



The Influence of Reinforcement Provided by Christian Religious Education Teachers on the Learning Motivation of Grade XI Students at SMA Negeri 1 Salak

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ABSTRACT

The study aims to determine how much positive and significant influence there is between the provision of reinforcement by Christian Religious Education teachers on the learning motivation of class XI students of SMA Negeri 1 Salak, Pakpak Bharat Regency in the 2024/2025 Academic Year. The research hypothesis is that there is a positive and significant influence between the provision of reinforcement by Christian Religious Education teachers on the learning motivation of class XI students at SMA N 1 Salak, Pakpak Bharat Regency, in the 2024/2025 Academic Year. The quantitative research method uses the Ex Post Facto approach. The population of all class XI students at SMA N 1 Salak, Pakpak Bharat Regency who are Christian is 208 people. The sampling technique is a random sampling technique or Random Sampling, namely 131 people. The research instrument is a questionnaire. The results of the data analysis obtained: a) The value of $r_{count} = 0.940 > r_{table} = 0.159$ and $t_{count} = 31.297 > t_{table} = 1.960$ indicates a positive and significant relationship between the provision of reinforcement by Christian Religious Education teachers with the learning motivation of class XI students of SMA Negeri 1 Salak, Pakpak Bharat Regency in the 2024/2025 Academic Year. b) The regression equation $\hat{Y} = 2.009 + 1.332X$. c) The determination test found that the magnitude of the influence was 88.36%. d) The hypothesis test obtained $F_{count} = 1011.18 > F_{table} = 3.00$, so H_0 was rejected and H_a was accepted. The study concluded that there was a positive and significant influence between the provision of reinforcement by Christian Religious Education teachers on the learning motivation of class XI students of SMA Negeri 1 Salak, Pakpak Bharat Regency in the 2024/2025 Academic Year.

Keywords: Christian Religious Education, Reinforcement Provided, Teacher, Learning Motivation

INTRODUCTION

Education is one of the main pillars in developing quality human resources. In today's era of globalization, the field of education faces increasingly complex challenges, particularly in improving the quality of learning and students' learning motivation. Learning motivation is a psychological drive that encourages an individual to actively engage in learning activities in order to achieve optimal results. Without strong motivation, students tend to encounter difficulties in understanding the subject matter, demonstrate a lack of discipline, and even experience a decline in academic achievement. According to Ahmad Rohani, learning motivation can be influenced by two factors: *"First, intrinsic motivation, often referred to as pure motivation, which arises from within the student. In this case, the learner engages in learning because it is considered meaningful (beneficial) for themselves. Second, extrinsic motivation, which emerges from outside the learning situation. Extrinsic motivation is closely related to the concept of reinforcement, which in turn is strongly connected to rewards, punishments, and the like. To enhance students' involvement in teaching and learning activities, reinforcement provided by teachers is indispensable."* Daryanto, in his book, states that to address the condition of students who lack motivation, reinforcement or incentives for their achievements can be given in the form of praise or good grades. Such reinforcement can enhance students' motivation and encourage them to make further efforts toward learning achievements. Reinforcement is one of the strategies that teachers can use to show appreciation for students' efforts and accomplishments, enabling them to feel valued and motivated to learn more effectively. In the context of Christian Religious Education (CRE), reinforcement provided by teachers is expected to foster students' learning motivation. Through praise and recognition of students' achievements, a positive atmosphere of competition can be cultivated, encouraging students to become more active and confident in the learning process. However, in practice, not all students respond positively to the reinforcement given.

Based on observations and interviews conducted by the researcher with Christian Religious Education teachers at SMA Negeri 1 Salak, Pakpak Bharat Regency, it was found that some students still displayed passive attitudes and a lack of enthusiasm in learning. During lessons, only a small number of students actively participated in question-and-answer sessions, while the majority remained silent and uninvolved. In addition, several students seemed unfocused during class, engaging more in conversations with their peers and completing assignments carelessly. This phenomenon occurred despite the fact that Christian Religious Education teachers had applied various forms of reinforcement, such as giving praise to students who answered questions correctly, providing opportunities for other students to respond, and expressing gratitude for their participation. Although different forms of reinforcement were implemented, not all students demonstrated improvements in active participation, discipline, or learning concentration.

METHODS

This study employed a quantitative research method with an Ex Post Facto approach. According to Ali and Assori (2014), Ex Post Facto research is a type of inquiry conducted to investigate events that have already occurred and then trace back to identify the

factors that may have caused those events. In this study, the event under examination was the level of students' learning motivation, while the presumed influencing factor was the reinforcement provided by Christian Religious Education (CRE) teachers. Such an approach was considered appropriate because the researcher could not manipulate the variables directly but instead analyzed the relationships that existed between them. The population of the study consisted of all Grade XI Christian students at SMA Negeri 1 Salak, Pakpak Bharat Regency, in the 2024/2025 academic year, totaling 208 individuals students. From this population, a simple random sampling technique was applied to select participants, ensuring each student had an equal chance of being chosen. Based on statistical adequacy, the sample consisted of 131 students, representing more than half of the total population. This sample size was deemed sufficient to provide reliable statistical analysis and to generalize the results to the broader population of Christian students in the school. Two main variables were identified in the research design. The independent variable (X) was the reinforcement provided by Christian Religious Education teachers, operationalized in forms such as verbal reinforcement (praise, recognition), non-verbal reinforcement (gestures, symbolic rewards), and partial reinforcement (feedback despite incomplete answers). The dependent variable (Y) was students' learning motivation, reflected in indicators such as persistence in completing tasks, attentiveness, curiosity, and enthusiasm in class participation (Rohani, 2004; Sardiman, 2015). The primary data collection instrument was a closed-ended questionnaire. For the independent variable (X), the questionnaire included 16 items measuring reinforcement strategies applied by CRE teachers. For the dependent variable (Y), the instrument included 19 items measuring students' learning motivation. Validity was assessed through expert judgment to ensure content relevance, while reliability testing used Cronbach's Alpha to confirm internal consistency. The instruments were thus considered appropriate for capturing the constructs under study. Data collection was carried out by distributing the questionnaires directly to the sample students during school hours. Responses were collected, tabulated, and coded for statistical analysis. Descriptive statistics were used to describe the mean, frequency, and percentage distribution of each item. Correlation analysis (Pearson Product-Moment) was employed to test the strength and direction of the relationship between reinforcement and learning motivation. Significance testing (t-test) was applied to determine whether the observed correlation applied to the entire population. Simple linear regression was used to identify the predictive power of reinforcement on learning motivation. Coefficient of determination (r^2) was calculated to measure the proportion of variance in learning motivation explained by reinforcement. All statistical tests were carried out at a significance level of $\alpha = 0.05$, ensuring that conclusions were drawn with 95% confidence. Through this methodological design, the study sought to provide empirical evidence regarding the extent to which reinforcement strategies implemented by CRE teachers significantly influenced the learning motivation of Grade XI students at SMA Negeri 1 Salak.

RESULT AND DISCUSSION

The data in this study were collected through the distribution of closed-ended questionnaires to 131 Grade XI students at SMA Negeri 1 Salak, Pakpak Bharat Regency. The purpose of this data collection was to examine the influence of reinforcement

provided by Christian Religious Education (CRE) teachers (variable X) on students' learning motivation (variable Y) using simple linear regression analysis. Each questionnaire was developed based on theoretical indicators that had been tested for validity and reliability to ensure accurate measurement of each variable.

Data on Variable X (Reinforcement Provided by Christian Religious Education Teachers)

The questionnaire item with the highest weighted score among the 16 items measuring reinforcement provided by CRE teachers was item number 14, with a total score of 252 and a mean of 3.19. This item stated that CRE teachers continued to give positive responses even when students' answers were not perfect, which falls under the indicator of "partial reinforcement." Conversely, the lowest-scoring item was item number 13, with a total score of 99 and a mean of 1.25. This item revealed that some students reported their CRE teacher never gave attractive objects (such as Bible verse cards) as a form of appreciation when students completed tasks correctly. This item is classified under the "non-verbal reinforcement" indicator, particularly within the sub-indicator of giving attractive objects and symbolic rewards. The mean score of the 16 reinforcement items was 2.403. This indicates that CRE teachers quite frequently applied effective reinforcement strategies in the learning process. The three indicators used in the questionnaire-verbal reinforcement, non-verbal reinforcement, and partial reinforcement-were all represented in the data, showing varying tendencies. Verbal reinforcement, such as praise and expressions of gratitude, demonstrated relatively stable scores at a medium-to-high level, while partial reinforcement received the most positive responses. On the other hand, non-verbal reinforcement, particularly in the form of symbolic gifts or rewards, was the least frequently experienced by students. Thus, it can be concluded that reinforcement strategies implemented by CRE teachers have generally been effective, though improvements are still needed.

Data on Variable Y (Students' Learning Motivation)

The questionnaire item with the highest weighted score among the 19 items measuring students' learning motivation was item number 24, with a total score of 265 and a mean of 3.35. This item reflected that students often paid close attention to the material explanations delivered by CRE teachers, which falls under the indicator "showing interest in various problems," specifically the sub-indicator of attentively focusing on a given problem. Conversely, the lowest-scoring item was item number 23, with a total score of 200 and a mean of 2.53. This item indicated that some students only occasionally responded when CRE teachers asked about lessons they did not fully understand. This also falls under the same indicator but a different sub-indicator, namely showing enthusiasm toward a learning activity. The overall mean of all motivation items was 2.871, which falls into the "frequent" category. This demonstrates that students generally displayed good learning motivation in Christian Religious Education classes. Based on the eight indicators of learning motivation according to Sardiman's theory, all indicators were represented in the questionnaire and produced varying results. Indicators such as perseverance in completing tasks, resilience in facing difficulties, preference for working independently, and persistence in defending beliefs received relatively high scores, reflecting a stable commitment and enthusiasm for learning. Indicators such as quickly becoming bored with routine tasks and maintaining one's opinion showed moderate

scores, suggesting the need for a more dynamic approach to enhance students' interest and confidence in expressing opinions. The indicator of enjoyment in seeking and solving problems showed a positive tendency, reflecting students' exploratory spirit in facing learning challenges. Therefore, it can be concluded that the learning motivation of Grade XI students in Christian Religious Education was generally good, with strong tendencies in interest and attention to the material, though further encouragement is needed to enhance active participation, particularly in class discussions and two-way interactions

Testing the Requirements for Analysis

The testing of the analytical requirements for variables X and Y, based on the results of the study conducted with Grade XI students at SMA Negeri 1 Salak, Pakpak Bharat Regency, Academic Year 2024/2025, was carried out in several stages, as follows:

a. Test of Positive Relationship

To determine whether there was a positive relationship between variable X (reinforcement provided by Christian Religious Education teachers) and variable Y (students' learning motivation), the Pearson Product-Moment Correlation formula was applied.

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{(N \cdot \sum X^2) - (\sum X)^2\} \{(N \cdot \sum Y^2) - (\sum Y)^2\}}}$$

Dari tabel 4.1. diketahui:

$$\sum X = 3037$$

$$\sum Y = 4309$$

$$\sum X^2 = 120435$$

$$\sum Y^2 = 242055$$

$$\sum XY = 166542$$

Value of r_{xy}

$$\begin{aligned} r_{xy} &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{(N \cdot \sum X^2) - (\sum X)^2\} \{(N \cdot \sum Y^2) - (\sum Y)^2\}}} \\ r_{xy} &= \frac{131 \times 166542 - (3037)(4309)}{\sqrt{\{(131 \times 120435) - (3037)^2\} \{(131 \times 242055) - (4309)^2\}}} \\ &= \frac{21817002 - 13086433}{\sqrt{\{(15776985) - (9223369)\} \{(31709205) - (18567481)\}}} \\ &= \frac{8730569}{\sqrt{(6553616)(13141724)}} \\ &= \frac{8730569}{\sqrt{86125812673984}} \\ &= \frac{8730569}{9280399,381} \\ &= 0,940 \end{aligned}$$

Based on the results of r_{xy} calculations using the Pearson Product Moment Correlation formula, the value $r_{xy}=0.940$ is obtained. The calculated r value is compared with the r_{table} value ($\alpha=0.05$, $CI=95\%$, $n=131$), namely 0.159 . The value obtained is $r_{count}=0.940 > r_{table}=0.159$, thus there is a positive relationship between variable X and variable Y , namely a positive relationship between the provision of reinforcement by Christian Religious Education teachers and the learning motivation of class

b. Significant Relationship Test (t test)

To test the significance of the relationship, namely whether the relationship found applies to the entire population, it is necessary to test its significance. The formula for the significance of Product Moment Correlation is shown by the formula:

$$\begin{aligned} t &= \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} \\ &= \frac{0,940 \times \sqrt{131-2}}{\sqrt{1-(0,940)^2}} \\ &= \frac{0,940 \times \sqrt{129}}{\sqrt{1-0,8836}} \\ &= \frac{0,940 \times 11,357}{\sqrt{0,1164}} \\ &= \frac{10,67558}{0,3411} \\ &= 31,297 \end{aligned}$$

The value of $t = 31.297$ was obtained and then compared with the value of t table for error $\alpha = 5\% = 0.05$ two-party test and $dk = n-2 = 131-2 = 129$, we obtained $t_{table} = 1.960$. It is known that $t_{count}=31.297 > t_{table}=1.960$, thus it can be seen that there is a significant relationship between the provision of reinforcement by Christian Religious Education teachers and the learning motivation of class

c. Regression Test

Regression Equations

The analysis can be continued by calculating the regression equation. The regression equation can be used to predict how high the value of the dependent variable will be if the value of the independent variable is changed. Regression analysis can be done with the formula:

$$\hat{Y} = a + bX$$

Meaning is:

$\hat{Y}$ = Predicted Value

a = konstanta

b = Koefisien regresi

X = Value of variabel X

To find out the regression constant (a) and direction coefficient (b), the formula is used:

$$a = \frac{(\sum Y)(\sum X^2) - (\sum X)(\sum XY)}{N(\sum X^2) - (\sum X)^2} \quad b = \frac{N(\sum XY) - (\sum X)(\sum Y)}{N(\sum X^2) - (\sum X)^2}$$

From the table, known

$$\sum X = 3037$$

$$\sum Y = 4309$$

$$\sum X^2 = 120435$$

$$\sum Y^2 = 242055$$

$$\sum XY = 166542$$

Sehingga diperoleh nilai a dan b seperti di bawah ini:

$$a = \frac{(\sum Y)(\sum X^2) - (\sum X)(\sum XY)}{N(\sum X^2) - (\sum X)^2}$$

$$b = \frac{N(\sum XY) - (\sum X)(\sum Y)}{N(\sum X^2) - (\sum X)^2}$$

$$a = \frac{(4309)(120435) - (3037)(166542)}{131(120435) - (3037)^2}$$

$$b = \frac{131(166542) - (3037)(4309)}{131(120435) - (3037)^2}$$

$$a = \frac{518954415 - 505788054}{15776985 - 9223369}$$

$$b = \frac{21817002 - 13086433}{15776985 - 9223369}$$

$$a = \frac{13166361}{6553616}$$

$$b = \frac{8730569}{6553616}$$

$$a = 2,009$$

$$b = 1,332$$

To find out the regression equation for Y on X, use the formula:

By entering the values obtained from the calculations above, a simple regression equation is obtained, namely: $\hat{Y} = 2,009 + 1,332 X$

Coefficient of Determination Test (r^2)

Correlation analysis can be continued by calculating the coefficient of determination, by squaring the coefficient found. From this opinion, the coefficient of determination (r^2) can be calculated using the formula:

$$r^2 = (r_{xy})^2$$

From the coefficient of determination test, the percentage of influence of X on Y can be calculated by multiplying the value of r^2 by 100% ($r^2 \times 100\%$). From the calculation results obtained $r^2 = 0.8836$ from the determination value (r^2) it can be seen that the percentage of influence of reinforcement by Christian Religious Education teachers on the learning motivation of class.

d. Hypothesis Testing

Hypothesis Formulation:

- $H_0 : \beta = 0$: There is no positive and significant influence between the provision of reinforcement by Christian Religious Education teachers on the learning motivation of class XI students at SMA N 1 Salak, Pakpak Bharat Regency, Academic Year 2024/2025
- $H_a : \beta \neq 0$: There is a positive and significant influence between the provision of reinforcement by Christian Religious Education teachers on the learning

motivation of class XI students at SMA N 1 Salak, Pakpak Bharat Regency, Academic Year 2024/2025.

To find out the Fcount value, use the variance analysis formula for simple regression, namely:

Table 4.2.
Variance Analysis Calculation Table for Simple Regression

Sources of Variation	Dk	JK	KT	F
Total	N	ΣY^2	ΣY^2	$\frac{S^2_{reg}}{S^2_{res}}$
Regresi (a)	1	$(\Sigma Y)^2 / n$	$(\Sigma Y)^2 / n$	
Regresi (b/a)	1	$JK_{reg} = Jk(b/a)$	$S^2_{reg} = Jk(b/a)$	
Residu	n-2	$JK_{res} = \Sigma(Y - \hat{Y})^2$	$S^2_{res} = \frac{\Sigma(Y - \hat{Y})^2}{n - 2}$	

The following are the calculations required in the Analysis of Variance (ANOVA) table:

$$JK(t) = KT = \Sigma Y^2 = 242055$$

$$JK(a) = \frac{(\Sigma Y)^2}{n} = \frac{(4309)^2}{131} = \frac{18567481}{131} = 141736,496$$

$$\begin{aligned}
 JK(b/a) &= b \left\{ \Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n} \right\} \\
 &= 1,332 \left\{ 166542 - \frac{(3037)(4309)}{131} \right\} \\
 &= 1,332 \left\{ 166542 - \frac{13086433}{131} \right\} \\
 &= 1,332 \{ 166542 - 99896,435 \} \\
 &= 1,332 \times 66645,565 \\
 &= 88771,892
 \end{aligned}$$

$$S^2_{reg} = JK_{(b/a)} = 88771,892$$

$$JK(res) = \Sigma(Y - \hat{Y})^2 = 11325,019$$

$$S^2_{res} = \frac{\Sigma(Y - \hat{Y})^2}{N - 2} = \frac{11325,019}{131 - 2} = \frac{11325,019}{129} = 87,790$$

$$S^2_{reg} = 88771,892$$

$$F = \frac{S^2_{reg}}{S^2_{res}} = \frac{88771,892}{87,790} = 1011,18$$

$$F = 1011,18$$

Table 4.4.
Variance Analysis Calculation Results for Simple Regression

Sources of Variation	dk	JK	KT	F	F _{tabel}
Total	13	242055	242055	1011,18	F _{tabel} =($\alpha=0,05$,dk pembilang k=2, dk penyebut=n-2=131-2=129) = 3,00
Regresi (a)	1	141736,496	141736,496		
Regresi (b/a)	1	88771,892	88771,892		
Residu	12	11325,019	87,790		
	9				

From the calculation table above, the F_{count} is 1011.18 and if you consult the $F_{\text{table}}=(\alpha=0.05, \text{dk numerator } k=2, \text{dk denominator } n-2=131-2=129) =3.00$. Then $F_{\text{count}} > F_{\text{table}}$, namely $1011.18 > 3.00$. From this value, it can be determined whether the research hypothesis is accepted or rejected: $H^0 : \beta=0$ is rejected and $H_a : \beta \neq 0$ is accepted if $F_{\text{count}} > F_{\text{table}}(\alpha, k, n-2)$. So from the provisions above, H_0 is rejected and H_a is accepted, namely that there is a positive and significant influence between the provision of reinforcement by Christian Religious Education teachers on the learning motivation of class

CONCLUSION

Based on theoretical perspectives and the findings of this study, it can be concluded that the reinforcement provided by Christian Religious Education (CRE) teachers has a significant positive effect on the learning motivation of Grade XI students at SMA Negeri 1 Salak, Pakpak Bharat Regency, in the 2024/2025 academic year. Reinforcement, understood as a pedagogical strategy that includes verbal appreciation, non-verbal encouragement, and partial reinforcement, serves as an essential mechanism in stimulating students' psychological engagement with the learning process. The results of the analysis indicate that when students receive consistent reinforcement-whether in the form of praise, recognition, or supportive responses from teachers-they are more likely to develop greater enthusiasm, attentiveness, and persistence in their studies. Such reinforcement not only strengthens students' confidence but also fosters a positive classroom climate that encourages active participation and sustained focus. Conversely, the absence of reinforcement may lead to decreased motivation, limited involvement, and weaker academic performance. Reinforcement must be considered an integral component of effective Christian Religious Education. By strategically applying different types of reinforcement, teachers can enhance students' intrinsic and extrinsic motivation, ultimately contributing to improved learning outcomes and the holistic development of learners.

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