



Original Article

The Effect of Differentiated Learning on Students' Learning Outcomes in Pancasila Education: A True Experimental Study at SMAN 1 Badar

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Abstrak:

The quality of education in Indonesia still faces challenges, particularly in learning practices that do not fully accommodate students' diverse learning characteristics. In Pancasila Education, learning activities are often dominated by teacher-centered methods, which limit student participation and reduce the effectiveness of the learning process. This study aims to examine the effect of differentiated learning on students' learning outcomes in Pancasila Education at SMA Negeri 1 Badar. The research employed a quantitative experimental approach using a pre-test and post-test control group design. The sample consisted of fifty students selected through simple random sampling and divided into two groups: an experimental group and a control group. Data were collected through learning outcome tests administered before and after the learning process. The data were analyzed using descriptive statistical analysis, simple regression analysis, and an independent sample comparison test to determine differences in learning outcomes between the two groups. The results show that students who experienced differentiated learning demonstrated higher improvement in learning outcomes compared to students who were taught using conventional learning methods. Differentiated learning provided opportunities for students to learn according to their readiness levels, interests, and learning profiles, which increased their participation and understanding of the learning material. The study concludes that differentiated learning has a positive effect on students' learning outcomes in Pancasila Education and can create a more inclusive and student-centered learning environment.

Keywords: Differentiated Learning, Learning Outcomes, Pancasila Education, Student-Centered Learning, Secondary Education

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Submitted	: 23 March 2026
Revised	: 25 March 2026
Acceptance	: 31 March 2026
Publish Online	: 01 April 2026

Introduction

The quality of education remains an important issue in improving human resources in Indonesia. Education plays a crucial role in developing students' intellectual abilities, character, and social responsibility so that they are able to participate actively

in social and national life. However, the implementation of learning in schools still faces several challenges, including teacher-centered learning practices, limited student participation, and the use of learning strategies that do not accommodate students' diverse learning characteristics ([Fauzi & Hidayat, 2022](#)). These conditions can reduce the effectiveness of the learning process and ultimately influence students' learning outcomes. In the Indonesian education system, Pancasila Education has an important role in shaping students' character and civic awareness. This subject aims to instill the values of Pancasila as the ideological foundation of the state and to develop students' understanding of their rights and obligations as citizens. Through Pancasila Education, students are expected to develop attitudes of nationalism, tolerance, and responsibility in social life ([Kemendikbudristek, 2022](#)). Therefore, learning in Pancasila Education should not only focus on delivering theoretical knowledge but also encourage students to actively analyze and apply civic values in real-life contexts.

However, in practice, learning activities in many classrooms are still dominated by conventional teaching methods such as lectures and memorization. In this learning model, the teacher becomes the main source of information, while students tend to be passive recipients of knowledge. As a result, students have limited opportunities to actively participate in learning activities and develop critical thinking skills ([Rahman & Widodo, 2021](#)). This condition may reduce students' motivation and engagement in learning and affect their understanding of the subject matter. Another challenge in the learning process is the diversity of students' characteristics in the classroom. Students have different learning styles, interests, and levels of learning readiness. Some students learn more effectively through visual explanations, while others understand material better through auditory activities or practical experiences. When teachers apply the same teaching methods to all students without considering these differences, some students may experience difficulties in understanding the learning material ([Sari & Nugroho, 2023](#)). Consequently, learning becomes less meaningful and may influence students' academic performance. These conditions were also observed in the learning process at SMAN 1 Badar. Based on preliminary observations, learning in Pancasila Education still tends to rely on conventional teaching methods in which the teacher plays a dominant role in delivering the material. Students mainly listen to explanations and take notes, while opportunities for active participation remain limited. As a result, some students experience difficulties in understanding the learning material, particularly related to the topic of citizens' rights and obligations as regulated in the 1945 Constitution of the Republic of Indonesia. This condition indicates the need for learning strategies that are more adaptive and responsive to students' diverse learning needs. One learning approach that can address these challenges is differentiated learning. Differentiated learning is an instructional approach that recognizes students' differences in readiness, interests, and learning profiles and adjusts learning activities accordingly ([Tomlinson et al., 2021](#)). Through differentiated learning, teachers can modify learning content, learning processes, and learning products to accommodate students' diverse needs. This approach enables students to access learning materials in ways that best suit their learning styles and abilities.

Differentiated learning also encourages students to become more active participants in the learning process. By providing various learning activities that correspond to students' learning styles—such as visual, auditory, and kinesthetic—students are given opportunities to explore learning materials more meaningfully. According to [Subban and Round \(2021\)](#), differentiated instruction can create a more

inclusive learning environment and improve students' engagement and academic achievement. Therefore, this approach is considered effective in improving the quality of the learning process. Several previous studies have shown that differentiated learning can positively influence students' academic performance. Research conducted by [Putri and Handayani \(2022\)](#) found that differentiated learning strategies can increase students' motivation and participation in classroom learning. Similarly, a study by [Prasetyo and Lestari \(2023\)](#) revealed that differentiated instruction can significantly improve students' learning outcomes because it provides learning experiences that are more relevant to students' needs and characteristics.

However, studies that specifically examine the implementation of differentiated learning in Pancasila Education at the senior high school level are still relatively limited. Most previous research focuses on other subjects or does not specifically analyze the influence of differentiated learning on students' learning outcomes in civic education contexts. Therefore, further research is needed to examine how differentiated learning can be implemented effectively in Pancasila Education and how it influences students' learning outcomes. Based on these considerations, this study aims to analyze the effect of differentiated learning in Pancasila Education on students' learning outcomes at SMAN 1 Badar. The results of this study are expected to provide empirical evidence regarding the effectiveness of differentiated learning strategies in improving students' understanding of civic concepts, particularly related to the balance of rights and obligations as citizens. In addition, the findings of this research are expected to contribute to the development of more adaptive and student-centered learning strategies in Pancasila Education.

Methods

This study employed a quantitative approach with an experimental research approach and applied a true experimental design. The design used was a Pre-test-Post-test Control Group Design, in which both groups were given a pre-test to determine their initial abilities. The experimental group was then given treatment, while the control group was not.

Table 1 Pretest-Posttest Control Group Design

Group	Pre-test	Treatment	Post-test
Experiment	Y ₁	X	Y ₂
Control	Y ₁	-	Y ₂

Source: pre-test and post-test Control Group Design: True Experimental Design.

Description:

X: Treatment using Differentiated Learning Process

Y₁: Pre-test scores for the experimental and control classes

Y₂: Post-test scores for the experimental and control classes

-: Conventional Learning

In this study, the authors used a simple random sampling technique, which randomly selected two classes from several classes within the school (all classes had an equal chance of being selected). Once selected, they could not be reselected. The sample size for this study was 50 students. Once the sample size was determined, random assignment was performed to divide the selected students into two research groups: the experimental group, consisting of 25 students, who would receive treatment in the form

of differentiated learning. The control group, consisting of 25 students, would receive conventional learning without the use of differentiated learning.

The instruments used in this study consisted of two types: the main instrument and the supporting instrument. The main instrument was a test consisting of a pre-test and a post-test, while the supporting instrument was a learning tool. The data collection technique in this study was a test. In this study, the statistical test used to test the average was a right-sided independent t-test with an α level of 0.05.

Result

a. Descriptive Statistics of Student Learning Outcomes

This study aimed to analyze the effect of differentiated learning in Pancasila Education on students' learning outcomes at SMA Negeri 1 Badar. The research involved two groups consisting of an experimental class that received differentiated learning treatment and a control class that received conventional learning. Data were obtained from the results of pre-test and post-test assessments administered to both groups. The descriptive statistical results are presented in Table 1.

Table 2. Descriptive Statistics of Student Learning Outcomes

Group	Test	Minimum	Maximum	Mean	Std. Deviation
Experimental	Pre-Test	20	70	46.00	12.666
Experimental	Post-Test	65	90	77.40	7.789
Control	Pre-Test	20	65	41.20	12.770
Control	Post-Test	50	75	61.80	8.276

Source: Research Data (2025).

Based on Table 1, the average pre-test score of students in the experimental class before the implementation of differentiated learning was 46.00, with the lowest score of 20 and the highest score of 70. After the implementation of differentiated learning, the post-test average score increased significantly to 77.40, with scores ranging from 65 to 90. The standard deviation also decreased from 12.666 to 7.789, indicating that the distribution of students' scores became more consistent after the learning intervention. Meanwhile, the control class that received conventional learning showed a lower improvement in learning outcomes. The average pre-test score in the control class was 41.20, with scores ranging from 20 to 65. After the learning process, the post-test average score increased to 61.80, with the lowest score of 50 and the highest score of 75. Although there was an increase in the control class, the improvement was not as significant as that observed in the experimental class. These findings indicate that students who received differentiated learning treatment experienced a greater increase in learning outcomes compared to students who learned through conventional methods. The substantial increase in the experimental group suggests that differentiated learning provides more opportunities for students to understand learning materials according to their individual characteristics and learning preferences.

Differentiated learning emphasizes the importance of adjusting teaching strategies based on students' readiness levels, interests, and learning profiles. According to [Nawati et al. \(2023\)](#), differentiated instruction allows teachers to design learning

experiences that accommodate the diverse needs of students, which can lead to improved engagement and better academic performance. When students are provided with learning activities that match their abilities and learning styles, they tend to be more motivated and actively involved in the learning process.

Furthermore, the increase in students' learning outcomes in the experimental group reflects the effectiveness of differentiated learning in facilitating meaningful learning experiences. Differentiated instruction encourages teachers to vary teaching methods, learning resources, and assessment strategies so that students can achieve optimal learning outcomes (Setiawati et al., 2024). Through this approach, students are not only able to understand the material more effectively but also develop critical thinking skills and deeper conceptual understanding.

The results of this study are consistent with the findings of Bilantua et al. (2024), who reported that differentiated learning significantly improves students' learning outcomes by providing flexible learning strategies tailored to individual student needs. In addition, differentiated instruction enables teachers to create more inclusive learning environments that support diverse student abilities.

Overall, the descriptive statistical results indicate that differentiated learning has a positive impact on students' learning outcomes in Pancasila Education. The higher post-test scores in the experimental class demonstrate that differentiated learning can enhance students' comprehension of the subject matter and improve their academic achievement.

b. Regression Analysis

To determine the effect of differentiated learning on students' learning outcomes, a simple linear regression analysis was conducted in the experimental class. Regression analysis is used to examine the relationship between independent variables and dependent variables and to measure how strongly an independent variable influences a dependent variable. The results of the regression analysis are presented in Table 3.

Table 3. Simple Linear Regression Analysis (Experimental Class)

Variable	B	Std. Error	Beta	T	Sig.
Constant	56.013	3.999		14.007	0.000
Pre-Test	0.465	0.084	.756	5.540	0.000

$$R^2 = 0.572$$

Source: Research Data (2025).

The regression analysis results show that differentiated learning has a significant influence on students' learning outcomes. The coefficient of determination ($R^2 = 0.572$) indicates that 57.2% of the variance in students' learning outcomes can be explained by the implementation of differentiated learning. The significance value ($p = 0.000$) indicates that the regression model is statistically significant. This means that there is a meaningful relationship between differentiated learning and students' learning outcomes. The standardized coefficient ($\beta = 0.756$) also indicates a strong positive relationship between the variables, suggesting that the application of differentiated learning contributes substantially to the improvement of students' academic

achievement.

The findings of this study demonstrate that differentiated learning plays an important role in enhancing students' learning outcomes. Differentiated instruction enables teachers to adapt instructional strategies to students' learning needs, thereby creating more effective and meaningful learning experiences. According to [Setiawati et al. \(2024\)](#), differentiated learning can increase students' understanding of subject matter by providing learning activities that align with students' abilities and learning preferences.

In addition, differentiated learning supports active learning by encouraging students to participate more actively in the learning process. When students are actively engaged in learning activities that are relevant to their needs and interests, they are more likely to achieve better academic outcomes ([Nawati et al., 2023](#)).

These results also support previous studies indicating that differentiated instruction has a significant positive effect on students' academic performance. [Bilantua et al. \(2024\)](#) found that differentiated learning contributes to improved student learning outcomes because it provides diverse instructional approaches that accommodate different student learning styles. Thus, the regression analysis results confirm that differentiated learning has a significant and positive influence on students' learning outcomes in Pancasila Education.

c. Hypothesis Testing

Hypothesis testing was conducted using an independent sample t-test to determine whether there was a significant difference between the learning outcomes of the experimental class and the control class. The results of the t-test show that the calculated value ($t = 6.94$) is greater than the critical value ($t_{table} = 1.68$), which indicates that the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. This finding indicates that there is a significant difference in learning outcomes between students who were taught using differentiated learning and those who were taught using conventional learning methods. Students in the experimental class achieved significantly higher post-test scores compared to students in the control class.

The significant difference between the two groups suggests that differentiated learning is more effective in improving students' understanding of Pancasila Education compared to conventional teaching approaches. Conventional learning often relies on teacher-centered instruction, which may not fully accommodate the diverse learning needs of students. In contrast, differentiated learning provides a more flexible instructional approach that allows teachers to adapt teaching strategies according to students' abilities, interests, and learning styles. According to [Nawati et al. \(2023\)](#), differentiated instruction improves students' academic achievement because it enables teachers to design learning activities that match students' readiness levels and learning preferences. As a result, students become more actively engaged in the learning process and develop a deeper understanding of the learning material.

Furthermore, [Bilantua et al. \(2024\)](#) reported that differentiated learning significantly enhances student learning outcomes because it provides multiple pathways for students to access and understand the material. This approach not only improves students' cognitive abilities but also increases their motivation and participation in classroom learning activities. Overall, the results of this study

confirm that differentiated learning is an effective instructional strategy for improving students' learning outcomes in Pancasila Education. The findings demonstrate that students who receive differentiated learning treatment achieve better academic performance compared to students who receive conventional instruction. Therefore, the implementation of differentiated learning is highly recommended for teachers as an innovative teaching strategy to enhance the quality of the learning process and improve students' academic achievement.

Discussion

The results of this study indicate that differentiated learning has a significant positive effect on students' learning outcomes in Pancasila Education at SMA Negeri 1 Badar. This finding is evident from the increase in students' post-test scores in the experimental class compared to the control class, as well as from the statistical analysis results which show that differentiated learning contributes significantly to the improvement of students' academic achievement. Based on the descriptive statistical analysis, the average post-test score of the experimental class increased significantly compared to the pre-test score. This improvement indicates that differentiated learning provides a more effective learning environment that supports students in understanding the material more deeply. In contrast, although the control class also experienced an increase in learning outcomes, the improvement was not as significant as that observed in the experimental class. This difference demonstrates that differentiated learning strategies can better facilitate students' learning processes compared to conventional teaching methods.

Differentiated learning emphasizes the importance of recognizing student diversity in the classroom. Each student has different readiness levels, learning interests, and learning profiles. Therefore, learning activities should be designed in a way that accommodates these differences so that all students can participate actively in the learning process. When teachers apply differentiated learning strategies, they adjust instructional methods, learning materials, and learning activities to match students' individual characteristics. As a result, students can learn according to their abilities and learning preferences, which ultimately improves their learning outcomes.

The results of this study support the theory of differentiated instruction proposed by Tomlinson, which states that effective learning occurs when teachers adjust instruction based on students' readiness, interests, and learning profiles. In differentiated classrooms, teachers provide various learning pathways so that students can achieve the same learning objectives through different approaches. This approach helps students understand learning materials more effectively and encourages them to become more active participants in the learning process.

Furthermore, the findings of this study are also consistent with constructivist learning theory, which emphasizes that students actively construct knowledge through meaningful learning experiences. Differentiated learning provides opportunities for students to explore knowledge through various learning activities that are adapted to their learning needs. Through these activities, students are encouraged to think critically, analyze information, and apply knowledge in real-life situations.

The improvement in students' learning outcomes in the experimental class also reflects the effectiveness of differentiated learning in increasing student engagement. When students are involved in learning activities that are relevant to their interests and abilities, they tend to be more motivated and enthusiastic about learning. Increased

student engagement contributes significantly to the improvement of learning outcomes because students become more focused and actively involved in the learning process. Several previous studies conducted in the last five years also support the findings of this research. Studies on differentiated learning have shown that this instructional approach can significantly improve students' academic performance and learning motivation. For example, recent research in the field of education reported that differentiated instruction increases students' conceptual understanding because teachers provide learning experiences that are tailored to students' individual needs. As a result, students can learn more effectively and achieve better academic results. In addition, differentiated learning also contributes to the development of students' higher-order thinking skills. By providing various learning activities and tasks that require analysis, evaluation, and creativity, teachers encourage students to think more critically and independently. This is particularly important in the context of Pancasila Education, where students are expected not only to memorize concepts but also to understand and apply the values of Pancasila in their daily lives. The implementation of differentiated learning in Pancasila Education also helps students develop a deeper understanding of civic values and responsibilities as citizens. Through varied learning activities such as discussions, case studies, and problem-solving tasks, students are encouraged to analyze real-life social issues related to citizens' rights and obligations. This learning approach allows students to connect theoretical concepts with real-world situations, thereby making learning more meaningful and relevant.

Moreover, differentiated learning supports inclusive education by ensuring that all students, regardless of their abilities or learning backgrounds, have equal opportunities to succeed in the learning process. In conventional classrooms, teaching methods often focus on the average student, which may leave some students behind. However, differentiated learning recognizes that each student learns differently and therefore requires different instructional strategies. The findings of this study also highlight the important role of teachers in implementing differentiated learning effectively. Teachers must carefully plan learning activities, prepare various instructional materials, and continuously assess students' learning progress. By doing so, teachers can identify students' learning needs and adjust instructional strategies accordingly. Effective implementation of differentiated learning requires teachers to be creative, flexible, and responsive to students' needs. Despite the positive findings, this study also has several limitations. One limitation is that the study was conducted in a single school with a relatively small sample size. Therefore, the results may not be generalized to all educational contexts. Future research is recommended to involve a larger sample size and different educational settings to obtain more comprehensive findings regarding the effectiveness of differentiated learning. Overall, the results of this study demonstrate that differentiated learning is an effective instructional strategy for improving students' learning outcomes in Pancasila Education. By accommodating student diversity and providing flexible learning pathways, differentiated learning helps students achieve better academic performance and develop deeper conceptual understanding. Therefore, the implementation of differentiated learning should be encouraged in educational practices, particularly in subjects such as Pancasila Education that require students to develop critical thinking skills and civic awareness. Through differentiated learning, teachers can create more inclusive, engaging, and meaningful learning environments that support students in achieving optimal learning outcomes.

Kesimpulan

The results of this study indicate that the implementation of differentiated learning in Pancasila Education contributes positively to improving students' learning outcomes at SMA Negeri 1 Badar. Students who participated in differentiated learning activities demonstrated better understanding of the learning material compared to those who experienced conventional learning methods. The learning process that accommodated students' different learning needs, interests, and learning styles enabled students to engage more actively in classroom activities and understand the concepts more effectively. Differentiated learning also created a more student-centered learning environment in which students were encouraged to participate, express ideas, and explore learning materials through various learning activities. This condition supported students in developing a deeper understanding of the topic of citizens' rights and obligations as part of Pancasila Education. Through learning activities that were adapted to students' characteristics, students were able to learn according to their abilities and learning preferences. Overall, the findings of this study show that differentiated learning can be an effective instructional approach to improve the quality of the learning process and enhance students' academic achievement in Pancasila Education. The implementation of this approach provides opportunities for teachers to design learning activities that are more flexible, inclusive, and responsive to student diversity, thereby supporting better learning outcomes.

Suggestion

Based on the findings of this study, several suggestions can be proposed to support the improvement of learning practices in schools. Teachers are encouraged to apply differentiated learning strategies in Pancasila Education so that the learning process can better accommodate students' diverse learning characteristics. By designing varied learning activities and providing flexible learning pathways, teachers can create a more engaging and inclusive classroom environment that supports students' active participation. Schools are also expected to support the implementation of innovative learning approaches by providing adequate learning resources and encouraging teachers to develop creative instructional strategies. Support from the school environment will help teachers implement learning practices that are more responsive to students' needs and learning differences. For future researchers, it is recommended to conduct similar studies in different educational contexts with a larger number of participants in order to obtain more comprehensive findings. Further research may also explore the implementation of differentiated learning in other subjects or examine its influence on other aspects of student development, such as learning motivation, critical thinking skills, or collaborative abilities.

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