly. Because of the forthcoming COVID-19 pandemic, the Indonesian education system is likewise unequal (Simamora, 2020). The turn towards online learning to sustain educational continuity during lockdowns and social distancing measures has been one of the most significant shifts. Online learning has become the go-to alternative for traditional classroom learning. This impacted schools and universities worldwide to adopt the method to ensure the continuity of learning during the pandemic.

During the COVID-19 pandemic, schools and universities were compelled to abandon their conventional teaching and learning and adopt remote and online learning as possible alternatives for the education industry (Akuratiya&Meddage, 2020; González-Lloret, 2020). This has presented issues for educators, who have contributed positively by adjusting to the transition from traditional to internet-based learning (Faizah et al., 2021), as well as for students who have had to adapt to new learning modes and connect with their classmates and instructors. To ensure continuity of education, many institutions have leveraged various technologies such as Learning Management Systems (LMS), video conferencing platforms, online assessments, and educational apps and games. For instance, LMS like Blackboard and Moodle have been widely used to deliver course materials and assignments, while video conferencing platforms such as *Zoom* and *Google Meet* have enabled virtual classroom sessions (Barbour et al., 2020). Online assessments have also been used to measure learning outcomes, with institutions using tools like *Turnitin* and *Proctorio* to ensure academic integrity during remote assessments (UNESCO, 2020).

However, the transition to online learning has posed considerable difficulties for educators and students alike, as they have had to rapidly adapt to novel approaches to teaching and assessment (Djumingin et al., 2021). It is unavoidable, but teachers and students cannot quickly accept this occurrence since they are unprepared to adapt to the digital milieu (Laili & Nashir, 2021). Numerous students encountered difficulties in adjusting to this novel mode of education for various reasons, including lack of access to technology and resources, limited internet connectivity, and inadequate support from their institutions. Similarly,

educators had to cope with the challenges of developing and delivering online lessons and engaging students in a virtual setting. In addition, the shift toward online learning has significantly changed how assignments and assessments are conducted in the education industry. In traditional educational settings, individual assignments were the norm, focusing on evaluating a student's individual work. However, with the advent of online learning, the pedagogical approach to assignments and assessments has been redefined.

The COVID-19 pandemic has created a situation where educators must be innovative and adaptable in their approach to teaching and learning. The sudden shift towards online learning has presented challenges for educators. As emphasized by Barbour et al. (2020), educators must create innovative methods to involve students, provide information, and evaluate educational achievements in the online setting. One of the most effective ways to engage students in online learning is through the use of group work. Group work, an essential component of conventional learning, has had to adjust to the online setting (Djumingin et al., 2021).

The use of group work in online learning environments has many benefits, including increased student engagement, improved learning outcomes, and enhanced social skills (Gray & Dilorieto, 2016). According to Rovai and Jordan (2004), group work is an efficient method to promote student involvement, enthusiasm, and contentment with the online education process. The utilization of group work can increase the involvement and drive of students in online learning. Moreover, Hannaford (2017) stated that group work allows students to work on projects requiring cooperation and collaboration, which can lead to increased motivation and interest in learning. The use of online platforms and virtual classrooms allows students to work together in real time, making it easier to share ideas and perspectives and learn from one another (Gray & Dilorieto, 2016).

In real-life context, the usefulness of group work in online learning environments depends on several factors. One of the primary factors is the student's perception of group work in this new context. Students may find it challenging to work in groups online, as they may have limited access to technology or feel isolated from their peers (Sposato, 2021). Moreover, according to Soetanto and MacDonald (2017), students may have different learning styles, making it challenging to collaborate with their peers effectively. Educators

must, therefore, consider these factors when designing group work assignments and ensure that they are inclusive and accessible to all students. Moreover, the students faced several challenges when working in groups online. The most common challenges identified by the students were communication issues (Lambani&Nengome, 2017), difficulty in coordinating schedules, and limited access to technology (Barbour et al., 2020). A study reported that communicating effectively and efficiently with group members was often a challenge especially in EFL class (Lambani&Nengome, 2017) when using text-based communication tools such as email or messaging apps. They also reported that coordinating schedules to accommodate everyone's availability was challenging, as students had different schedules and time zones (Wildman et al., 2021). Another challenge identified by students was the lack of face-to-face interaction, which led to feelings of isolation and disconnectedness (Curtis & Lawson, 2019). Students reported that they missed the social interaction and support that they usually received from their peers in traditional classroom settings. This discovery emphasizes the significance of generating chances for students to engage with their classmates and develop a feeling of belongingness in online learning contexts.

Despite the challenges, Fung et al. (2016) stated that students recognized the potential benefits of group work in online learning environments. Students who viewed group work positively reported that it enhanced their critical thinking and problem-solving abilities, allowed them to learn from others, and improved their overall Hodges (2018) also suggests that group work can be an effective strategy for promoting active learning and enhancing students' involvement and participation in online learning setting.

However, the usefulness of group work in online learning environments has been called into doubt, along with the students' perceptions of group work in this new context. Thus, the objective of this research is to examine the student perspective on group work within the online learning setting, particularly during the COVID-19 pandemic. The findings from this study can help to understand the challenges and opportunities of group work in online learning during the pandemic and provide guidance to educators on how to maximize the benefits of group work in virtual learning environments to enhance student learning outcomes.

In general, the study presents valuable information to educators on how to optimize

group work in online learning environments. Through well-designed and supportive group assignments, instructors can promote the ability to analyse and evaluate information to solve problems, build a sense of community, and encourage active learning in online learning environments.

Cooper and Burford (2010) and Oh (2011) define group work in online learning as the collaborative effort of students to attain shared objectives and accomplish assignments in a digital environment. According to Curtis and Lawson (2019), group work may involve online video conferencing, chats, and emails, with the majority also requiring a connection to online resources. Desktop video conferencing is commonly cited due to the integration of communication and technological advances. They also used Blackboard Classroom to explore and evaluate online collaborative learning among students.

Furthermore, group work in online learning can take several forms, including group projects, online conversations, peer evaluations, and collaborative writing tasks. Research shows that integrating group projects into online courses improved students' cognitive learning (Ekblaw, 2017). In all circumstances, group work in online learning enables students to connect, share their knowledge and ideas, and work together to solve issues and attain common goals. Additionally, group work in online learning benefits students, teachers, and the educational system. According to research of Curtis and Lawson (2019), students' contributions to online debates demonstrate good collaboration in this online context. In addition, Hammar Chiriac (2014) found that most students (97%) agreed that group work enhanced their learning, academic knowledge, collaborative ability, or both.

Conducting group work in online learning during the COVID-19 pandemic provides some benefits to the students, including social collaboration and interaction, critical thinking and problem-solving development, and motivation and engagement improvement. First, group work in online learning can enhance comprehension and retention of content. As students interact, they may share their expertise and viewpoints, ask, and answer questions, and aid one another in comprehending challenging subjects (Hammar Chiriac, 2014). In their study, they revealed that students understood more when interacting than studying independently. As a result of disputing and critiquing one another's perspectives and paying great attention to their peers' contributions, the participants' academic learning was boosted

compared to when they worked alone. Hence, group work and online group discussions are two of the most prevalent instructional methodologies for constructing knowledge collaboration (Thomas & Thorpe, 2019).

Even when geographically separated, online learning may allow students to communicate with their classmates and develop relationships. This can build a sense of community and lessen loneliness and isolation. In addition, Curtis and Lawson (2019) indicate that students still have access to academic professors and private consultation in online learning. Then, the teacher and the students contribute to improving interaction through group work in online learning. Furthermore, group work in online learning may strengthen students' ability to think critically and problem-solving abilities through challenging the students to examine and evaluate material, find innovative solutions and apply their knowledge to real-world issues (Djumingin et al., 2021). The response of a student stated that the student found the collaborative group exercise intriguing since it allowed them to interact with other students, exposing them to their perspectives on the topic (Curtis & Lawson, 2019).

Moreover, group work in online learning may increase student engagement and motivation by permitting active participation, collaboration, and feedback. A greater number of interactions with members of the online learning community was related to increased student achievement and engagement (Lai et al., 2019). Moreover, the findings indicate that the e-learning community had such a greater effect on student engagement than the English learning system alone. Then group work in online learning can be more adaptable and accessible than traditional face-to-face group work, allowing students to work at their speed and according to their schedule, regardless of their physical location (Pratama et al., 2020). They contended that video conferencing is more effective, convenient, and secure. This would eliminate the distance barrier, allowing anybody in any region to communicate information, particularly news regarding the spread of COVID-19. Overall, group work in online learning can improve student learning outcomes, social interaction, community building, critical thinking, problem-solving skills development, and increased student engagement and motivation.

Meanwhile, group collaboration in online learning can confront students and instructors with several issues. Some of the most critical obstacles to group work in online learning could

be discussed as follow. First, online group work can provide substantial challenges in terms of communication. According to research of Wildman et al. (2021), contact with the whole team in certain teams became difficult since specific individuals required assistance to reach them. Nevertheless, technology may sometimes produce problems, such as limited communication, in situations where it could be more helpful (Misra & Mazelfi, 2021). In this situation, students may require assistance understanding each other's tone or intentions or encounter technological difficulties that hinder their ability to communicate effectively. Interactions and communication between students in an online environment may be more challenging (Curtis & Lawson, 2019). Finally, they recommended maximizing communication and information technology (CIT) to accomplish the objective.

Then managing group work in online learning can be difficult, especially when students are in various time zones and geographical locations or have different schedules (Wildman et al., 2021). This can make arranging group meetings and managing group initiatives challenging. Curtis and Lawson (2019) discovered that the present methods of immediate communication are restricted due to the capacities of communication channels. They further noted that only written communication is extensively accessible and dependable, highlighting the limitations of real-time communication methods. Furthermore, technological concerns, such as inadequate internet access or obsolete technology, might hinder students' ability to engage successfully in group work. This is consistent with research done by Curtis and Lawson (2019). Students participating in this study were well-versed in email and the web, two crucial Internet technologies. However, many were hesitant to join the discussion group and instead resorted to emailing (albeit facilitated by the convenience of clicking a group email button within the Blackboard Classroom program).

In addition, some students may be more active and involved in online group work than others, leading to dissatisfaction or animosity among group members. Therefore, Hammar Chiriac (2014) emphasized the importance of distinguishing between the methods used to accomplish group work, such as working in a group or working as a group. Late it will assist in promoting student cooperation in group work by ensuring that each collaborates equally. Additionally, to have an equitable group composition, it is necessary to establish whether the

group is homogenous or heterogeneous and to have a well-planned group composition, including group size and member diversity (Hammar Chiriac, 2014).

Moreover, disputes can emerge among group members in every group work environment. In an online context, the absence of nonverbal clues and the inability to meet in person to discuss concerns may worsen these confrontations. This occurred when students thought they needed additional time to become familiar with one another within the group or were in circumstances without collaboration (Hammar Chiriac, 2014). When evaluating the quality of group work in online learning, it might be difficult to tell how much each participant contributed to the group project or conversation. Hence, course designers and teachers must improve online group learning through the purposeful use of successful online learning pedagogies, more excellent knowledge of what constitutes teacher presence, and ways to implement this presence with online groups (Thomas & Thorpe, 2019).

In conclusion, group work in online learning presents several obstacles that might hinder cooperation and peer-to-peer learning. To overcome these obstacles, educators must handle communication, coordination, technology, participation, group dynamics, and evaluation in a proactive manner. Educators can optimize the benefits of group collaboration in online learning and improve student learning outcomes by establishing techniques to counteract these limitations.

Implementing group work in online learning settings involves careful preparation, transparent communication, and continual educator assistance and feedback. With the proper tactics and support, online group work may increase student engagement, build critical thinking and problem-solving abilities, and encourage cooperation and collaboration. Throughout the covid 19 pandemic, students' attitudes toward group collaboration in online learning have been the subject of several research studies.

González-Lloret (2020) conducted the first examination within a classroom of English as a second language. Group work projects leveraging collaborative technology promoted constructive language abilities (written and spoken) and communication, which increases language acquisition and motivates students to continue enhancing existing English proficiency and abilities. The second research by Wildman et al., (2021) consisted of 90 open-ended questionnaires administered to students working on project teams throughout the

pandemic. The outcomes pertained to the obstacles, the task-related communication process, the assignment of responsibilities, and the team's development and results. During the pandemic, significant barriers occur, making it difficult for the team to collaborate successfully. Then, the students reported a shift in utilizing new ways of contact, e.g., *Zoom* and *WhatsApp*, notably with the less communicative team member during the pandemic, and dealing with negatively impacted job outputs.

A third experiment was done during the pandemic, including group distance online learning (Misra & Mazelfi, 2021). The questionnaires administered to 106 accounting students at Andalas University revealed that group collaboration did not affect students' confidence. This statistic suggests that students have successfully fostered group communication and collaboration. This notion will ultimately damage their belief in their ability to learn effectively. Kan and Wong (2022) carried out another study on the topic of group work. Students in the fourth year of an undergraduate nursing program engaged in a study in which narrative surveys revealed five primary themes concerning students' performance through online teamwork. a) crucial interaction and communication, b) a collaborating group, c) information enhancement, d) the growth of intellectual skills, and e) instructor engagement. Good communication is required for ongoing involvement and adds to personal and professional development.

Although the advantages and difficulties were discovered in the previous studies, there is a gap in that most of them concentrated on the influence of communication components, which became the group work process in online learning. Meanwhile, there are several possible study gaps concerning group work in online learning. Understanding these gaps might enhance the design and execution of engaging online learning environments for students. Other areas requiring more research include the distinction between individual and group work systems, the advantages of group work, such as the enhancement of leadership, and the student's attitude about student accomplishments.

Methods

This qualitative descriptive study centered on a survey of respondents to determine their perceptions of group work in online learning during the covid-19 pandemic. In this study,

undergraduates engaged in online group projects during the COVID-19 pandemic. Respondents were students at private universities in Malang, East Java who enrolled in the English for Specific Purposes (ESP) course during the 2020/21 academic year. There were 51 responders from various academic disciplines, including psychology, civil engineering, mechanical engineering, and economic development. The student body was composed of 52.9% men and 47.1% women. The study instruments utilized were Google form surveys. A questionnaire is a set of questions administered to individuals to collect statistically reliable data on a particular subject (Roopa & Rani, 2012). In addition, descriptive analysis was used to extract the required data from the Google form responses of respondents. This questionnaire comprised of 15 items, including 15 Likert scales. The Likert scale indicated the respondents' agreement or disagreement with the survey items. These selections consist of four assertions, including SA= Strongly Agree, A= Agree, D= Disagree, and SD= Strongly Disagree.

Result and Discussion

A set of questionnaires was prepared to investigate students' perceptions and response towards group work in online learning. The close-end questions were used to find out students' perception of the group work in online learning. The results are as follows:

Table 1. Students' Perception on the Benefit of Group Work in Online Class

No.	Statement	Response				Mean
		SD	D	A	SA	
1	I can develop the critical thinking and problem-solving skills through group work in online learning.	0%	10%	63%	27%	3.18
2	I can develop my understanding on the taught materials through group work in online learning.	0%	7%	73%	20%	3.12
3	The group work in online learning helps me to acquire more knowledge in my field that will be useful in the future.	0%	16%	31%	53%	3.37
4	The group work in online learning makes me more creative and active than before.	2%	16%	55%	27%	3.08
5	The group work in online learning gives the flexibility and convenience in learning.	7%	20%	49%	24%	2.88
6	The group work in online learning enables me to participate in information, decisions, and solution of problems.	0%	10%	45%	45%	3.35
7	The group work in online learning makes me more responsible to the tasks.	0%	4%	22%	74%	3.71

8	I can develop social relationship through group work in online learning.	6%	8%	41%	45%	3.25
9	The group work in online learning trains me how to be a good leader and a good follower.	0%	4%	39%	57%	3.53
10	The group work in online learning can improve my attitude toward group work.	2%	4%	53%	41%	3.33
Total						3.28

The table shows that students perceived the benefits of group work activity in English online class during the pandemic. It allows a comparison of the percentage of the students' perception in each category and shows the description of the students' perception. As seen from the table, the majority of students agreed that group work in online learning gave them more benefits to their personal learning with relatively high mean score in each item. This is shown by the statements number one to seven. Specifically, students mostly perceived that group work in online learning developed their critical thinking skills, understanding, and creativity, comprising of more than fifty percent in each. Moreover, more than half of total students strongly agreed that group work in online learning helped them to acquire necessary knowledge related to their major in the future. Concerning on the learning in the class, students believed that the group work enabled them to be more flexible and convenient in learning. The group work also allowed them to participate actively to the classroom learning. Furthermore, most students clearly agreed that group work in online learning gave them more responsibility to finish the tasks with 74% and the highest mean score (3.71).

Apart from the benefits to students' individual learning, the group work in online learning also improves students' attitudes toward group work, shown in statements number eight to ten. Most of them agreed that through group work activity, they were taught to finish the tasks and assignments together with their friends. Students believed that the group work was beneficial to develop their social relationship, comprising of almost 90 %. In addition, approximately more than 95% agreed that group work enhanced their leadership skill and trained to be a good follower. The mean score for this item is quite high, with 3.53. Lastly, students also believed that they had positive attitude towards group work in online learning. Based on the explanation above, the total mean score for the benefits of group work in online class was high with 3.28. It is also revealed that the highest mean score was 3.71 and the lowest was 2.88. The result was still categorised as the positive perception.

Table 2. Students' Perception on Their Preferences of Group Work in Online Class

No.	Statement	Response				Mean
		SD	D	A	SA	
1	Doing tasks in group is better than doing tasks by myself.	4%	18%	47%	31%	3.06
2	The lessons become more interesting with the group work.	6%	12%	48%	33%	3.10
3	The group work in online learning is challenging.	4%	6%	41%	49%	3.35
Total						3.17

The table shows the result of the students' preference of group work in online learning. It allows a comparison of the percentage of the students' perception in each category and shows the description of the students' perception. In comparison to the other learning activity, more than half of them prefer to work in a group than working on their own. Only small number of students prefers to choose doing the work by themselves. The result is supported by the next statement that showed most of them believed that the lesson became interesting. On the other hand, the number of students who consider group work in learning challenging is still in a higher position. Thus, it is assumed that despite the challenge that may occur during group work in online learning, many of them prefer to do group tasks than individual tasks. In conclusion, they have a positive perception toward their preferences on the implementation of group work activity in online class, shown in the quite high total mean score (3.17).

Table 3. Students' Perception on Discomfort of Group Work in Online Class

No.	Statement	Response				Mean
		SD	D	A	SA	
1	The group work in online learning requires much more time than any other learning activities.	8%	27%	33%	32%	2.88
2	The group work in online learning is difficult in discussing ideas and cooperating with other students.	14%	37%	24%	25%	2.60
Total						2.74

The table above shows that the students perceived discomfort of group work in online class. As shown in the table, more than half students agreed that group work in online learning requires much more time than any other learning activities, comprising of around 65%. In terms of discussing idea and cooperating with other students, the students agreed that it is

more difficult. Almost 50% of students agree that it is difficult to discuss ideas and cooperate with others.

Table 4. Students' Perception on all aspects

Sections	Aspect	Mean score
1	The benefit of group work	3.28
2	The students' preferences of group work	3.17
3	Discomfort of group work	2.74
Average		2.97

To sum up, the average for all aspects showed that students perceived positive attitude towards the group work in online class, comprising of 2.97. The highest mean was found in the students' perception on the benefit of group work in online learning with score of 3.28, meaning that most of students agree that group work in online class had beneficial impact to students such as building responsibility and leadership. On the other hand, the lowest score was recorded from the discomfort of group work in online class with 2.74. This means that students perceived relatively negative towards discomfort of group work in their learning.

The Benefit of Group Work in Online Class

Based on the data obtained, it was found that students had significantly positive perception towards group work in online class. Most students agreed that group work in online learning brought several advantages to the students such as promoting responsibility, improving participation and collaboration, and developing understanding. The majority of students claimed that group work enabled them to become more responsible to the task given by the lecturer. This is relevant with Brown (2001, as cited in Kasim, 2015) who stated that one of the advantages of group work is promoting responsibility and autonomy. Group work which mostly consists of a small number of students working together makes students more responsible for action and progress compared to the whole-class activity which tends to be more passive.

Moreover, group work in online class also improves students' active participation and collaboration in the classroom activity. Although group work was carried out online learning, it enables students to improve communication and relationship which is in line with a study of Curtis and Lawson (2019). In their study, students can build a sense of community when communicating and participating in group work. Precisely, group work also enables students

to improve interaction with the teacher. Brown (2001, as cited in Kasim, 2015) also adds that students will feel more secured when working in group as they are unlikely to be criticized or insulted by their peers after making mistakes. Thus, they will become active and vocal to deliver their ideas to the group and learn in the class.

Another benefit found was group work in online learning develops understanding. First, group work in online learning can develop their understanding on the taught materials. This is mainly because when students face difficulty in understanding materials, they have company to assist them or reexplain the materials in group work. The result of Hammar and Chiriac's (2014) study also reported the similar findings. It is found that students have better understanding when joining group than having independent study. This is due to the ample opportunities provided by group work for students to share their point of view, ask and answer question, and help others in comprehending material. Therefore, group work in online learning has significant effect on students' positive attitudes such as improving participation, collaboration, and better understandings.

The students' preferences of group work

According to the data, it was obtained that students prefer to work in group rather than individually. Most students mentioned that they enjoy doing task in group than doing individually. With a similar result, Hammar Chiriac (2014) summarizes that students will be more enthusiastic when doing work in group rather than independent. Students also believe that the lesson will be more interesting with the group work as they share ideas, work cooperatively, and discuss the difficulties. Besides, students also state that group work in online learning is challenging due to the internet connection and inability to deliver ideas freely in the virtual space. Thus, the majority of students prefer to work in group during online learning as it offers more interesting lesson and triggers their motivation.

Discomfort of group work

In online learning, students also perceive discomfort of group work. The majority of students state that the group work requires much more time than any learning activities. As the group work was done online, the students need to agree the appropriate time to discuss the ideas and work the assignment together. This was claimed to become the challenge of group work in online learning. Another discomfort of group work in online learning is the

difficulty in discussing the ideas and cooperating with other students. The students surely have certain barrier in doing group work during the pandemic. The students feel difficult in communicating with their friends. Similarly, Wildman et al also found that students encounter difficulty to collaborate with team successfully. This is also added that students face unfamiliarity in utilizing new ways of contact such as *Zoom* and *WhatsApp*. Therefore, group work in online learning causes discomfort in students.

Conclusion

In conclusion, COVID-19 pandemic presented a number of obstacles in learning for both students and teachers including the shift of teaching from offline to online. The group work as an essential component conventional learning also had to adapt to online learning. Group work is a collaborative technique for students to accomplish assignment in the virtual environment. Based on the finding and discussion, students attain several advantages of group work in online learning, namely promoting responsibility, improving participation and collaboration, and developing understanding. Students also prefer to have group work in online learning than working individually which it offers more interesting lesson and triggers their motivation. On the other hand, group work in online learning also presented discomfort for students as it requires much time and difficult in discussing ideas and cooperating with other students.

Addressing students' perceptions, teachers need to be equipped with skills of applying more engaged and lively activity and implementing diverse group work activities in online or offline classroom to attract students' attention. Apart from teachers' efforts, students also have to encourage themselves to be more self-regulated and be autonomous in learning. Therefore, in the future, students will attain more benefits of group work and minimize the discomfort of group work either in online or offline learning.

References

- Akuratiya, D. A., & Meddage, D. N. R. (2020). Students' Perception of Online Learning during COVID-19 Pandemic: A Survey Study of IT Students.
- Barbour, M. K., LaBonte, R., Hodges, C., & Moore, S. (2020). Understanding pandemic pedagogy: differences between emergency remote, remote, and online teaching. *State of the Nation: K-12 e-Learning in Canada*, December, 1–24. <https://vtechworks.lib.vt.edu/handle/10919/101905>
- Cooper, L. L., & Burford, S. (2010). Collaborative Learning: Using Group Work Concepts for Online Teaching.
- Curtis, D. D., & Lawson, M. J. (2019). Exploring Collaborative Online Learning. *Online Learning*, 5(1). <https://doi.org/10.24059/olj.v5i1.1885>
- Djumingin, S., Maman, M., Haliq, A., & Weda, S. (2021). The Effectiveness Of Online Learning During The Covid-19 Pandemic At Higher Education In Indonesia. 7(5), 2021. <https://doi.org/10.5281/zenodo.4827351>
- Ekblaw, R. (2017). Effective Use of Group Projects in Online Learning (pp. 475–483). https://doi.org/10.1007/978-3-319-42070-7_43
- Faizah, U., Ambarwati, R., & Rahayu, D. (2021). From offline to online learning: various efforts to secure the learning process during covid-19 outbreaks. *Journal of Physics: Conference Series*, 1747(1), 012002. <https://doi.org/10.1088/1742-6596/1747/1/012002>
- Fung, D. C.-L., To, H., & Leung, K. (2016). The influence of collaborative group work on students' development of critical thinking: The teacher's role in facilitating group discussions. *Pedagogies: An International Journal*, 11(2), 146–166.
- González-Lloret, M. (2020). Collaborative tasks for online language teaching. *Foreign Language Annals*, 53(2), 260–269. <https://doi.org/10.1111/flan.12466>
- Gray, J. A., & Diloreto, M. (2016). The Effects of Student Engagement, Student Satisfaction, and Perceived Learning in Online Learning Environments. 11(1).

- Hallberg, L. R.-M. (2013). Quality criteria and generalization of results from qualitative studies. *International Journal of Qualitative Studies on Health and Well-Being*, 8.
- Hammar Chiriach, E. (2014). Group work as an incentive for learning students' experiences of group work. *Frontiers in Psychology*, 5. <https://doi.org/10.3389/fpsyg.2014.00558>
- Hannaford, L. (2017). Motivation in group assessment: a phenomenological approach to post-graduate group assessment. *Assessment & Evaluation in Higher Education*, 42(5), 823–836.
- Hodges, L. C. (2018). Contemporary Issues in Group Learning in Undergraduate Science Classrooms: A Perspective from Student Engagement. *CBE—Life Sciences Education*, 17(2), es3. <https://doi.org/10.1187/cbe.17-11-0239>
- Kan, C. W. Y., & Wong, F. M. F. (2022). How students learn in small group through online mode during the coronavirus pandemic: Descriptive narratives. *Teaching and Learning in Nursing*. <https://doi.org/https://doi.org/10.1016/j.teln.2022.12.003>
- Kasim, U. (2015). Implementation of group work in the classroom. *LINGUA*, 12(1), 97–106.
- Lai, C.-H., Lin, H.-W., Lin, R.-M., & Tho, P. D. (2019). Effect of Peer Interaction among Online Learning Community on Learning Engagement and Achievement. *International Journal of Distance Education Technologies*, 17(1), 66–77. <https://doi.org/10.4018/IJDET.2019010105>
- Laili, R. N., & Nashir, M. (2021). Higher Education Students' Perception on Online Learning during Covid-19 Pandemic. *EDUKATIF: JURNAL ILMU PENDIDIKAN*, 3(3), 689–697. <https://doi.org/10.31004/edukatif.v3i3.422>
- Lambani, M. N., & Nengome, Z. (2017). Group Work Impact on Academic Communication: Female English Student Teachers' Views. *International Journal of Educational Sciences*, 18(1–3), 101–109. <https://doi.org/10.1080/09751122.2017.1317168>
- Misra, F., & Mazelfi, I. (2021). Long-Distance Online Learning During Pandemic: The Role of Communication, Working in Group, and Self- Directed Learning in Developing Student's Confidence. <https://doi.org/10.2991/assehr.k.210202.042>
- Oh, E. G. (2011). Collaborative group work in an online learning environment.

- Pratama, H., Azman, M. N. A., Kassymova, G. K., & Duisenbayeva, S. S. (2020). The Trend in Using Online Meeting Applications for Learning During the Period of Pandemic COVID-19: A Literature Review. *Journal of Innovation in Educational and Cultural Research*, 1(2), 58–68. <https://doi.org/10.46843/jiecr.v1i2.15>
- Roopa, S. N., & Rani, M. S. (2012). Questionnaire Designing for a Survey. *Journal of Indian Orthodontic Society*, 46, 273–277.
- Rovai, A. P., & Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distance Learning*, 5(2). <https://doi.org/10.19173/irrodl.v5i2.192>
- Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, 1(2), 86–103. <https://doi.org/10.46627/silet.v1i2.38>
- Soetanto, D., & Macdonald, M. (2017). Group work and the change of obstacles over time: The influence of learning style and group composition. *Active Learning in Higher Education*, 18(2), 99–113.
- Sposato, M. (2021). Remote working in the time of covid-19: developing a web-based community. *International Journal of Web Based Communities*, 17(1), 1. <https://doi.org/10.1504/IJWBC.2021.112862>
- Thomas, G., & Thorpe, S. (2019). Enhancing the facilitation of online groups in higher education: a review of the literature on face-to-face and online group-facilitation. *Interactive Learning Environments*, 27(1), 62–71. <https://doi.org/10.1080/10494820.2018.1451897>
- Wildman, J. L., Nguyen, D. M., Duong, N. S., & Warren, C. (2021). Student Teamwork During COVID-19: Challenges, Changes, and Consequences. *Small Group Research*, 52(2), 119–134. <https://doi.org/10.1177/1046496420985185>