Impact of Collaborative Learning in Higher Education Environment

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Abstract

This study investigates the impact of collaborative learning in higher education settings, specifically within the Management program at Universitas Ma Chung, Malang, Indonesia. The background of this research highlights the increasing need to enhance the learning process in higher education through collaborative learning, as supported by various studies. The methodology involved action research with second-year students across three courses: IT for Finance, IT for Marketing, and IT for Human Resources Management. The students were divided into small groups and tasked with progressively challenging activities, culminating in the creation of a comprehensive book, each chapter written by different groups. The evaluation method employed Focus Group Discussions (FGD) to assess three key aspects: responsibility for project outcomes, satisfaction with student involvement, and lecturer satisfaction with the improvement and creation process. The results indicated a positive reception to collaborative learning, with ninety percent of students expressing that it was effective and motivating. The study found that small-group activities transitioning into larger group projects fostered collaboration and minimized conflicts, although some friction was observed. Overall, the study suggests that while collaborative learning can significantly enhance engagement and motivation in higher education, further empirical research is necessary to refine the approach and address remaining challenges. The successful implementation of this method within a single semester demonstrates its potential for broader application across different university settings, contributing to the ongoing discourse on effective pedagogical strategies in higher education.

Keywords: Collaborative Learning, Higher Education, FGD

Introduction

The need to improve the learning process, particularly in the environment of higher education, has already created a dilemma for many professors. Numerous experts have already concluded that fostering student collaboration is one of the success factors in enhancing the learning process (Al-Rahmi and Zeki 2017; Strang 2015; Wicaksono and Mustapa 2021) . However, the adoption of collaboration in the learning process, or collaborative learning as it is usually known, is not as simple as we believe (Han, Lim, and Jung 2018).

At Universitas Ma Chung, the necessity of implementing collaborative learning is even more pronounced. The courses taught, namely IT for Finance, IT for Marketing, and IT for Human Resources Management, are rich in theoretical content. These subjects require not just understanding but the ability to apply complex theories to practical scenarios. The traditional lecture-based approach has proven insufficient in engaging students at the required level. Therefore, increasing the intensity of classroom engagement through collaborative learning is essential (Wicaksono, Lubis, and Suprapto 2021). This approach ensures that students do not merely passively receive information but actively engage with the material, fostering a deeper understanding and retention of the concepts taught.

Collaborative learning is particularly crucial for these IT courses because they involve substantial theoretical frameworks that benefit from practical application and peer-to-peer interaction (Scager et al. 2016). By leveraging collaborative learning strategies, students can work together to tackle complex problems, share diverse perspectives, and develop solutions that

reflect a collective understanding (Yadegaridehkordi et al. 2019; Zhampeissova, Kosareva, and Borisova 2020). This method not only enhances individual learning outcomes but also prepares students for real-world professional environments where teamwork and collaboration are key. Implementing such strategies in higher education settings like Universitas Ma Chung can significantly improve the effectiveness of the learning process and better equip students with the necessary skills for their future careers.

Moreover, the dynamic nature of IT subjects demands an instructional strategy that evolves with the technological advancements and the ever-changing market needs. Collaborative learning facilitates this by promoting continuous interaction and feedback among students, which in turn fosters innovation and adaptability (Neubert et al. 2015; Pluta, Richards, and Mutnick 2013). Instructors can create a more engaging and supportive learning environment by incorporating collaborative projects, peer reviews, and group discussions, thereby shifting from a teacher-centered to a student-centered approach (Cress et al. 2015). This shift is critical in nurturing not only academic skills but also critical thinking, problem-solving, and interpersonal skills, which are indispensable in the professional world (Gandimathi and Zarei 2018; Lai 2011). Therefore, the emphasis on collaborative learning at Universitas Ma Chung is a strategic move to enhance the overall educational experience and outcomes for students.

This study was limited to action research conducted in the Management program at the Economic and Business Faculty of Universitas Ma Chung. All of these classes were assigned scaffolding tasks that led to the implementation of collaborative learning in small groups (Fauzi, Herpratiwi, and Riswandi 2022). Instead of keeping them competitively engaged in their tasks, this experiment collects all of their work into a single, comprehensive compilation. Consequently, this implementation of collaborative learning should foster a collaborative mindset in students over the course of one semester.

The results of this study are expected to be the basis for collaborative learning research in universities with different case studies. So that in the end, collaborative learning models can be applied and appropriate applications without having to sacrifice the ultimate goal of the learning. In addition, it can also be studied that the success rate of the learning process in the context of collaborative learning can be obtained in a different but still effective way.

Method

This action research was conducted at Universitas Ma Chung in Malang, Indonesia, in addition to the Management Study Program's 2nd year. The research topic is drawn from three classes: IT for Finance, IT for Marketing, and IT for Human Resources Management. These courses contain an average of twenty students who are two- and three-year college students. Initially, collaborative learning consisted of modest small-group tasks, such as drafting a little paper and attempting to deliver it to a larger group. After the first half of the semester, the activities, such as drafting case study analyses and also aggregating definitions for each group and exchanging them using an online LMS, became increasingly difficult for students.

The ultimate objective requires teamwork between small groups that coalesce into one huge group. This metamorphosis occurred because their final assignment was to construct a single book with each chapter completed by a separate small group. Due to friction between classmates and also small groups, this transition has already created pandemonium in a few of classrooms. However, all of the classes had already performed their tasks as a huge group, proving that they were pursuing the same objectives despite their conflicts.

The evaluation in this study was carried out using the FGD (Focus Group Discussion) technique which used three positive area questions to gain teaching experience in the process of implementing tasks. The three questions adapted from Lasauskiene's research are *Responsibility for the expected project result, Satisfaction with students' involvement into project*

activities and *Lecturer's satisfaction with improvement and creation while teaching with students* (Lasauskiene & Rauduvaite, 2015).

Moreover, the FGD technique is advantageous in this context because it encourages open dialogue among participants who share similar backgrounds and interests (William 2012; Acocella 2012). This setting helps to generate a broad spectrum of views and fosters a deeper understanding of the collective experiences of the students. Through FGDs, the researchers could identify patterns and themes related to student engagement, motivation, and the development of collaborative skills (O.Nyumba et al. 2018). Additionally, FGDs allow for the exploration of group dynamics and the identification of any potential conflicts or issues that arise during collaborative tasks. The insights gained from these discussions were instrumental in assessing the overall impact of collaborative learning and in making informed recommendations for future instructional strategies in higher education.

The implementation of the FGD itself is carried out as an implementation of quality research by involving groups consisting of a group of people with similar backgrounds and having common interests in it (Hennink, Monique 2014; Galanes and Adams 2013). In addition, it is hoped that things can be asked that can trigger discussions so that the right opinion is obtained for a problem (Barbour and Morgan 2017). In the scope of this study, the group is students involved in the class and questions are moderated by researchers as teaching lecturers in the class.

Results and Discussion

Students' reflections on this research have already demonstrated a positive response to the deployment of collaborative learning. At least ninety percent of students agree that this method is extremely effective and motivates them to both learn and become better acquainted with their classmates. On the other hand, their conflict and friction are never reflected in the questionnaire, as the majority of their conflicts have been resolved when they are aware of a strict deadline. Considering that students in all classes are comprised of a variety of races and genders, this outcome is certainly pretty surprising. It also demonstrates that the transformation of small groups into large groups poses little difficulty for the implementation of collaborative learning. However, conflict and friction will always occur in the majority of classes, and how the instructor handles the situation will determine the outcome. While this experiment is only an implementation of preliminary study, no unique method is recommended for tackling such a predicament.

Furthermore, an initial interview was conducted on student responses in the implementation of assignments collaboratively. The results obtained are in accordance with initial expectations, namely they generally like and are enthusiastic about the learning model. This is because this kind of learning model is considered new to them and causes intense interaction with other colleagues, not only in one group, but also collaboration between groups. These results are consistent with the existing statement in the theory that collaboration models can increase learning motivation in the classroom (Daniels & Khanyile, 2013; Scott & Bruffee, 2000), and proved to be valid up to the college level (AL-Rahmi and Othman 2013).

During the process of creating a book, lecturer, who was first a moderator, shifted his position to that of editor and reviewer. Due to the fact that the student's experience with the writing and editing process of a book is still very limited, lecturers must intervene directly and intensively. However, when asked if it interfered with the students' ability to complete their tasks, the majority of respondents said it did not, and even helped them obtain new book-working experience. So that, at the conclusion of the semester, they become even more motivated to complete their responsibilities.

This resulted in the successful completion of the final assignment, which was to write a book chapter for each of the smaller groups, which was then combined into one large book through collaborative effort. In this scenario, the instructor offers assistance by formally

publishing books, assigning it an ISBN number, and giving away copies of the books via existing publishing platforms. Students should feel a sense of accomplishment from the fact that their hard work over the course of one semester has resulted in a publication that can not only be of use to the general public but also to themselves. When these findings are announced, the very last interview session is done informally (because the very last formal class session has concluded), and the results of the interview also state the same thing as the previous session from the middle of the semester. that the vast majority of students have a sense of fulfillment and excitement as a result of the fact that what they have accomplished can now be recognized for what it truly is, and that they believe their work is a blessing for the wider public.

In general, the results of the collaboration that was carried out during the course of this study were met with a favorable reaction from the students. The first question that was asked, which was titled *Responsibility for the anticipated project outcome*, produced results that were satisfactory. This is further demonstrated by the fact that ninety percent of students meet initial expectations by turning in assignments on time and by following the instructor's instructions. Nevertheless, this is also supported by the atmosphere of the classroom, which, ever since the first semester, has been remarked upon as exhibiting strong characteristics of plurality and a strong disposition toward the completion of assignments. Therefore, the conditions of the environment have a significant impact, not only on the results of the first factor, but also on the second factor.

For the second question*, namely Satisfaction with students' involvement into project activities*, results were obtained similar to the first question. By using this learning model, students feel more involved in working on assignments, because they become more active in their work than they usually do in other classes. This satisfaction becomes relative because students in this class feel monotonous in other classes, because other lecturers lack innovation in learning models. So that when they are given an alternative model, the level of satisfaction obtained becomes high. This means that satisfaction can be obtained in the presence of comparisons of other classes that are considered conventional or more monotonous.

As for the third question, namely *Lecturer's satisfaction with improvement and creation while teaching with students,* it is basically intended for lecturers as course supervisors. The answer to this question is that lecturers still feel that there is something unsatisfied with the results of collaboration in general in the classroom. This is because some students are still indicated conflicts in completing assignments. A possible cause of this problem is due to the large enough class population for collaboration within a single class. In addition, the tasks given still need to be improved because they have not been fully integrated as a complete project.

So in general, it can be said that the collaborative learning model applied can be accepted by students, both in terms of the final results of the project and from the level of completion in the group. However, there are still some minor deficiencies that need to be corrected, and if they are to be applied in different conditions, they must pay attention to several factors that can have a significant effect such as comparisons with other classes and the culture in those classes. In addition, lecturers must also have more careful planning in assigning tasks so that they can lead to project-based learning wrapped in collaborative learning

Conclusion

Based on the results that have been carried out, it can be concluded that the application of collaborative learning within the scope of higher education can be said to be carried out successfully, with several factors that have a significant effect. Some of these factors include: a supportive classroom environment for students in a plural manner, comparison with other class situations that are mostly conventional and assignments that stimulate students to collaborate in small groups and large groups in stages.

While the answer to the initial research question regarding the collaborative learning model, concretely it still has to be retested with other empirical research. Because based on the results of interviews and polls conducted, although there has been satisfaction from students, there are still many shortcomings that must be corrected both from the lecturer and student side. The advice given is to use tasks in the form of project-based learning in order to support the implementation of collaborative learning. But in the foreseeable future, empirical experiments are still needed to support the statement.

Reference

Acocella, Ivana. 2012. "The Focus Groups in Social Research: Advantages and Disadvantages." *Quality and Quantity* 46, no. 4: 1125–36. https://doi.org/10.1007/s11135-011-9600-4.

AL-Rahmi, Waleed M., and M. Shahizan Othman. 2013. "Evaluating Student's Satisfaction of Using Social Media through Collaborative Learning in Higher Education." *International Journal of Advances in Engineering & Technology* 6, no. 4: 1541–51. https://doi.org/10.1.1.669.5864.

Al-Rahmi, Waleed Mugahed, and Akram M. Zeki. 2017. "A Model of Using Social Media for Collaborative Learning to Enhance Learners' Performance on Learning." *Journal of King Saud University - Computer and Information Sciences* 29, no. 4: 526–35. https://doi.org/10.1016/j.jksuci.2016.09.002.

Barbour, Rosaline S, and David L Morgan. 2017. *A New Era in Focus Group Research.* Edited by Rosaline S. Barbour and David L. Morgan. London: Palgrave Macmillan UK. https://doi.org/10.1057/978-1-137-58614-8.

Cress, Ulrike, Gerry Stahl, Sten Ludvigsen, and Nancy Law. 2015. "The Core Features of CSCL: Social Situation, Collaborative Knowledge Processes and Their Design." *International Journal of Computer-Supported Collaborative Learning* 10, no. 2: 109–16. https://doi.org/10.1007/s11412-015-9214-2.

Daniels, Felicity M., and Thembisile D. Khanyile. 2013. "A Framework for Effective Collaboration: A Case Study of Collaboration in Nursing Education in the Western Cape, South Africa." *Nurse Education Today* 33, no. 9: 956–61. https://doi.org/10.1016/j.nedt.2012.11.004.

Fauzi, Amran, Herpratiwi Herpratiwi, and Riswandi Riswandi. 2022. "Penerapan Strategi Scaffolding Pada Pembelajaran Fiqih Di Era Pasca Pandemi Covid-19." *Sustainable Jurnal Kajian Mutu Pendidikan* 5, no. 1: 68–75. https://doi.org/10.32923/kjmp.v5i1.2425.

Galanes, Gloria J., and Katherine (Katherine L.) Adams. 2013. *Effective Group Discussion : Theory and Practice.*

Gandimathi, A, and Nafiseh Zarei. 2018. "The Impact of Critical Thinking on Learning." *Asian Journal of Social Science Research* 1, no. 2.

Han, Soo Jeoung, Doo Hun Lim, and Eulho Jung. 2018. "A Collaborative Active Learning Model as a Vehicle for Online Team Learning in Higher Education." In *Advances in Higher Education and Professional Development*, 40–59. IGI Global. https://doi.org/10.4018/978-1-5225-5557-5.ch003.

Hennink, Monique, M. 2014. *Focus Group Discussions.* Oxford: Oxford University Press.

Lai, Emily R. 2011. "Critical Thinking: A Literature Review." *Pearson.* https://doi.org/10.1046/j.1537-2995.1995.35395184278.x.

Lasauskiene, Jolanta, and Asta Rauduvaite. 2015. "Project-Based Learning at University : Teaching Experiences of Lecturers." In *Procedia - Social and Behavioral Sciences*, 197:788–92. Elsevier B.V. https://doi.org/10.1016/j.sbspro.2015.07.182.

Neubert, Jonas C., Jakob Mainert, André Kretzschmar, and Samuel Greiff. 2015. "The Assessment of 21st Century Skills in Industrial and Organizational Psychology: Complex and Collaborative Problem Solving." *Industrial and Organizational Psychology* 8, no. 2: 238–68. https://doi.org/10.1017/iop.2015.14.

O.Nyumba, Tobias, Kerrie Wilson, Christina J. Derrick, and Nibedita Mukherjee. 2018. "The Use of Focus Group Discussion Methodology: Insights from Two Decades of Application in Conservation." *Methods in Ecology and Evolution* 9, no. 1: 20–32. https://doi.org/10.1111/2041-210X.12860.

Pluta, William J., Boyd F. Richards, and Andrew Mutnick. 2013. "PBL and Beyond: Trends in Collaborative Learning." *Teaching and Learning in Medicine* 25, no. SUPPL.1. https://doi.org/10.1080/10401334.2013.842917.

Scager, Karin, Johannes Boonstra, Ton Peeters, Jonne Vulperhorst, and Fred Wiegant. 2016. "Collaborative Learning in Higher Education: Evoking Positive Interdependence." *CBE Life Sciences Education* 15, no. 4: 1–9. https://doi.org/10.1187/cbe.16-07-0219.

Scott, John Anthony, and Kenneth A. Bruffee. 2000. "Collaborative Learning: Higher Education, Interdependence, and the Authority of Knowledge." *The History Teacher* 33, no. 2: 267. https://doi.org/10.2307/494981.

Strang, Kenneth David. 2015. "Effectiveness of Instructor-Led Collaborative Learning in the Classroom." *Journal of Applied Research in Higher Education* 7, no. 2: 134–45. https://doi.org/10.1108/JARHE-07-2012-0018.

Wicaksono, Soetam Rizky, M Syukri Azwar Lubis, and Edy Suprapto. 2021. "Improvisation of Project Based Learning with Combination of Collaborative Learning As a Rapid Response to Pandemic Learning." *Jurnal Iqra': Kajian Ilmu Pendidikan* 6, no. 2: 215–24. https://doi.org/10.25217/ji.v6i2.1408.

Wicaksono, Soetam Rizky, and Kasmudin Mustapa. 2021. "Implementasi Collaborative Project Based-Learning Menggunakan Podcast Di Masa Pandemi." In *Snastep*. Malang: Universitas Negeri Malang.

William, B. 2012. "Evaluating the Efficacy of Focus Group Discussion (FGD) in Qualitative Social Research." *International Journal of Business and Social Science* 3, no. 7: 54–57. http://www.ijbssnet.com/journals/Vol_3_No_7_April_2012/6.pdf.

Yadegaridehkordi, Elaheh, Liyana Shuib, Mehrbakhsh Nilashi, and Shahla Asadi. 2019. "Decision to Adopt Online Collaborative Learning Tools in Higher Education: A Case of Top Malaysian Universities." *Education and Information Technologies* 24, no. 1: 79–102. https://doi.org/10.1007/s10639-018-9761-z.

Zhampeissova, Korlan, Irina Kosareva, and Uliana Borisova. 2020. "Collaborative Mobile Learning with Smartphones in Higher Education." *International Journal of Interactive Mobile Technologies* 14, no. 21: 4–18. https://doi.org/10.3991/ijim.v14i21.18461.