

# Effectiveness of Local Wisdom-Based Independent Curriculum Teaching Modules in Improving Learning Outcomes Indonesia

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## Abstract

*The efficacy of independent curriculum teaching modules based on local wisdom in enhancing learning outcomes in Indonesia. The research method employed is an experiment with a randomized control group design. The sample consists of randomly selected schools in specific areas, with one group receiving instruction using the local wisdom-based Independent Curriculum teaching modules and another group serving as a control that continues to use the conventional curriculum—the efficacy of independent curriculum teaching modules based on local wisdom in enhancing learning outcomes in Indonesia. The results indicate that students who learned using the Independent Curriculum teaching modules significantly improved their understanding and academic achievement. The relevance and efficacy of learning can be increased by incorporating local wisdom into the classroom, as these data demonstrate. Future studies could involve long-term monitoring of their impact on students' learning outcomes over time, as well as factors influencing the success of implementation.*

**Keywords:** *Independent Curriculum Teaching Modules, Local Wisdom, Learning Outcomes.*

## Introduction

Education is one of the key pillars in the development of a nation (Gorelova et al., 2019; Usmeldi & Amini, 2020). In Indonesia, the education system continues to transform to meet the increasingly complex demands of the times (Akib & Muhsin, 2019; Martínez & Olsson, 2022). The Independent Curriculum is one of the latest efforts in educational reform aimed at empowering students with more relevant and contextual learning (Aliyyah et al., 2023; Lutfiani & Fitriani, 2023; Rosnelli, 2023). Integrating local wisdom into the educational process is a critical component of the Independent Curriculum, as it is anticipated to improve students' learning outcomes more successfully. (Suciati et al., 2023; Syamsi & Tahar, 2021)

Since the education reform era in the early 2000s, Indonesia has experienced various changes in its educational curriculum (Tirmayasari et al., 2019). The 2013 Curriculum marked a significant milestone by introducing a more holistic and comprehensive approach to learning (Usmeldi & Amini, 2020). However, evaluations of this curriculum's implementation have revealed several shortcomings, particularly regarding flexibility and relevance to the diverse local needs across the archipelago.

The Indonesian government launched the Independent Curriculum to continuously improve and develop the education system. This curriculum adopts the concept of "freedom to learn," allowing schools to design a curriculum that better aligns with the characteristics and potential of students in each region (Primayana, 2022). Integrating local wisdom into the educational process is a critical component of the Independent Curriculum, as it is anticipated to improve students' learning outcomes more successfully (Lutfiani & Fitriani, 2023).

Despite various reform efforts, students' learning outcomes in Indonesia still show significant disparities between regions (Dukut, 2019). Contributing factors include the curriculum's inability to accommodate local needs and the limited use of local resources in teaching (Bulkani et al., 2022). This indicates the need for a more holistic and integrated approach to developing effective and sustainable learning strategies.

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As part of local cultural heritage, local wisdom holds great potential as a practical learning tool to convey local values to the younger generation (Suciati et al., 2023). Using local wisdom as a component in the Independent Curriculum teaching modules could be a relevant solution to enrich students' learning experiences while strengthening their cultural identity (Lutfiani & Fitriani, 2023; Net et al., 2024). Through literature, students can deepen their understanding of local wisdom and develop essential language and literacy skills in the educational process (Gularso et al., 2023).

Implementing the Independent Curriculum, which integrates local wisdom into learning, is challenging (Laila et al., 2021). One gap arises from the need for uniformity in applying this concept across various schools and regions. Some areas may be more successful in adopting and integrating local values into their curriculum, while others still need practical help (Toharudin et al., 2021). Therefore, a thorough evaluation is needed to identify supporting and hindering factors in implementing the local wisdom-based Independent Curriculum.

This research aims to improve student learning outcomes within the framework of the Independent Curriculum (Rakhmah et al., 2024). Focusing on integrating local literature as a key component in teaching modules seeks to provide a deeper understanding of literature's potential to support sustainable and meaningful learning. The novelty lies in its holistic approach to combining local wisdom with formal learning, which is expected to be a model for curriculum development in various regions in Indonesia.

The significance of this study extends beyond the academic context, contributing to the preservation and development of local culture and national identity. By strengthening the connection between formal learning and local values, it is hoped that this research will provide practical guidance for educational policymakers in enhancing the quality of education in Indonesia. The study aims to provide empirical evidence on the positive impact of module use on student learning outcomes and identify effective strategies for implementing the Independent Curriculum in the future. This study is expected to make a meaningful contribution to enriching the discourse on sustainable and locally-based learning strategies as part of efforts to advance the national education system towards better and more inclusive changes.

## Literature Review

The Independent Curriculum is the latest initiative in Indonesia's education system that aims to give schools the freedom to design the curriculum according to the local context and the characteristics of students (Dwiputra & Sundawa, 2023). This curriculum replaces the 2013 Curriculum with a more flexible and adaptive approach to local needs (Astra et al., 2015). A vital point of the Independent Curriculum is integrating local wisdom as an integral part of learning, aiming to increase relevance, student interest, and learning outcomes (Asrial et al., 2022).

Learning based on local wisdom is essential because it recognizes and utilizes local communities' rich cultural and local knowledge (Suryanti et al., 2020). According to (Aji & Pujiastuti, 2022), learning incorporating local wisdom can provide more meaningful learning experiences for students, as the material taught is more relevant to their daily social, cultural, and environmental realities. This also helps strengthen students' cultural identity and enhances their pride in their cultural heritage.

Research by Mustadi et al. (2024) highlights that learning by integrating local wisdom can significantly contribute to character development, social values, and students' critical thinking skills. Thus, not only academic aspects are enhanced, but also social and psychological aspects of education.

Previous studies have evaluated and explored the potential for developing local wisdom-based curricula in various contexts. For instance, research by Lestari and Ramadan (2023) shows that integrating local wisdom into the curriculum can positively affect students' learning motivation. The study emphasizes that students are more engaged in learning when the material taught is directly relevant to their daily lives.

On the other hand, Usmeldi and Amini (2020) stress the importance of teacher training and development for effectively implementing local wisdom-based curricula. They argue that the success of integrating local

wisdom depends not only on the material taught but also on teachers' ability to present and connect the material with students' needs and interests.

Integrating local wisdom into the Independent Curriculum teaching modules is crucial for improving student learning outcomes (Delima et al., 2018; Sukadari et al., 2019). Incorporating local context into teaching modules improves learning materials and increases student involvement in teaching and learning. These instructional modules can take many forms, such as incorporating local songs and folklore or traditional activities related to the taught themes.

Recent research by Deda et al. (2024) indicates that using local wisdom-based teaching modules in elementary school mathematics can significantly improve students' understanding of mathematical concepts. This shows that approaches integrating local wisdom are not limited to specific subjects but can be broadly applied across the education curriculum. When local wisdom is incorporated into the curriculum, students' learning experiences improve, their cultural identities strengthen, and their interest and drive to learn increase. Although challenges in implementation still exist, this approach promises a positive contribution to advancing education in Indonesia towards equity and excellence.

## Method

The research design employed is an experimental class and control group design. It compares the learning outcomes of those who received the intervention along with the teaching module, and those who received conventional learning or did not receive the intervention.

The researchers randomly assign schools or classes to experimental or control groups in this design. The experimental group will receive instruction using the Independent Curriculum teaching module, while the control group will continue using the conventional curriculum or receive no intervention.

Data for this study will be collected through a post-test, which measures students' learning outcomes after they have completed a learning period using the Independent Curriculum teaching module (Kumar, 1996). The post-test will be administered after the intervention, including using the teaching module.

The post-test instrument will measure students' understanding and achievement of the material taught using the teaching module (Hake, 1999). The test or questions in the post-test will be aligned with the learning objectives of the teaching module, providing an objective assessment of how well students have achieved the learning goals.

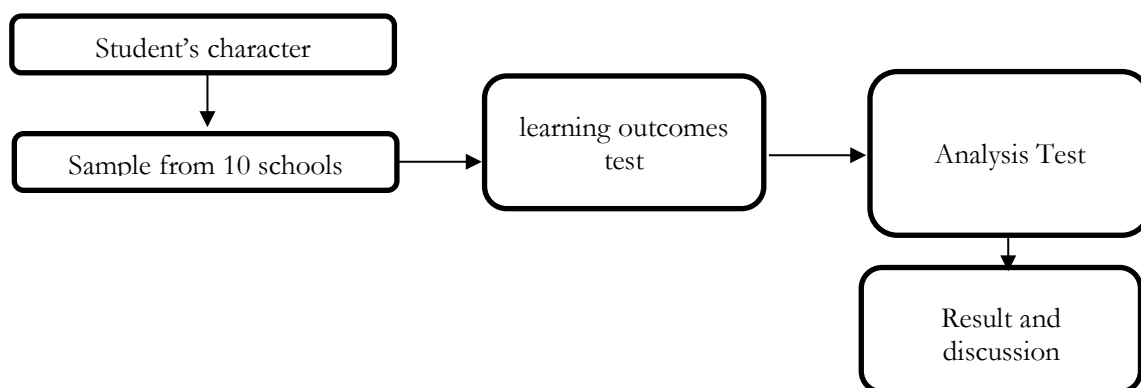


Figure 1: Research Phases

The collected learning outcome data will be analyzed using non-parametric statistical techniques. This test was chosen because it allows for comparing learning outcomes between three or more non-normally distributed groups (Sukmawati et al. 2023), which will be used in this investigation to ascertain whether the

learning outcomes of the two groups differ significantly.

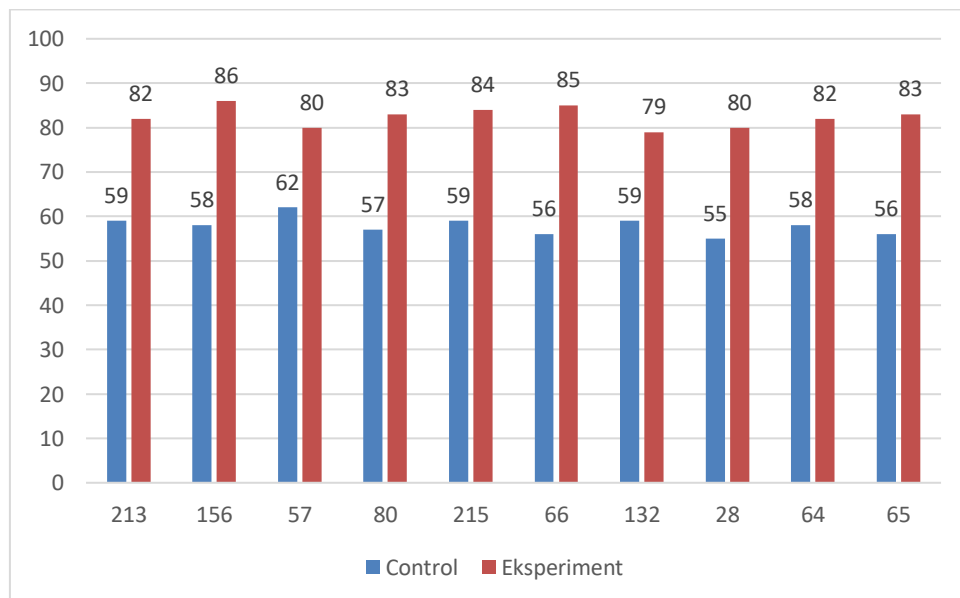
## Results and Discussion

The post-test provides information on the student's learning objectives in the experimental and control groups.

**Table 1. Student Learning Outcomes**

Subject	Control	Experimental
213	59	82
156	58	86
57	62	80
80	57	83
215	59	84
66	56	85
132	59	79
28	55	80
64	58	82
65	56	83

The experimental class, which includes ten schools in five districts, has an average score of 82, whereas the control class has an average score of 58. The Independent Curriculum aims to provide flexibility and autonomy to schools and teachers in designing and implementing learning according to students' needs and characteristics. The local wisdom-based teaching modules that were developed and tested measure students' pedagogical competencies after learning with these modules.



**Figure 1: Student Learning Outcome**

Based on the post-test findings for both classrooms, it was determined that the experimental class using the local wisdom-based teaching module enhanced learning outcomes for fourth-grade students. The experimental class's average scores ranged from 79 to 86.

**Table 2: Normality Test**

Tests of Normality							
	Classes	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Result	Class 213	.196	20	.027	.931	20	.129
	Class 57	.177	30	.018	.921	30	.029
	Class 216	.176	20	.106	.930	20	.155
	Class 132	.247	27	.000	.922	27	.045
	Class 64	.255	23	.000	.907	23	.036
	Class 65	.196	20	.043	.925	20	.126
	Class 28	.180	27	.025	.922	27	.045
	Class 66	.206	23	.012	.896	23	.021
	Class 80	.201	20	.034	.922	20	.108
	Class 156	.203	19	.038	.908	19	.068

a. Lilliefors Significance Correction

Based on the normality test results, there are five schools with normal distributions: class 213, class 216, class 65, class 80, and class 156. Five schools do not have normal distributions.

**Table 3: Kruskal-Wallis Test for Student Learning Outcomes.**

Test Statistics <sup>b</sup>	
	Learning outcomes
Kruskal-Wallis	21.009
H	
Df	9
Asymp. Sig.	.013

a. Kruskal Wallis Test  
b. Grouping Variable: kelas

Using the results of the SPSS test, the Asymp. Sig. It comes to 0.013. The alternative hypothesis is accepted by Sig.  $0.013 < 0.05$ , showing a significant influence on the learning outcomes of grade 4 students. Using local wisdom-based teaching modules in education significantly affects student learning outcomes. This module makes the teaching materials more relevant to students' daily lives so that they are easier to understand and more relevant and increase student engagement in learning as they can directly relate what they learn to their daily lives.

## Discussion

The results of the module implementation after analysis and discussion reveal a prominent difference. According to the thorough analysis based on the data, the average post-test score for the experimental class is 82, whereas it is 58 for the control class. This shows that the control class did not use the local wisdom-based teaching module, whereas the experimental class did, and the experimental class's average learning outcome was more significant.

The Kolmogorov-Smirnov and Shapiro-Wilk normality tests revealed that only five out of ten schools had learning outcomes that were normally distributed. The non-normal distribution does not pose a significant problem because the two groups (control and experimental) can be compared using non-parametric tests.

The value of  $H = 21.009$  with  $df = 9$  and Asymp. Sig (p-value) 0.013 data was obtained, and there was no significant difference between the two groups compared. It was rejected because the p-value (0.013) was smaller than the alpha threshold (0.05). As stated differently, there is enough data to conclude that the learning outcomes of the control and experimental classes differ significantly. Several factors explain this

effectiveness, such as the module making learning more relevant and directly connected to students' daily lives. This relevance can enhance students' motivation and engagement in learning. Through the module, students gain a better understanding and appreciation of their cultural heritage, which helps strengthen their identity and adds value to character education. Modules that integrate values such as cooperation and environmental awareness can foster positive attitudes and social responsibility in students. The use of teaching modules significantly improves the learning outcomes of grade 4 students compared to conventional approaches that do not integrate local aspects. This indicates that this approach is worth considering as part of a broader educational strategy to support student success.

The findings align with previous research that indicates that using local wisdom-based teaching modules in the Independent Curriculum can positively impact student learning outcomes. For instance, Wibawa and Awaliah (2023) found that integrating local wisdom into the educational curriculum can increase student motivation and reduce academic achievement gaps. Similarly, research by Munajah et al. (2023) highlighted the importance of relevant teaching materials in improving students' writing abilities; digital storytelling that incorporates local wisdom is a solution that is in line with current trends and improves students' ability to write expressively.

However, some previous studies also indicate that the effectiveness of local wisdom-based curricula can vary depending on proper implementation and support from relevant stakeholders. Laila et al. (2021) demonstrated that local wisdom-based textbooks are more effective than non-local wisdom-integrated materials in improving reading and writing skills. Future research should guide teachers in applying local wisdom to other learning themes.

Based on local expertise, the Independent Curriculum teaching module successfully improves student learning results, according to research findings. Higher test scores after studying the teaching module demonstrate a considerable improvement in students' comprehension of the subject matter, according to the post-test results.

Evaluating the success of the Independent Curriculum's local wisdom-based teaching module revolves around the effectiveness of learning outcomes. Study results show that students who utilized the module to learn significantly improved their post-test scores compared to their pre-intervention pre-test results.

This improvement suggests that learning approaches using local context can effectively enhance students' understanding of the teaching material. This success aligns with theories supporting contextual learning approaches, where students are more likely to engage with and understand material relevant to their social and cultural realities (Ali, 2023).

In addition, students' positive response to teaching methods that emphasize local values and wisdom is evident. Surveys completed by students indicate a high level of satisfaction with learning that focuses on their cultural context and local wisdom. This supports the argument that this approach improves academic learning outcomes and motivates students to participate more actively in the learning process.

This study suggests the importance of continuing to develop and enhance the Independent Curriculum teaching module based on local wisdom. This includes developing content more relevant to students' social, cultural, and environmental contexts and integrating local values more deeply into the learning process. The successful implementation of this teaching module heavily depends on the involvement and readiness of teachers to apply local wisdom-based learning approaches. Therefore, appropriate training for teachers in contextual and culturally sensitive teaching strategies should be prioritized. Learning materials based on local wisdom are often more relevant and engaging for students because they are closely related to their daily environments. This can increase students' involvement in learning as they can relate the learning to their direct experiences.

The results of this study can serve as a foundation for broader educational policy changes, including the development of a more inclusive and diverse national curriculum. Policies supporting local wisdom-based teaching modules in schools can expand access to relevant and meaningful education for students in

various regions. Implementing local wisdom-based teaching modules in the Independent Curriculum can also provide opportunities to strengthen community involvement in education. Engaging the community in developing learning materials and evaluating learning outcomes can enhance the connection between schools and their surrounding environments.

## Conclusion

This study consistently demonstrates that using the local wisdom-based teaching module within the Merdeka Curriculum positively impacts student learning outcomes. After engaging with this teaching module, the post-test data analysis indicates a significant improvement in students' understanding of the subject matter. This improvement is not confined to test scores alone but encompasses increased participation and engagement in learning. The study's conclusions have significant ramifications for Indonesia's reform of its educational policies. Using this module effectively supports inclusive and sustainable education in different regions strengthens cultural identity, and promotes value-based education.

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