PAIDAGOGIA:
Jurnal Inovasi Penelitian dan Pembelajaran
https://paidagogia.lombokinstitute.com/index.php/JIPP

Vol. 1. No. 1 (June 2024)
E-ISSN: 3063-8704
pp. 14-20

Implementation of the Scramble Learning Model and Its Effect on Student Motivation and Learning Outcomes

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Abstract: This study aims to determine the effect of the scramble learning model on student motivation and learning outcomes. The research employed a Quasi-Experimental design using a Pretest-Posttest Control Group. The population consisted of all eighth-grade students at MTs Ulil Al-Baab NW Lendang Jaran, East Lombok, with a sample size of 40 students. Student learning outcomes data were collected using tests, while motivation data were gathered using questionnaires. The data were analyzed using descriptive statistics and a t-test to determine the differences in student learning outcomes between the experimental and control groups. The implementation of the scramble learning model had a positive impact on improving student learning outcomes. This was reinforced by significant differences in student learning outcomes between the experimental and control groups ($p>0.05$). The influence of the Scramble learning model is presumed to be due to its offering of interactive and collaborative learning activities, ultimately enhancing student learning outcomes. Additionally, the research findings indicate that the Scramble learning model affects student motivation. Further findings reveal that student motivation in the experimental and control groups does not significantly differ, likely due to intrinsic factors such as interest in learning. This is supported by observational results showing no significant difference in student interest in learning between the experimental and control groups, suggesting that student motivation in both groups is not significantly different.

Article History
Received : 13-02-2024
Revised : 16-04-2024
Accepted : 07-05-2024
Published : 29-06-2024

Key Words :
Scramble Learning Model; Learning Outcomes; Learning Motivation.

How to Cite: Rostiana, Y., & Imran, A. (2024). Implementation of the Scramble Learning Model and Its Effect on Student Motivation and Learning Outcomes. *PAIDAGOGIA: Jurnal Inovasi Pendidikan Dan Pembelajaran*, *1*(1). Retrieved from https://paidagogia.lombokinstitute.com/index.php/JIPP/article/view/8

Introduction

Using instructional models is crucial in achieving educational goals focusing on student skill development. One intriguing model for investigation is the scramble learning model (Nurhasanah, 2020). This model distinguishes itself by integrating learning elements in dynamic situations and being oriented towards student empowerment (D. W. Sartika & Rohani, 2021). Previous research indicates that implementing the scramble model can positively impact student motivation and learning outcomes (Adnyani et al., 2020). First, it is important to understand the basic concept of the scramble learning model. This model integrates learning by referring to an organized structure but includes surprise elements and challenges. Generally, the scramble type allows students to explore learning content in unexpected sequences, resulting in a more dynamic and enjoyable learning experience (Syahyana, 2022).

Related studies show that using the scramble model in instruction can positively

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E-ISSN: 3063-8704
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motivate students (Jannah et al., 2019). Flexibility in exploring material can enhance students' curiosity and interest in learning (Kharisna et al., 2021). Furthermore, challenging and varied learning situations can stimulate intrinsic motivation among students (Artiningsih et al., 2019), reinforcing their engagement in the learning process (Santoso, 2020). Meanwhile, the impact of the scramble learning model on student learning outcomes is also a crucial aspect to consider. Several studies support the idea that the surprise and variation characteristics in the scramble type can enhance information retention and concept understanding. Students tend to understand better and remember the material when engaged in non-monotonous and more varied learning activities (Mahmud, 2020; Acim et al., 2023).

Despite the positive findings, further in-depth research is needed to understand specifically how the scramble learning model can affect student motivation and learning outcomes in various educational contexts. Therefore, this study aims to fill this knowledge gap by thoroughly investigating the influence of the scramble learning model on student motivation and learning outcomes at NW Sikur Islamic High School.

Research Method

This study employs Quasi-Experiment (Campbell, D. T., & Stanley, 2015). Quasi-experimentation is a research method that evaluates the impact of a treatment or intervention but cannot fully utilize randomization as in pure experiments. In this design, subjects or groups are not randomly allocated to experimental and control groups but are determined non-randomly (Hastjarjo, 2019; Abraham & Supriyati, 2022). Quasi-experimentation in this research utilizes the Pretest-Posttest Control Group Design (Valente & MacKinnon, 2017) as presented in Table 1.

Table. 1. Pretest-Posttest Control Group Design

Group	*Pretest*	*Treatment*	*Posttest*
Experiment	Y_1	X_1	Y_3
Control	Y_2	X_0	Y_4

Noted:
X1: Scramble model
X0: Learning using conventional methods
Y1: Pretest in the experimental class
Y2: Pretest in the control class
Y3: Posttest in the experimental class
Y4: Posttest in the control class

The population of this study were all students in class VIII of MTs Ulil Al-Baab NW Lendang Jaran, East Lombok, consisting of four classes, namely class VIII A, B, C and D, with a total of 125 students. Next, from the four classes, two classes were randomly selected to be used as experimental and control classes. Data collection uses tests and questionnaires. Tests are used to measure student learning outcomes. Learning outcome tests are an evaluation tool used to measure the extent to which students have understood and mastered the learning material (Surya et al., 2023). The test in this study used 15 multiple-choice questions and five essay questions. A questionnaire instrument is used to measure student learning motivation. This questionnaire may include questions or statements designed to evaluate the extent to which students are motivated in the learning process. The learning motivation test adopts the ARCS (Attention, Relevance, Confidence, and Satisfaction) model developed by John Keller (Setyowati et al., 2022). Student motivation data is then categorized into five categories as follows: score < 40% (less motivated), score 40% - 55%

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E-ISSN: 3063-8704
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(quite motivated), score 56% - 75% (motivated), and score 76% - 100% (very motivated).

Result and Discussion

The research examines the impact of implementing the Scramble model and its influence on students' learning outcomes and motivation. A description of students' learning outcomes in the experimental and control classes is presented in Table 1.

Table 1 Learning Outcomes of Students in the Control (C) & Experimental (E) Classes

Item	Pretest		Posttest	
	C	E	C	E
The number of students	20	20	20	20
The highest score	60	65	90	100
Lowest value	18	30	49	67
Average value	45	51	64	79

Table 1 illustrates that the highest pretest score in the control class is 60, while in the experimental class, it is 65. Similarly, the lowest score was obtained in the control class at 18, whereas in the experimental class, it was 30. These results also indicate that the experimental class's average score is higher than the control class, with consecutive values of 51 and 45. Regarding the post-test scores, there is an increase in both the lowest and highest scores in the control and experimental classes. This increase is also evident in the average scores, showing that the average score of the experimental class is higher than the control class, with consecutive values of 64 and 79. A t-test was conducted to determine the difference in student learning outcomes between the experimental and control classes to reinforce these findings. The results of the t-test analysis are presented in Table 2.

Table 2. T-test Analysis of Student Learning Outcomes

	Variable 1	***Variable 2***
Mean	79.95	64.2
Variance	85.73421	200.0632
Observations	20	20
Df	38	
t Stat	4.166453	
P(T<=t) one-tail	8.59E-05	
t Critical one-tail	1.685954	
P(T<=t) two-tail	0.000172	

The analysis results in Table 2 indicate that the t Stat value is greater than the t Critical value (4.166 > 1.68). This suggests a significant difference between the learning outcomes of the experimental and control classes, where the experimental class outperforms the control class. These findings also indicate an influence of the Scramble learning model on student learning outcomes. This aligns with the study by Fatimah et al. (2021), reporting the impact of the Scramble learning model on elementary school students' learning outcomes. Similarly, Kurniawati (2022) found significant positive effects of the Cooperative Scramble learning model on improving science knowledge competencies in elementary school students.

Additionally, this research shows that implementing the Cooperative Scramble learning model positively influences motivation and cognitive biology learning outcomes across various educational levels, including junior high school (MTs) and senior high school (SMA). This is supported by Sartika (2020), who found increased motivation and biology

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E-ISSN: 3063-8704
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learning outcomes using the Scramble model with Crossword Puzzle media in MTs YPI. At the SMA level, Fadilawati & Trisnawati (2020) discovered positive effects on interest and biology learning outcomes in Grade XI IPA students. Similar findings are echoed in other studies focusing on cognitive biology learning outcomes at higher levels (Sartika & Rohani, 2021). The influence of the Scramble learning model on student learning outcomes is attributed to its interactive and collaborative learning activities. Moreover, using the Scramble model, especially with additional media like puzzles, can enhance student learning outcomes in various subjects, including Indonesian Language and Social Sciences. Furthermore, it increases student engagement, strengthens concept understanding, and creates an enjoyable learning environment, all of which are believed to contribute to improved student learning outcomes (Astuti et al., 2017; Siti Anisah & Syafitra, 2022).

The analysis of student learning motivation revealed that the highest scores for the experimental and control classes were similar at 79 and 78, respectively. Furthermore, the lowest score in the experimental class was even lower than that in the control class. Additionally, the average motivation scores for the experimental class did not significantly differ from those in the control class, both at 86% and 88%, categorized as highly motivated (Table 3). These results indicate that student learning motivation is similar in both experimental groups.

Table 3. Student Learning Motivation Data

Item	Motivation	
	Control	Experiment
The number of students	20	20
Highest score	78	79
Lowest score	58	54
Average value	88%	86%

The results in Table 3 indicate that students' learning motivation in the experimental and control groups does not significantly differ, with sufficiently good scores falling within the highly motivated category. Theoretically, the Scramble learning model is crucial in enhancing students' learning motivation. Research findings show that implementing the Scramble model can create a fun and interactive learning atmosphere, thereby boosting students' motivation to learn (Putri et al., 2019; Putra et al., 2020). Additionally, this model offers advantages such as learning while playing and providing more relaxed and entertaining opportunities, which can stimulate students' interest in learning (Adnyani et al., 2020). The lack of difference in students' motivation between the experimental and control groups is likely due to intrinsic factors originating from within the students themselves, namely, their interest in learning (Putri & Rifai, 2019). Learning interest plays a crucial role in influencing students' learning motivation. Research indicates that learning interest can be a primary driver for students to develop their motivation in the learning process. Strong interest in a subject or topic increases students' engagement in learning and encourages them to seek deeper understanding (Putri & Rifai, 2019). Observational results suggest that students' learning interests in the experimental and control groups are not significantly different. This may explain why students' learning motivation in the experimental and control groups does not significantly differ.

Conclusion

Implementing the scramble learning model positively impacts improving students' learning outcomes. This is reinforced by the significant differences in students' learning outcomes between the experimental and control groups ($p > 0.05$). The influence of the Scramble learning model is presumed to be because it offers interactive and collaborative learning activities that ultimately enhance students' learning outcomes. The research also indicates that the Scramble learning model affects students' learning motivation. Further findings reveal that students' learning motivation in the experimental and control groups does not significantly differ. This is likely due to intrinsic factors within the students, namely, their interest in learning. Observational results reinforce this by indicating that students' learning interests in the experimental and control groups are not significantly different. This is suspected to cause the lack of significant difference in students' learning motivation between the experimental and control groups.

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