

The implementation of cooperative learning as a learning management strategy to improve students' learning outcomes at SMK Muhammadiyah 04 Medan

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ABSTRACT

This study aimed to analyze the effectiveness of implementing Cooperative Learning as a learning management strategy to improve students' learning outcomes at SMK Muhammadiyah 04 Medan. The study employed a quantitative approach using an experimental research design involving an experimental group and a control group. The sample consisted of 56 eleventh-grade students, equally divided into two classes. Data were collected through pre-tests and post-tests and analyzed using SPSS version 22, including descriptive statistics, normality tests, homogeneity tests, paired-samples *t*-tests, and independent-samples *t*-tests. The findings revealed that the mean post-test score of the experimental class was 84.82, while the control class achieved a mean score of 78.25. The independent-samples *t*-test produced a significance value of 0.000 ($p < 0.05$), indicating a statistically significant difference between students taught using the Cooperative Learning approach and those taught using the teacher-centered method. These findings demonstrate that Cooperative Learning is an effective learning management strategy for improving students' learning outcomes. Therefore, Cooperative Learning can be recommended as an alternative instructional management approach to foster a more interactive, collaborative, and student-centered learning environment.

Keyword: cooperative learning; learning management; learning outcomes; educational management; classroom management

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1. INTRODUCTION

Educational management plays a crucial role in improving the quality of teaching and learning processes in schools. One of its essential components is learning management, which involves planning, organizing, implementing, and evaluating instructional activities to achieve educational objectives effectively.

Effective learning management requires teachers to adopt instructional strategies that promote student participation and engagement. Traditional teacher-centered approaches often limit students' opportunities to interact, collaborate, and actively construct knowledge. As a result, students may become passive learners, leading to lower academic achievement.

One instructional strategy that supports effective learning management is Cooperative Learning. This approach emphasizes collaboration among students working in small groups to achieve shared learning goals. Through active interaction, discussion, and mutual support, students can deepen their understanding of learning materials while simultaneously developing their social and communication skills.

From an educational management perspective, Cooperative Learning serves as an effective classroom management strategy that promotes student-centered learning. Its proper implementation can improve classroom dynamics, increase student engagement, and ultimately enhance students' learning outcomes.

Based on preliminary observations conducted at SMK Muhammadiyah 04 Medan, several students demonstrated low levels of participation during classroom activities, which negatively affected their academic performance. Therefore, this study was conducted to examine the effectiveness of Cooperative Learning as a learning management strategy for improving students' learning outcomes.

Accordingly, the research question addressed in this study is: "Does the implementation of Cooperative Learning significantly improve students' learning outcomes at SMK Muhammadiyah 04 Medan?"

2. RESEARCH METHOD

This study employed a quantitative research approach using an experimental research design to examine the effect of Cooperative Learning on students' learning outcomes.

The population consisted of all eleventh-grade students at SMK Muhammadiyah 04 Medan during the 2024/2025 academic year. A total of 56 students participated in the study and were divided into two classes, as presented in Table 1.

Table 1. Distribution of the Research Participants

Class	Number of Students
XI OTKP 1	28
XI OTKP 2	28
Total	56

A total sampling technique was employed, meaning that all members of the population were included as research participants.

Students in Class XI OTKP 1 were assigned to the experimental group and received instruction using the Cooperative Learning approach. In contrast, students in Class XI OTKP 2 served as the control group and were taught using the teacher-centered method.

Data were collected through pre-tests and post-tests. The data were analyzed using SPSS version 22, including descriptive statistics, normality tests, homogeneity tests, paired-samples *t*-tests, and independent-samples *t*-tests.

3. RESULTS AND DISCUSSION

A. Descriptive Statistics

The descriptive statistics of students' learning outcomes are presented in Table 2.

Table 2. Descriptive Statistics of Students' Learning Outcomes

Variable	Mean Score
Experimental Class Pre-Test	74.36
Experimental Class Post-Test	84.82
Control Class Pre-Test	66.61
Control Class Post-Test	78.25

The results indicate that both groups showed improvements in their learning outcomes. However, the increase observed in the experimental group was greater than that of the control group.

B. Normality Test

The results of the normality test indicated that all significance values were greater than 0.05, suggesting that the data were normally distributed.

C. Homogeneity Test

The homogeneity test yielded a significance value of 0.990, which was greater than 0.05. Therefore, the variances between the two groups were considered homogeneous.

D. Independent-Samples *t*-Test

The independent-samples *t*-test yielded a significance value (*Sig.* 2-tailed) of 0.000, which was lower than 0.05. This result indicates a statistically significant difference in the learning outcomes between students who were taught using the Cooperative Learning approach and those who were taught using the teacher-centered method.

E. Discussion

The findings of this study demonstrate that the implementation of Cooperative Learning significantly improves students' learning outcomes. This improvement can be attributed to the effective management of instructional activities throughout the teaching and learning process.

From a learning management perspective, Cooperative Learning supports the four fundamental management functions: planning, organizing, implementing, and evaluating instructional activities. During the planning stage, teachers designed collaborative learning activities that encouraged student participation and interaction. In the organizing stage, students were assigned to heterogeneous groups to facilitate knowledge sharing and peer support.

During the implementation stage, students actively participated in discussions, problem-solving activities, and collaborative tasks. These activities enabled them to exchange ideas, provide constructive feedback, and learn from one another. Throughout the evaluation stage, teachers monitored group performance, provided guidance, and assessed students' progress to ensure that the learning objectives were achieved.

The findings support the theory proposed by Johnson and Johnson (2018), who argued that Cooperative Learning enhances academic achievement by promoting positive interdependence, individual accountability, and collaborative interaction among students.

Furthermore, the results are consistent with Slavin (2019), who suggested that Cooperative Learning increases students' motivation, engagement, and academic performance. Students become more confident in expressing their ideas and participate more actively in the learning process.

The higher post-test scores achieved by the experimental group indicate that Cooperative Learning creates a more effective learning environment than the traditional teacher-centered method. Therefore, Cooperative Learning can be regarded as an effective instructional management strategy for improving classroom learning and enhancing students' academic achievement.

4. CONCLUSION

Based on the findings of this study, it can be concluded that the implementation of Cooperative Learning as a learning management strategy significantly improves students' learning outcomes at SMK Muhammadiyah 04 Medan.

The results indicated that the mean post-test score of the experimental group (84.82) was higher than that of the control group (78.25). Furthermore, the independent-samples *t*-test yielded a significance value (*p*) of 0.000, which was lower than the significance level of 0.05, indicating a statistically significant difference between the two groups.

These findings confirm that Cooperative Learning is more effective than the teacher-centered method in improving students' academic achievement. By facilitating effective planning, organization, implementation, and evaluation of collaborative learning activities, Cooperative Learning creates a more engaging, interactive, and productive learning environment.

Therefore, Cooperative Learning can be recommended as an effective learning management strategy for improving students' learning outcomes in secondary schools.

REFERENCES

- Alkhateeb, M. A., & Milhem, O. A. Q. B. (2020). Students' concepts of and approaches to learning and the relationships between them. *Cakrawala Pendidikan*, 39(3), 620–632. <https://doi.org/10.21831/cp.v39i3.33277>
- Felder, R. M., & Brent, R. (2007). Cooperative learning. In B. L. Smith (Ed.), *Active learning: Models from the analytical sciences* (pp. 34–53). American Chemical Society.
- Gericke, N., Boeve-de Pauw, J., Berglund, T., & Olsson, D. (2019). The Sustainability Consciousness Questionnaire: The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. *Sustainable Development*, 27(1), 35–49. <https://doi.org/10.1002/sd.1859>
- Johnson, D. W., & Johnson, R. T. (2018). Cooperative learning: The foundation for active learning. In S. M. Brito (Ed.), *Active learning—Beyond the future*. IntechOpen. <https://doi.org/10.5772/intechopen.81086>
- Mialkovska, L., Maiboroda, O., Koretska, N., Martyniuk, Y., Haponchuk, O., & Korobchuk, L. (2025). Modern approaches to educational management: European perspectives on innovation. *Salud, Ciencia y Tecnología-Serie de Conferencias*, 4, Article 1479.
- Mulyasa, E. (2023). *Educational management and school leadership*. Bumi Aksara.
- Namaziandost, E., Homayouni, M., & Rahmani, P. (2020). The impact of cooperative learning approach on the development of EFL learners' speaking fluency. *Cogent Arts & Humanities*, 7(1), Article 1780811. <https://doi.org/10.1080/23311983.2020.1780811>
- Nuopponen, A. (2010). Methods of concept analysis: Towards systematic concept analysis. *LSP Journal*, 1(2), 5–14.
- Nuryadi, Astuti, T. D., Utami, E. S., & Budiantara, M. (2017). *Fundamentals of research statistics*. Sibuku Media.

- Pangantihon, A. L. (2024). Cooperative learning strategies and students' well-being. *International Journal of Multidisciplinary Research and Analysis*, 7(6), 2732–2745. <https://doi.org/10.47191/IJMRA/v7-i06-41>
- Phillips, R. (2011). *Strategic planning in educational management*. Routledge.
- Priansa, D. J. (2022). *Effective learning management*. Alfabeta.
- Sallis, E. (2021). *Total quality management in education* (Rev. ed.). Routledge.
- Slavin, R. E. (2019). *Educational psychology: Theory and practice* (13th ed.). Pearson Education.
- Sugiyono. (2007). *Quantitative, qualitative, and R&D research methods*. Alfabeta.
- Usman, H. (2021). *Management: Theory, practice, and educational research*. Bumi Aksara.
- Zayed, M. (2019). The impact of implementing the cooperative learning method on improving the writing skill as perceived by EFL learners at the Arab American University Palestine. *Global Advanced Research Journal of Educational Research and Review*, 8(2), 13–24.