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Logistic regression analysis of factors afferring student graduation based on study habits and lifestyleInsert the article title here

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Abstract- This study aimed to analyze the effect of applying the Discovery Learning model assisted by manipulative teaching aids on students' mathematics learning outcomes at SMPN 7 Kerinci. This study employed a quasi-experimental design involving an experimental class and a control class, with 29 students in each class. Data were collected through weekly quizzes and a final test and analyzed using descriptive statistics and an independent-samples t-test. The quiz results in the experimental class showed a consistent increase in average scores, from 78.93 in the first meeting to 95.44 in the sixth meeting, indicating improved students' understanding of the learning materials. The final test results showed that the experimental class achieved a higher average score of 72.55 than the control class, which obtained 64.14. The t-test results produced a p-value of 0.018 ($p < 0.05$), indicating a significant difference between the two classes. Furthermore, the learning completeness rate in the experimental class reached 44.83%, compared with 27.59% in the control class. The experimental class also

had a lower standard deviation (11.135) than the control class (14.598), indicating more homogeneous learning outcomes. These findings demonstrate that the Discovery Learning model assisted by manipulative teaching aids can improve students' mathematics learning outcomes. The use of manipulative teaching aids also provides opportunities for students to actively explore mathematical concepts through concrete learning experiences. Therefore, this learning model is recommended as an alternative approach to support effective mathematics instruction.

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1. Introduction

Mathematics education globally struggles to foster students' conceptual understanding and application skills, leading to low engagement and suboptimal learning outcomes. This issue is pronounced in Indonesian junior high schools, where traditional teaching methods often prioritize memorization, hindering deeper comprehension (Nurhayati et al., 2021). Thus, innovative teaching models are needed to enhance engagement and improve mathematics learning outcomes, crucial for developing mathematical literacy and problem-solving abilities. A similar situation exists at SMP Negeri 7 Kerinci, where eighth-grade mathematics learning outcomes consistently fall below school standards. Final test results for the odd semester of the 2025/2026 academic year show alarmingly low average scores: Class VIII A (46.77, 12.90% mastery), VIII B (45.75, 10.34% mastery), VIII C (64.00, 26.67% mastery), and VIII D (43.33, 6.67% mastery). These figures indicate that most students did not meet the Minimum Completeness Criteria for Learning Outcomes (KKTP).

theories. After the theories are explained, the writer raises a gap at the end of the description. Based on the gap, a novelty will appear from the article. Theories from this background must originate from a minimum of 8 articles from old to the most recent one. For example an article entitled "Beliefs of junior high school teachers on learning process on mathematical problem solving", initially the author describes studies that examine beliefs ranging from understanding to the form of teacher beliefs in learning mathematics (8 articles). Due to the limitation of article discussing mathematical beliefs in learning about problem

solving, the present article discusses teacher beliefs in learning about mathematical problem solving.

(a) Insert B head here

Subsection text here.

(i) Equations

Sub of subsection text here.

2. Methods

The research method contains steps in obtaining results ranging from research instruments, instrument validation, data collection, data analysis. The authors are not allowed to describe the definition of those terms. The provision of the literature review articles is that the formulation of the problem must appear explicitly and the examining method should be written in this section. Especially for mathematical research, such as problem solving and not using certain methods, this section may be omitted. The order presented in the method section must be in accordance with the order in the research results section.

3. Results and Discussion

In this section the authors describe data or models obtained from the results of the study. Describe the data that has been obtained clearly and concisely, can be in the form of formulas, tables, pictures or diagrams. Furthermore, the discussion must not be separate from the results. The discussion is a review of the results associated with the theory for both relevant and contradicts to the results of the study.

4. Equations

Sample equations.

(a) Numbered Equations

$$\begin{aligned} u_{tt} &= c^2 (u_{xx} + u_{yy}), \\ u_{(0,x,y)} &= 0 \\ u_{(0,x,y)} &= \emptyset(x,y) \end{aligned} \quad (4.1)$$

and

$$u(t, x, y) = \frac{1}{2\pi t} \iint_D \frac{\emptyset(x+\psi, y+\eta)}{\sqrt{(ct)^2 - \psi^2 - \eta^2}} \quad (4.2)$$

(b) Unnumbered Equations

$$\begin{aligned} \int_{L_1} -c^2 u_x(x, t) dt - u_t(x, t) dx &= \int_{L_1} c u_x(x, t) dx + c u_t(x, t) dt, \\ &= \int_{L_1} du(x, t), \end{aligned}$$

$$= cu(x_i, t_i) - cf(x_i + ct_i)$$

5. Enunciations

Theorem 5.1. *Let H be nonempty finite subset of a group G . if H is closed under the operation of G , then H is a subgroup of G*

6. Figures & Tables

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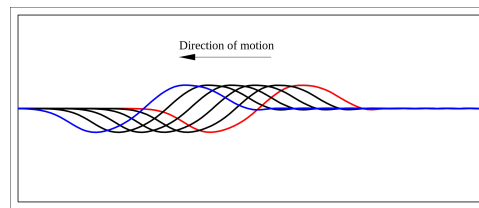


Figure 1. Picture resource wikipedia.com

Table 1. An Example of a Table

Mathematical Skill	Main Class	Control Class
Communication	80	75
Critical Thinking	50	76
Reasoning	60	59
Problem Solving	80	60
Basic Knowledge	70	75

7. Conclusion

This section contains the essence of research findings and recommendations for further research. In this section, the authors should avoid to use numbering format.

Acknowledgment

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Psychology Vol. 1 (2), 274-285.

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