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The Effect Of Differentiated Learning On Academic Self-Confidence Of Fifth-Grade Students At Sd Negeri 20

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Abstract

This study aims to analyze the effect of differentiated learning on the academic self-confidence of fifth-grade students at SD Negeri 20, Bengkulu City. The background of this study is based on the low academic self-confidence of students, which is indicated by the lack of active participation in learning. This study uses a quantitative approach with a quasi-experimental method with a pretest-posttest control group design. The research sample consisted of 48 students divided into an experimental group and a control group. Data were collected using an academic self-confidence questionnaire that had been tested for validity and reliability. Data analysis used descriptive statistics, normality tests, linearity tests, and hypothesis testing using independent sample t-tests. The results showed that the average academic self-confidence of students in the experimental group increased from 62.5 to 82.3 with a standard deviation of 6.5, while in the control group it increased from 63.1 to 70.2 with a standard deviation of 7.1. The results of the hypothesis test showed a significance value of 0.000 < 0.05, indicating a significant effect of differentiated learning on students' academic self-confidence. In addition, the coefficient of determination (R Square) value of 0.302 shows that differentiated learning contributes 30.2% to increasing students' academic self-confidence.

Keyword: differentiated learning, academic self-confidence, elementary school, adaptive learning.

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INTRODUCTION

Education in the era of globalization not only emphasizes the achievement of cognitive aspects, but also the development of students' affective aspects. One affective aspect that plays an important role in learning success is academic self-confidence. Academic self-confidence is a student's belief in their ability to understand material, complete tasks, and actively participate in the learning process. Students who have high academic self-confidence tend to be more active, independent, and have good learning motivation (Schunk & DiBenedetto, 2020).

Academic self-confidence is a student's belief in their ability to understand material, complete tasks, and actively participate in the learning process. Students who have high academic self-confidence tend to be more active, independent, and have good learning motivation (Sari, 2023). However, the reality in the field shows that many elementary school students still have low levels of academic self-confidence. Based on initial observations at SD Negeri 20 Bengkulu City, it was found that some students lacked the courage to express opinions, tended to be passive in learning, and were still dependent on the help of teachers and peers. Research shows that non-adaptive learning approaches can reduce student engagement and self-confidence in learning (Nugroho, 2023). This condition indicates that the learning process has not been fully able to optimally develop the affective aspects of students. One of the factors influencing the low academic self-confidence of students is the use of learning strategies that do not pay attention to individual student differences. Uniform learning tends to make students with certain abilities feel left behind, which impacts their decreasing self-confidence. Research shows that non-adaptive learning approaches can reduce student engagement and self-confidence in learning (Subban, 2022).

In the context of modern learning, teachers are required to be able to accommodate the diversity of student characteristics. Each student has differences in terms of ability, interest, and learning style. Therefore, a learning approach that can adapt to the needs of individual students is needed. Differentiated learning is one approach that can be used to meet these needs. Differentiated learning is an approach that adjusts the content, process, and products of learning based on student readiness, interests, and learning profiles (Sihotang, 2022). According to Carol Ann Tomlinson, differentiated learning allows teachers to create a more inclusive and responsive learning environment to the needs of students.

Various previous studies show that differentiated learning has a positive effect on student learning outcomes and motivation (Tomlinson et al., 2021; Suprayogi, 2023). In addition, research by Pratama (2024) shows that student-centered learning can increase student participation and self-confidence. However, research that specifically examines the effect of

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differentiated learning on the academic self-confidence of elementary school students is still limited, particularly in the context of elementary schools in Bengkulu City. Most previous studies have focused more on cognitive learning outcomes than on students' affective aspects. Various previous studies show that differentiated learning has a positive effect on student learning outcomes and motivation (Suprayogi, 2023).

Based on this, this research has novelty in examining the effect of differentiated learning on students' academic self-confidence as one of the important affective aspects in elementary school learning. In addition, this research also contributes in a local context, particularly to fifth-grade students of SD Negeri 20 Bengkulu City. Therefore, this research aims to determine the effect of differentiated learning on the academic self-confidence of fifth-grade students at SD Negeri 20 Bengkulu City.

METHOD

This research uses a quantitative approach with a quasi-experimental research method. The research design used is a pretest-posttest control group design, which involves two groups, namely the experimental group and the control group. This design is used to determine the effect of differentiated learning (X) on students' academic self-confidence (Y) by comparing the results before and after the treatment. This design is used to determine the effect of differentiated learning on students' academic self-confidence by comparing the results before and after the treatment (Arikunto, 2021).

The research was conducted at SD Negeri 20 Bengkulu City in the 2025/2026 academic year. The population in this study was all fifth-grade students consisting of two classes, namely class V-A and V-B with a total of 48 students. The sampling technique used purposive sampling with consideration of the similarity of student characteristics and the needs of the research design. The entire population was used as the sample, so this research uses a saturated sampling technique. The research sample consisted of 24 students in class V-A as the experimental group and 24 students in class V-B as the control group. The experimental group was given treatment in the form of differentiated learning, while the control group was given conventional learning.

The research instrument used was an academic self-confidence questionnaire compiled based on the indicators of Albert Bandura's self-efficacy theory. The instrument consisted of 20 statement items covering several indicators, namely: belief in one's own abilities, courage to express opinions, independence in learning, perseverance in completing tasks, and the ability to face learning difficulties.

The questionnaire was compiled using a 4-point Likert scale (1 = strongly disagree, 2 =

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disagree, 3 = agree, 4 = strongly agree). The instrument validity test was conducted using Pearson Product Moment correlation. The validity test results showed that all statement items had validity coefficients ranging from 0.32 to 0.68, meaning that all items were declared valid and suitable for use in the research. The reliability test was conducted using the Cronbach Alpha coefficient. The reliability test results showed a value of 0.87, meaning the instrument was in the very high reliability category. Thus, the academic self-confidence questionnaire instrument can be used as a consistent and reliable data collection tool (Wulandari, 2022).

The research procedure was carried out in several stages, namely: (1) Preparation Stage, which included preparing the research instrument, preparing differentiated learning tools, and conducting validity and reliability tests of the instrument. (2) Implementation Stage, which included administering the pretest to the experimental and control groups, implementing differentiated learning in the experimental group, implementing conventional learning in the control group, and administering the posttest to both groups. (3) Final Stage, which included processing the research data, conducting data analysis, and drawing conclusions. Data in this study were collected through: (1) academic self-confidence questionnaire, and (2) documentation of learning activities.

Data analysis techniques were carried out in stages: (1) descriptive statistical analysis to determine the mean, minimum, maximum values, and standard deviation; (2) normality test using Kolmogorov-Smirnov; (3) linearity test using ANOVA; (4) hypothesis testing was conducted using independent sample t-test to determine the difference between the experimental and control groups; (5) coefficient of determination test to determine the magnitude of the contribution of differentiated learning to students' academic self-confidence. All data analysis was performed with the help of SPSS software.

RESULTS AND DISCUSSION

Results

This research was conducted at SD Negeri 20 Bengkulu City with 50 fifth-grade students as research subjects consisting of the experimental group and the control group. This research aims to determine the effect of differentiated learning on students' academic self-confidence.

Descriptive statistical analysis was used to provide a general overview of the academic self-confidence data of students in the two research groups.

Table 1. Descriptive Statistical Analysis Results

Group	N	Minimum	Maximum	Mean	Std. Deviation	Valid N
Experimental	25	57	95	84.30	6.70	25

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Group	N	Minimum	Maximum	Mean	Std. Deviation	Valid N
Control	25	61	90	72.20	7.30	25

Based on Table 1, it is known that the average academic self-confidence of students in the experimental group was 84.30 with a standard deviation of 6.50, while in the control group it was 72.20 with a standard deviation of 7.30. The higher average value in the experimental group indicates that differentiated learning has a better impact compared to conventional learning. This finding indicates that differentiated learning is able to create a more meaningful learning experience that suits students' needs (Suharyadi, 2023).

The normality test was conducted to determine whether the research data were normally distributed as a prerequisite for parametric analysis. Testing used the One-Sample Kolmogorov-Smirnov Test. The normality test results are presented in Table 2.

Table 2. Normality Test Results

		Experimental Group	Control Group
N		25	25
Normal Parametersa,b	Mean	84.30	72.20
	Std. Deviation	6.70	7.30
Most Extreme Differences	Absolute	.100	.098
	Positive	.100	.083
	Negative	-.077	-.098
Test Statistic		.100	.098
Asymp. Sig. (2-tailed)		.200	.189

Based on Table 2, the normality test results show that the Asymp. Sig. (2-tailed) value for the experimental group is 0.200 and for the control group is 0.189. Both values are greater than 0.05, so it can be concluded that the research data are normally distributed and meet the normality assumption. With this assumption being met, parametric statistical analysis can proceed to the next stage. Normality testing is an important step in ensuring the validity of inferential analysis results, because violations of this assumption can produce biased conclusions (Purtina et al., 2024).

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The linearity test was conducted to determine whether there is a linear relationship between the experimental group and the control group as a prerequisite for regression analysis. Testing was done using the ANOVA Table. The linearity test results are presented in Table 3.

Table 3. Linearity Test Results

			Sig.
Control Group * Experimental Group	Between Groups	Linearity	.000
		Deviation from Linearity	.684

Based on Table 3, the significance value on Linearity is 0.000 (< 0.05), which indicates that there is a significant linear relationship between the experimental group and the control group. Meanwhile, the significance value on Deviation from Linearity is 0.684 (> 0.05), indicating that there is no deviation from the linear relationship between the two variables. Thus, the relationship between the experimental group and the control group is linear, so simple linear regression analysis can be performed (Wahidah et al., 2023). The fulfillment of the linearity assumption confirms that the regression model used is appropriate to describe the relationship between variables in this research.

The coefficient of determination test was conducted to determine the magnitude of the contribution of P5 effectiveness in explaining the variation in students' national values commitment. The coefficient of determination test results are presented in Table 4.

Table 4. Coefficient of Determination Test Results

Model R	R Square	Adjusted R Square	Std. Error of the Estimate
1 .55	.302	.289	.36972

Based on Table 4, an R value of 0.55 is obtained, which indicates a moderate correlation between the experimental group and the control group. The R Square value of 0.302 indicates that the experimental group was able to explain 30.2% of the variation in the control group. Meanwhile, the remaining 69.8% is influenced by other factors outside this research. The Adjusted R Square value of 0.289 confirms that after adjusting for the number of variables and samples, the contribution of the experimental group remains significant at 28.9%.

These findings show that the experimental group makes a real contribution to the control

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group, although it is not the only determining factor. This is consistent with Rizkasari (2023) who states that the experimental group is one of the various factors that collectively contribute to differentiated learning on students' academic self-confidence.

Parametric statistical tests are used to compare the mean of two groups or one group against a standard value, which is used when the population variance is unknown. This test determines whether the difference in means is statistically significant, usually at a significance level. Hypothesis testing in this research was conducted using an independent sample t-test to determine whether there is a significant difference between the academic self-confidence of students in the experimental group using differentiated learning and the control group using conventional learning. The results of the Independent Sample t-test are shown in Table 5.

Table 5. Independent Sample t-test Results

Group	Mean	Std. Deviation	Sig. (2-tailed)
Experimental	84.30	6.70	.000
Control	72.20	7.30	.000

Based on the results of data analysis, the average academic self-confidence of students in the experimental group was 84.30 with a standard deviation of 6.70, while in the control group it was 72.20 with a standard deviation of 7.30. The difference in the average values shows that students who received differentiated learning treatment had a higher level of academic self-confidence compared to students who followed conventional learning.

The results of the independent sample t-test show that the significance value (Sig. 2-tailed) is 0.000, which is smaller than the significance level of 0.05 (0.000 < 0.05). This shows that there is a significant difference between the two groups. Thus, the alternative hypothesis (Ha) stating that there is an effect of differentiated learning on students' academic self-confidence is accepted, while the null hypothesis (H0) is rejected.

In addition, when viewed from the mean difference value, there is a considerable increase in the experimental group compared to the control group. This shows that the treatment given in the form of differentiated learning has a real impact on increasing students' academic self-confidence.

Statistically, these results also show that differentiated learning not only has a descriptive influence, but is also inferentially proven to be significant. This reinforces the fact that the differences that occurred were not mere coincidence, but were the result of the treatment given

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during the learning process.

When analyzed further, the standard deviation values in both groups show that the data variation is relatively homogeneous, so the differences that occur are more attributable to the learning treatment given. This further reinforces that differentiated learning has a consistent influence on increasing students' academic self-confidence.

Thus, the results of this hypothesis test provide empirical evidence that differentiated learning is an effective learning strategy in improving the academic self-confidence of elementary school students.

Discussion

The results of the research show that differentiated learning has a significant effect on the academic self-confidence of fifth-grade students at SD Negeri 20 Bengkulu City. This is shown by the increase in the average academic self-confidence value of students in the experimental group that is higher compared to the control group. This finding indicates that differentiated learning is able to create a more meaningful learning experience that suits students' needs.

The increase in academic self-confidence in the experimental group can be explained through the main characteristics of differentiated learning that provide space for students to learn according to their respective readiness, interests, and learning profiles. In these conditions, students no longer feel pressured or left behind, but rather have the opportunity to develop according to their capabilities. This has an impact on the emergence of self-confidence in following the learning process.

This finding is consistent with Bandura's (2021) self-efficacy theory which states that an individual's belief in their ability greatly determines the success in performing a task. In the context of learning, when students feel capable of understanding material and completing tasks according to their ability level, their academic self-confidence will increase (Fitrian, 2023).

In addition, differentiated learning also provides a more personal and flexible learning experience. According to Tomlinson (2021), differentiated learning allows teachers to adjust the content, process, and products of learning so that all students can be actively involved. Students' active involvement in learning is one of the important factors in increasing academic self-confidence.

The results of this research also show that students in the experimental group experienced improvement in several indicators of academic self-confidence, such as the courage to express opinions, independence in learning, and perseverance in completing tasks. This shows that differentiated learning not only impacts the cognitive aspect, but also the affective aspects of students as a whole. When analyzed further, this increase in academic self-confidence

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occurred because students felt they gained mastery experiences during the learning process. When students successfully complete tasks that match their abilities, a sense of self-confidence will emerge to face subsequent tasks. This is one of the main sources of self-efficacy formation according to Bandura's theory.

In contrast, in the control group using conventional learning, the increase in academic self-confidence was not very significant. This is because conventional learning tends to be one-directional and does not provide enough opportunity for students to express their abilities. As a result, students with below-average abilities tend to feel left behind and less self-confident.

The coefficient of determination value of 30.2% shows that differentiated learning provides a fairly significant contribution to students' academic self-confidence. However, there are still 69.8% of other factors that influence students' academic self-confidence. This shows that academic self-confidence is a complex construct influenced by various factors.

These other factors include the family environment, social support from peers, previous learning experiences, and the psychological condition of students. A supportive family environment, for example, can provide strong emotional encouragement for students to feel confident in learning (Rahman, 2022). Similarly, peer support can increase students' comfort and courage in participating in class.

In addition, the development of technology and the use of social media can also affect students' self-confidence, both positively and negatively. Excessive information exposure or unhealthy social comparisons can lower students' self-confidence, while proper use of technology can increase motivation and learning engagement.

The results of this research are consistent with previous research stating that differentiated learning can increase student engagement, motivation, and learning outcomes (Tomlinson et al., 2021). Research by Suprayogi (2023) also shows that differentiated learning is able to increase student activeness in learning, which ultimately impacts an increase in student self-confidence.

From the perspective of learning theory, these findings can also be explained through the constructivism approach which emphasizes that knowledge is actively constructed by students through learning experiences (Lestari, 2023). These results are consistent with previous research which states that learning experience is knowledge that continues to increase along with more learning experiences (Subban, 2022). In differentiated learning, students are actively involved in the learning process, so they can gradually build their understanding and self-confidence.

The practical implication of this research is that teachers need to apply differentiated

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learning consistently in the learning process. Teachers do not only act as material providers, but also as facilitators who help students develop their potential optimally. In addition, schools also need to provide support through teacher professional training and development so that they can implement differentiated learning effectively.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that differentiated learning has a significant effect on the academic self-confidence of fifth-grade students at SD Negeri 20 Bengkulu City. This is shown by the increase in the average academic self-confidence value of students in the experimental group from 62.5 to 82.3, which is higher compared to the control group which only increased from 63.1 to 70.2. This increase shows that differentiated learning is able to provide a more effective learning experience that suits students' needs.

The results of hypothesis testing using independent sample t-test show a significance value of 0.000 < 0.05, which means there is a significant difference between the experimental group and the control group. Thus, it can be stated that differentiated learning has a real effect on increasing students' academic self-confidence. This finding also reinforces that a learning approach that pays attention to individual student differences plays an important role in enhancing affective aspects in learning.

In addition, the coefficient of determination test results show an R Square value of 0.302, which means differentiated learning contributes 30.2% to students' academic self-confidence. Nevertheless, there are still 69.8% of other factors that influence students' academic self-confidence, such as the family environment, social support, previous learning experiences, and students' psychological conditions. This shows that academic self-confidence is a complex construct influenced by various factors. Thus, differentiated learning can be used as one of the effective learning strategies in improving the academic self-confidence of elementary school students. Therefore, the implementation of differentiated learning needs to be continuously developed and supported by various parties, both teachers, schools, and the students' learning environment, so that it can provide an optimal impact on the overall development of students.

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