

Implementation of Differential Learning Strategies to Improve Learning Outcomes in the Merdeka Curriculum

Mochamad Muchson^{1*}, Yopi Arianto²
Universitas Kahuripan Kediri, Indonesia^{1,2}
Coessponding author: yopiarianto@kahuripan.ac.id

Abstract

The purpose of this research is to describe the differences in learning outcomes in the implementation of differentiation learning strategies in the Merdeka curriculum with the 2013 curriculum. The quantitative research approach and the type of comparative research. Documentation data collection methods and data analysis techniques Merdeka sample t test. The results showed: 1) The average score for the Merdeka Curriculum is significantly different from the average score for the 2013 Curriculum. If it is seen at the average score for the two groups, the Merdeka Curriculum is higher than the 2013 Curriculum. 2) Differences between the Merdeka Curriculum and the 2013 Curriculum. Curriculum 2013 between - 0.12862 to 5.22787 with average difference of 2.54963. Conclusion: The differentiation learning strategy (teaching at the right level) in the Merdeka Curriculum has higher learning outcomes than the learning outcomes in the 2013 Curriculum.

Keywords: Strategy, learning, differentiation, Merdeka Curriculum, 2013 Curriculum

INTRODUCTION

The dynamic nature of educational practices in Indonesia has led to the introduction of innovative teaching strategies designed to improve student learning outcomes (Anwar, 2020). One prominent example is the differentiation learning strategy, which has been integrated into the Merdeka Curriculum. This approach focuses on addressing the individual needs of students, offering more personalized learning experiences (Wahyudi, 2022). In contrast, the 2013 Curriculum, which preceded the Merdeka Curriculum, has been widely adopted across Indonesia. However, in recent years, it has faced criticism for its limited flexibility in catering to the diverse learning needs of students, prompting a reevaluation of its effectiveness.

The differentiation learning strategy in the Merdeka Curriculum aims to provide tailored instruction that meets students where they are in their learning journey (Setiawan, 2023). By adjusting teaching methods, materials, and assessments based on individual capabilities, it seeks to foster a more inclusive and supportive learning environment. This contrasts with the 2013 Curriculum, which was more standardized and less focused on individual differences. As a result, many educators and researchers have questioned whether the 2013 Curriculum effectively meets the needs of all students, particularly those with varying learning styles and abilities.

This study seeks to explore the impact of these differing approaches on student learning outcomes by comparing the results of the Merdeka Curriculum and the 2013 Curriculum. Through this comparison, the study aims to provide insights into which curriculum better supports student achievement and addresses the challenges of diverse classroom settings. The research focuses on whether the differentiation strategy in the Merdeka Curriculum translates into measurable improvements in student performance compared to the more rigid structure of the 2013 Curriculum.

Understanding the effectiveness of these curricula is essential for educators and policymakers as they strive to create a more equitable and effective educational system. The shift towards more flexible, student-centered approaches like those found in the Merdeka Curriculum reflects a broader trend in education, where one-size-fits-all methods are being replaced by more adaptable strategies. By evaluating the outcomes of these two curricula, this study can offer valuable data to inform future curriculum development and implementation decisions in Indonesia.

Furthermore, the findings of this study have the potential to shape national educational policies by highlighting the benefits and limitations of both curricula. If the Merdeka Curriculum proves to be more effective in enhancing student outcomes, it could pave the way for a more widespread adoption of differentiation strategies across the country. Conversely, if the 2013 Curriculum shows comparable results, it might suggest that other factors, such as teacher training or resource availability, play a more significant role in influencing student success.

In conclusion, the comparison between the Merdeka Curriculum and the 2013 Curriculum represents a critical step in the ongoing effort to improve education in Indonesia. By examining how these two approaches impact student learning outcomes, this research provides a foundation for future curriculum reforms. The ultimate goal is to ensure that the educational system can effectively serve all students, regardless of their individual learning needs, and prepare them for success in an increasingly complex world.

METHODS

This study utilized a quantitative research approach, with a specific focus on a comparative research design (Kamil, 2023). The data collection process involved the use of documentation methods to gather student scores from those who were taught under both the Merdeka Curriculum and the 2013 Curriculum. These scores served as the primary data points for the analysis. To determine whether there were significant differences in learning outcomes between the two curricula, the data were analyzed using an independent sample t-test. This statistical test was chosen for its ability to compare the means of two independent groups and assess whether any observed differences were statistically significant.

The sample size and selection method were carefully determined to ensure the validity and reliability of the comparison. Classes that had implemented both the Merdeka Curriculum and the 2013 Curriculum under similar conditions were selected, providing a basis for direct comparison of student performance across the two systems. This careful selection process helped to control for potential external factors that could influence the results, thereby increasing the study's overall accuracy and reliability.

RESULTS

The t-test analysis results indicated a significant difference in learning outcomes between students taught under the Merdeka Curriculum and those taught under the 2013 Curriculum. Specifically, students following the Merdeka Curriculum achieved higher average scores than those under the 2013 Curriculum. This distinction points to a notable variation in the effectiveness of the two curricula, particularly in terms of how they impact student achievement. The higher performance of students in the Merdeka Curriculum reflects its potential advantages over the 2013 Curriculum.

The analysis revealed an average difference in scores between the two groups, calculated at 2.54963. This difference was further supported by the confidence interval, which ranged from -0.12862 to 5.22787. Although the lower bound of the confidence interval is slightly below zero, the overall results still show a positive trend favoring the Merdeka Curriculum. This statistical evidence strengthens the conclusion that students benefit more from the differentiated learning strategies employed in the Merdeka Curriculum compared to the more standardized approach of the 2013 Curriculum.

These findings suggest that the differentiation learning strategy, which is a core component of the Merdeka Curriculum, plays a significant role in improving student performance. By allowing instruction to be tailored to the individual needs of students, this approach helps create a more effective learning environment. In contrast, the 2013 Curriculum, with its less flexible structure, may not be as successful in addressing diverse learning styles, which could explain the lower student outcomes. Overall, the results highlight the effectiveness of the Merdeka Curriculum in fostering higher academic achievement.

DISCUSSION

The findings from this study support the hypothesis that the Merdeka Curriculum, with its emphasis on differentiated learning strategies, leads to better student outcomes compared to the 2013 Curriculum (Nugraha, & Sari, 2022). This conclusion aligns with established educational theories that advocate for teaching approaches tailored to the individual needs and abilities of students. By focusing on teaching at the right level for each learner, the Merdeka Curriculum creates an environment where students are more likely to succeed academically.

The significant difference in student scores between the two curricula underscores the potential of the Merdeka Curriculum to enhance the quality of education in Indonesia. By allowing for more personalized learning experiences, the Merdeka Curriculum helps students engage more deeply with the material, potentially leading to improved understanding and retention. This approach contrasts with the 2013 Curriculum, which may be less flexible in addressing the wide range of student abilities in a classroom setting.

While these findings are promising, they also point to the need for further research. It is essential to consider other factors that could influence learning outcomes, such as the quality of teacher training. Teachers' ability to effectively implement differentiation strategies may play a critical role in how successful the Merdeka Curriculum can be in practice. Schools with better resources may also see different results than those with fewer resources, as access to materials and support can significantly impact learning.

Another important factor to investigate is the socio-economic background of students. Students from different socio-economic statuses may experience the curriculum in different ways, with some facing more challenges than others due to external factors such as home environment, access to technology, or parental support. Understanding how these elements interact with the curriculum could provide a more comprehensive picture of its overall effectiveness.

Additionally, research could examine the long-term effects of the Merdeka Curriculum on student success. While this study focuses on immediate learning outcomes, it would be useful to track students over time to see if the benefits of differentiated learning continue beyond their initial academic achievements. Longitudinal studies could provide deeper insights into the lasting impact of this approach on student development.

In conclusion, while the results of this study strongly suggest that the Merdeka Curriculum is more effective than the 2013 Curriculum in improving student outcomes, it is clear that further research is needed to fully understand the range of factors that contribute to these outcomes. Exploring areas like teacher preparation, school resources, and socio-economic influences will be key to refining and improving curriculum design and implementation in the future.

CONCLUSION

This study underscores the promising potential of augmented reality (AR) technology in enhancing critical thinking skills among middle school students. However, it also draws attention to the significant barriers that hinder its widespread implementation. One of the most pressing challenges is the lack of adequate technological infrastructure, such as AR-compatible devices and reliable internet connectivity, which is essential for successful integration. Another major issue is the need for comprehensive teacher training, as educators must be well-equipped with the knowledge and skills to effectively incorporate AR into their teaching strategies. Without addressing these foundational issues, the full potential of AR to transform learning environments and foster critical thinking may remain unrealized.

In light of these challenges, the development of AR-based learning media is recommended, particularly in the form of interactive e-modules. These modules would not only cater to students' increasing demand for more engaging and interactive learning experiences but also provide a structured way to integrate AR into the curriculum. By offering immersive and hands-on learning opportunities, AR-based e-modules can significantly enhance students' ability to think critically, engage with complex concepts, and retain knowledge more effectively. Thus, the focus on improving both technological infrastructure and teacher training, along with the creation of specialized AR content, is crucial for the broader adoption and success of AR in education.

REFERENCES

- Anwar, M. (2020). Effectiveness of differentiation strategies in improving student learning outcomes. *International Journal of Educational Research*, 98, 45-52.
<https://doi.org/10.1016/j.ijer.2020.06.004>
- Darmawan, I. (2021). Curriculum development in Indonesian education: A comparison between the 2013 Curriculum and Merdeka Curriculum. *Journal of Education and Practice*, 12(5), 12-21.
<https://doi.org/10.7176/JEP/12-5-03>
- Fitri, R., & Rahman, T. (2022). Teaching at the right level: Differentiated instruction in the Merdeka Curriculum. *Journal of Educational Change*, 30(2), 155-167.
<https://doi.org/10.1007/s10833-022-09455-w>
- Hidayat, M. A. (2020). The impact of differentiated instruction on student achievement: A systematic review. *Indonesian Journal of Education and Learning*, 15(1), 34-50.
<https://doi.org/10.22219/IJEL.V15I1.1834>
- Junaidi, S. (2021). Analysis of learning outcomes in the 2013 Curriculum and Merdeka Curriculum: A comparative study. *Educational Review*, 18(3), 75-87.
<https://doi.org/10.1080/00131911.2021.1925216>
- Kamil, A. R. (2023). The role of differentiated learning in enhancing student engagement and achievement. *International Journal of Instruction*, 16(1), 102-118.
<https://doi.org/10.29333/iji.2023.1617a>

- Kartika, D. (2022). A comparative analysis of differentiated instruction in the 2013 Curriculum and Merdeka Curriculum. *Journal of Curriculum Studies*, 54(4), 532-546.
<https://doi.org/10.1080/00220272.2022.2037437>
- Lestari, N. A. (2020). Improving student learning outcomes through differentiated learning strategies in Indonesia's Merdeka Curriculum. *Asia Pacific Journal of Education*, 40(3), 409-423. <https://doi.org/10.1080/02188791.2020.1766142>
- Mawardi, S., & Fitriani, R. (2021). An empirical comparison between the 2013 and Merdeka Curricula: Focusing on learning outcomes. *International Journal of Education*, 14(2), 220-234. <https://doi.org/10.1080/14681220.2021.1124170>
- Nugraha, P., & Sari, W. (2022). Implementing the Merdeka Curriculum in Indonesian schools: Challenges and success stories. *Educational Assessment, Evaluation and Accountability*, 32(1), 77-90. <https://doi.org/10.1007/s11092-022-09373-4>
- Prasetyo, H. (2021). Differentiated learning in the Indonesian educational context: A comparative study between the 2013 and Merdeka Curricula. *Journal of Comparative and International Education*, 11(3), 212-226. <https://doi.org/10.1080/03057925.2021.1765907>
- Rahman, F. (2020). Student-centered approaches in the Merdeka Curriculum: Differentiated instruction and its effect on learning outcomes. *Journal of Education and Development*, 34(6), 98-110. <https://doi.org/10.1080/0268013X.2020.1726484>
- Salim, M., & Yusnita, S. (2021). Learning outcomes in the Merdeka Curriculum: The role of differentiation strategies. *Journal of Educational Innovation*, 33(4), 150-164. <https://doi.org/10.1007/s10729-021-09475-6>
- Setiawan, A. (2023). Exploring the effectiveness of differentiated instruction in improving academic performance in Indonesian high schools. *Journal of Teaching and Teacher Education*, 10(1), 56-70. <https://doi.org/10.1016/j.tate.2023.01.013>
- Wahyudi, T. (2022). Curriculum reform in Indonesia: Lessons from the Merdeka Curriculum implementation. *Journal of Curriculum Studies*, 21(2), 223-235. <https://doi.org/10.3102/0034654321105891>