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# APPLICATION OF EXPERIENTIAL LEARNING MODEL TO INCREASE STUDENTS MOTIVATION AND LEARNING OUTCOMES

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**Abstract:** This study aimed to describe how the experiential learning model increases motivation and improves student learning outcomes in the knowledge domain. The research was a pre-experiment with a one-group pretest-posttest design. Junior high school (SMPN 1 Surabaya) students in the 7th grade were the subject. The research instruments are learning observation forms, pretest and posttest, and a motivation questionnaire. Data was collected using the learning method, student questionnaire, and pretest and posttest methods. The data analysis included examining learning implementation, test findings of enhanced motivation and learning outcomes using the Wilcoxon test and normalized gain analysis, and a checkup of motivation and student learning. The results showed that the learning model was implemented very well, with an average score of 93 percent at the first meeting and 96 percent at the second meeting. The students' motivation from the pretest was 59 percent with a strong category at the first meeting and then improved to 89 percent with an excellent classification at the second meeting. The second meeting had a higher percentage of 96 percent for student learning outcomes on knowing competency than the first meeting, with a measurement of 64 percent. In conclusion, the experiential learning preparatory in science learning can boost students' motivation and learning outcomes.

**Keywords:** *Experiential Learning, Learning Outcomes, Learning Motivation*

## INTRODUCTION

The development of the education system in Indonesia has undergone many changes [1]. These changes carried out different forms of reform in education. The story of science is not only marked by using facts but also by the existence of scientific methods and scientific behavior. But the development of science cannot occur if it does not follow the result of the quality of science education. Improving the quality of education can be seen from the ongoing learning; therefore, teachers need to provide opportunities for students to actively participate in learning activities, motivate students to study the material, and improve student learning outcomes. Learning in science is a structured process that teaches students to develop and participate actively in their ideas [2]. Motivation is an intrinsic and extrinsic drive for students when learning to change students behavior toward the material. Students who are motivated to learn will use higher cognitive processes so that students can better understand the material [3]. Educational motivation in Indonesia is of low quality. One of the problems with the quality of education in Indonesia is the low-quality learning process, such as how teachers educate, curriculum, effective school management, and student desperation to learn [4].

At the high school age, students' way of thinking has changed to intellectual, logical, and formal [5], affecting students' motivation and learning success. Teachers in legal environments must introduce creative, energetic, and fun learning. Teachers involve students in the learning process. The teacher's quality of an effective learning process affects motivation and learning outcomes [6]. In this learning, students learn actively, and the teacher is a facilitator. David Kolb introduced experiential learning in 1984. Kolb defines "learning as the process whereby knowledge is created through the transformation of experience". The Experiential Learning model has the proper steps for its application in science learning, namely: 1) The stage of experience (concrete experience); 2) the stage of reflection observation (reflective observation); 3) the conceptualization stage (abstract conceptualization); and 4) the implementation stage (active experimentation) [7]. Learning activities using the Experiential Learning learning model can create new experiences to prepare for problems and difficulties in the real world. In other words, students can understand and process information effectively if they have completed the knowledge themselves [8-9]. Experiential learning stimulates students' curiosity, memory, ability to ask questions and get answers based on natural phenomena, topics, and objectives, and ultimately leading to better learning outcomes.

The experiential learning model affects students' learning motivation in the ecosystem material for the Biology subject for class X SMA at South OKU. It can be seen from the results of the research that the score for the category of student motivation in the experimental class using the experiential learning model is higher than in the control class using conventional or lecture methods [4]. Similar research states that after using the Experiential Learning learning model, students' science process skills increased, with an average percentage of

students' science process skills at the pretest of 5% and the posttest of students increasing by 92% [10]. Among the various studies that apply the Experiential Learning learning model. With a focus on hands-on experience and directed learning, a deeper understanding of the natural environment is added to apply the knowledge gained in everyday life. Because learning only happens when you feel the experience. Implementing this learning strategy is essential for teachers to develop as leaders because teachers prepare experiential learning materials that guide students to build meaningful and present experiences and become good motivators for enthusiasm for learning, as well as evaluators of the level of achievement of student learning outcomes. To learn knowledge, teachers must relate the material to the student experience and provide students with opportunities to solve problems so that students will be motivated and the learning outcomes will increase. Therefore, through this case study, students will get better learning.

## RESEARCH METHODS

This type of research is pre-experimental (pre-experimental design), requiring only one experimental class without a control class. The research design, namely 'One group pretest and posttest design,' is an experiment conducted in one group without a comparison class. SMPN 1 Surabaya has conducted research class VII totaling 25 students consisting of 12 male students and 13 female students as research subjects. This research was born in the even semester of the 2021/2022 academic year.

The development of science cannot occur if it does not follow the quality of science education. This study uses instruments in the form of tests and observation questionnaires. Learning implementation instruments, pretest, and post-test question instruments, and learning motivation questionnaires have undergone validity and reliability testing. Three validators validated the learning device validation process. The validation of the learning implementation instrument obtained an average score of 3.76 out of 4.00 with excellent criteria, and the pretest and posttest got an average score of 3.69 out of 4.00 with excellent standards. The learning motivation questionnaire instrument received an average score of 3, 60 out of 4.00, with perfect criteria. To test the reliability of the three tools were analyzed using Alpha using the SPSS version 22.0 program. The reliability of the learning implementation instrument obtained a value of 0.611, the pretest and posttest obtained a value of 0.825, and the learning motivation questionnaire instrument obtained an of 0.790. If a tool has a value of > 0.60, the instrument is reliable [11].

Data collection methods are the form of pretest (initial test) and posttest (final test) methods to assess the improvement of student learning outcomes in the aspect of knowledge (cognitive domain). The test consists of 25 multiple-choice questions.

The following data collection method is the non-test method (questionnaire observation), in the form of a learning motivation questionnaire to assess the increase in students' learning motivation in Experiential Learning. The data analysis method used is the analysis of the implementation of learning. The results observations of the ability of teachers to manage classes can appear in the form of a scale ranging from 1 to 4. Table 1 converts the average of each aspect.

Table 1. Assessment Criteria for Learning Implementation

| Score | Criteria |
|---|---|
| 4 | Very Good |
| 3 | Good |
| 2 | Fair |
| 1 | Not Good |

Then table 2 presents the learning implementation criteria.

Table 2. Criteria for Percentage of Learning Implementation

| Average Score | Criteria |
|---|---|
| 81%-100% | Very Good |
| 61%-80% | Good |
| 41%-60% | Enough |
| 21%-40% | Less |

The learning implementation sheet is prepared according to the Experiential Learning syntax and is carried out for two meetings. Then perform Wilcoxon analysis and normalized gain analysis to determine the increase in learning outcomes and student motivation. The results of N-gain interpreted according to the criteria, if <g> <0.30 then it is in the low criteria, if 0.70 > <g> > 0.30 then it is in the medium criteria and if <g> > 0.70 then it is included in the high criteria [12]. Then continued by using the Wilcoxon using the SPSS version 22.0 program. Test Wilcoxon is part of non-parametric statistics. The test is Wilcoxon because both pretest and posttest are generally not distributed. The test criteria state that if the Asymp value. Sig. (2-tailed) is smaller than <0.05 and stated a significant difference between motivation and learning outcomes pretest and posttest.

For student learning outcomes, individual learning completeness refers to the Minimum Completeness Criteria 70; students are complete in learning if they get a score of 70 and are not complete if they get a score of ≤70. At the same time, classical learning completeness measures the

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overall success of students. Classical learning completeness is said to be successful if the percentage obtained by students who achieve a value of 70 has a number greater than or equal to 85% of the total students. Next is the analysis of student learning motivation using John Keller's ARCS data from attention, relevance, confidence, and satisfaction [13] with the criteria presented in Table 3.

Table 3 Criteria for Motivational Questionnaire Questions

| Questionnaire Criteria Questions Positive Criteria | Questions Negative Criteria |
|---|---|
| 1 = Strongly Disagree | 5 = Strongly Disagree |
| 2 = Disagree | 4 = Disagree |
| 3 = Neutral | 3 = Neutral |
| 4 = Agree | 2 = Agree |
| 5 = Strongly Agree | 1 = Strongly Agree |

The student motivation questionnaire's classification of statements consists of positive and negative words. Then calculate the combined average of each question's positive and negative criteria. After that, determine the category by providing the average score percentage with the requirements presented in Table 4.

Table 4 Criteria for Assessing Student Motivation Questionnaires

| Percentage | Criteria |
|---|---|
| 0%-20% | Very Weak |
| 21%-40% | Weak |
| 41%-60% | Enough |
| 61%-80% | Strong |
| 81%-100% | Very Strong |

## RESULT AND DISCUSSION

This study aims to increase students' motivation and learning outcomes by applying Experiential Learning. The research data obtained are (1) data from observations of the implementation of learning, (2) the value of student learning motivation questionnaires before and after the implementation of the Experiential Learning, and (3) the pretest and posttest of student learning outcomes in the knowledge aspect (cognitive domain).

### Implementation of Learning The

Implementing practical learning is implementing the learning process using Experiential Learning on environmental pollution material. There are weaknesses and strengths in the process of implementing Experiential Learning. The advantages of Experiential Learning provide results that show that learning through experience is more effective and more significant goals can be achieved [14]. The researcher used the learning observation sheet to obtain data on the implementation of the learning process. The score for each item has a range of values ranging from 1 to 4, and each value has specific evaluation criteria. The implementation of the learning carried out was observed by three observers.

In general, Experiential Learning consists of 4 stages, namely; 1) the real experience stage, 2) the reflection observation stage, 3) the conceptualization stage, and 4) the implementation stage [15]. Twenty-three learning processes in the preliminary to closing activities describe these stages. Figure 1 presents the average of each aspect of the implementation of learning in brief.

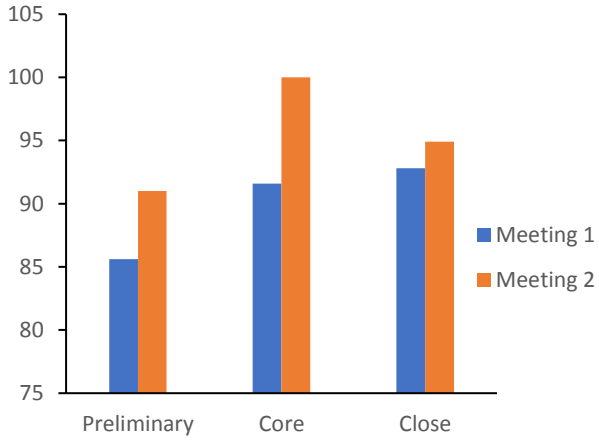


Figure 1. Graph of the average of each aspect of the implementation of learning

Based on Figure 1, each component of the implementation of learning has increased from the preliminary aspect to the closing aspect at the first and second meetings. The primary element at the first meeting was 85.6, and the second meeting was 91. At the first meeting, the aspect of this activity was 91.6 and in the second meeting was 100. Then the closing aspect at the first meeting was 92.8, and the second meeting was 94.9. During the proposed learning activities, the teacher discusses what to do with students to attract students' attention, motivate students, and not stop at lesson plans in implementing their learning activities [16]. Based on Figure 1. The implementation of learning gets an excellent category. Teaching practice states that a teacher's ability to manage knowledge is practical if it reaches the perfect variety [17] because the teacher is always trying to improve teaching methods so students can better understand the material being studied using Experiential Learning.

### Increasing Learning Motivation

The school system in Indonesia is still of low quality. The problem with the quality of education in Indonesia is the low quality of education which includes: minor curriculum and teaching methods,

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less effective school administration, and a lack of student motivation. In teaching and learning, teachers use pedagogical actions such as rewarding, praising, blaming, punishing, or advising. The teacher's activities strengthen external motivation, encouraging students to learn, and internal motivation [16]. Teachers need to know student learning motivation because reason is crucial in learning. Without cause, learning activities are meaningless because good or poor learning outcomes strongly impact the level of motivation to learn [18].

The results of data analysis showed that 25 students in the study gave a robust assessment of the questionnaire on the pretest. The evaluation of the questionnaire on the posttest was classified as very strong. The analysis results indicate an increase in assessing students' learning motivation in science after implementing Experiential Learning. Figure 2 shows the changes in each component of motivation before and after treatment.

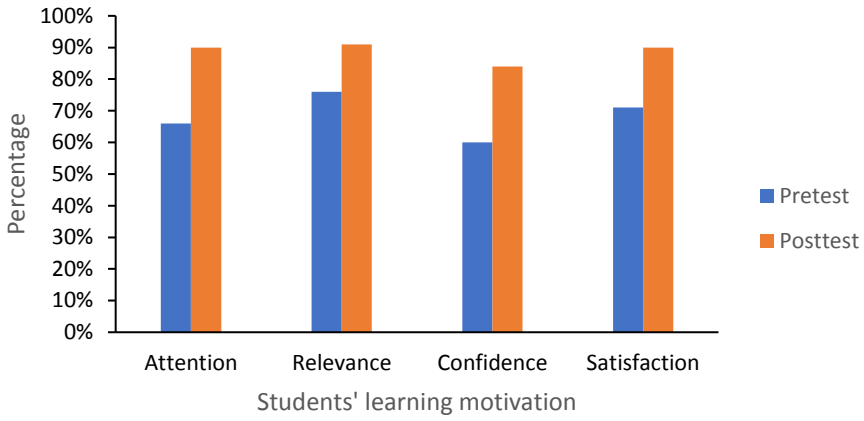


Figure 2. Graph of learning motivation

The motivation model ARCS, according to Keller, is Attention, Relevance, Confidence, and Satisfaction [13]. Figure 2 shows the previous Attention component of 66%. After applying the Experiential Learning learning model, it increased to 90%, the attention component obtained with the active participation of students. In Experiential Learning, all students can participate in learning activities because in this learning phase to strengthen the explanation of the material includes: demonstrations, short lessons, questions, group discussions, and presentations [19].

Component relevance is arranged with the learning process by the student's experiences in the environment related to the material; in this way, students will benefit from what they learn [20] (Figure 2). The relevance based on the student learning motivation questionnaire had an initial average of 76 and then increased to 91. Confidence is the student's self-confidence to increase learning motivation. Through Experiential Learning, concepts that are difficult to understand become easily understood by students. It increases students' self-confidence to achieve maximum learning outcomes in this study [21]. Figure 2 shows that the previous student's learning motivation was 60%. After the Experiential Learning, it increased to 84%. Then on the satisfaction with a good learning structure, students will feel the benefits of implementing Experiential Learning. Based on Figure 2, students' learning motivation has an initial average of 71 and then increases to 90. In summary, Figure 3 presents the results of motivational analysis before and after the implementation of Experiential Learning.

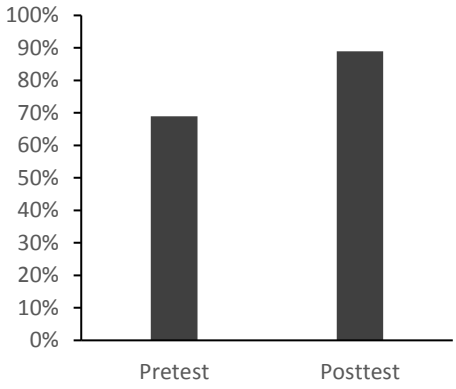


Figure 3. The results of the analysis of student motivation

Motivation is a great desire to make someone more active in learning. Based on Figure 3 above, students' learning motivation initially in the strong category was 69%, increasing to 89% in the extreme category. Experiential learning is useful in improving students' motivation: the higher the motivation to learn, the more optimal student learning outcomes. Teachers must guide students to a deeper level of understanding based on the knowledge that students have previously [22].

Based on the results of the Wilcoxon test in Table 5.

Table 5 Test Wilcoxon Student Learning Motivation

| Test Statistics | |
|---|---|
| | posttest – pretest |
| Z | -4374[b] |
| Asymp. Sig. (2-tailed) | .000 |
| a. Wilcoxon Signed Ranks Test | |
| b. Based on negative ranks. | |

It Knowing that Asymp. The signature (2-tailed) is 0.000, and the probability value is less than 0.05, so it can be concluded that there is an effect of using the Experiential Learning learning model in increasing students' learning motivation before and after learning. Researchers also used Gain Score to determine the increase in learning motivation during the pretest and posttest. Based on the results of the Gain calculation, they then interpreted according to N-Gain to conclude that the increase in student learning motivation is high. Is evidenced by 12 students having a gain value above 7, the other 12 students having a gain value range of 0.3 to 0.7, and 1 student having a gain value below 0.3. The importance of motivation in learning should be significant for teachers. As a teacher, you must motivate students to learn by implementing a unique teaching and learning process using learning methods [23]. So after using Experiential Learning, students can be motivated to learn.

Based on the pretest and posttest analysis of students' learning motivation, from 25 students, 24 students experienced an increase in learning motivation. So 96% after the application of Experiential Learning, students' learning motivation increased. Increasing students' learning motivation aligns with constructivist theory, which teaches teachers to help students find information on their own by making it relevant and meaningful to students [24]. It means that experience in learning is one way to increase learning motivation.

**Improving Student Learning Outcomes Learning**

The study is a process; every learning activity will end with learning outcomes. Learning outcomes are skills and abilities obtained by students after getting a learning experience [25]. In this study, researchers used student learning outcomes in the knowledge or cognitive domain by comparing student scores before (pretest) and after (posttest) while studying environmental pollution material by completing the Minimum Completeness Criteria 70. The researcher taught this lesson in two meetings.

Furthermore, during the pretest, nine students were declared incomplete, 16 students were declared complete, while at the posttest, one student was declared incomplete, and 24 students were declared complete. Following the calculation of classical learning, completeness at the pretest time obtained a percentage of 64%. Meanwhile, the posttest scored 96%, so classical learning completeness was declared the winner. Learning outcomes, in this case, are the results of hard work and creativity spent in competitions that require thinking [2]. The increased number of students who completed the pretest and posttest after applying the Experiential Learning improved student learning outcomes in aspects of knowledge or the cognitive domain. It positively affects student performance because students' internal processes influence most students' academic activities and teachers also play an essential role in student achievement [26] so that by applying Experiential Learning, students are more active and affect learning outcomes.

And based on the results of the Wilcoxon in Table 6.

Table 6. Test Wilcoxon Student Learning Outcomes

| Test Statistics | |
|---|---|
| | posttest learning outcomes - pretest learning outcomes |
| Z | -4.393[b] |
| Asymp. Sig. (2-tailed) | .000 |
| a. Wilcoxon Signed Ranks Test | |
| b. Based on negative ranks. | |

The Asymp. Sig. (2-tailed) is 0.000. The probability value is less than 0.05. means an increase in student learning outcomes when applying the experiential learning model to class VII SMPN 1 Surabaya. The cognitive domain is related to students' academic learning outcomes in understanding what they have learned. According to [27], the cognitive part consists of six levels. Based on the Learning Implementation Plan (RPP) using the cognitive domain, namely analyzing and composed of several indicators, analyzing aims to dissect the content of its components and determine the relationship between them. Exploring questions place problems into relevant categories and identify relationships between these factors [28]. The results of the data analysis showed that the components of the student learning indicators showed an increase in the pretest and posttest scores. The average pretest average is posttest 0.90.

Researchers used Gain Score to determine student learning outcomes in the pretest and posttest. The normalized gain analysis aims to determine how much improvement the learning outcomes of class VII students of SMP Negeri 1 Surabaya on environmental pollution material. The N-Gain classification concluded that a total of fourteen students (56%) in the study obtained a gain value of more than 0.7, which means the increase in student learning outcomes is high; a total of nine students (36%) in the study obtained a gain value in the range

of 0.3 – 0.7, which means the increase in student learning outcomes is low. While several two students, or 8% in this study, obtained a gain value of less than 0.3, the increase in student learning outcomes is insufficient. And the average value of the Gain Score increases student learning outcomes, obtaining an average of 1,000 out of 25 students. So, student learning outcomes after the implementation of Experiential Learning increased; this refers to the Minimum Completeness Criteria 70.

Table 7. Descriptive Analysis of Student Learning Outcomes

| | Descriptive Statistics | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Pretest learning outcomes | 25 | 24 | 76 | 69.44 | 10.385 |
| Posttest learning outcomes | 25 | 36 | 100 | 90.08 | 12.708 |
| Valid N (listwise) | 25 | | | | |

Based on the descriptive analysis of student learning outcomes, 96% or a total of 24 students completed the pretest and posttest after applying Experiential Learning to improve student learning outcomes in the knowledge aspect or cognitive domain, not only in the knowledge aspect but also in the field of understanding and experience involved, includes skills and attitudes.

## CONCLUSION

Applying the Experiential Learning learning model to environmental pollution material can increase the motivation and learning outcomes of junior high school students of SMP Negeri 1 Surabaya in The seventh grade. After implementing Experiential Learning, students' learning motivation increased by 89% during the posttest, which previously had an average result of 69% at the pretest. It is evidenced by the excellent implementation of learning with Experiential Learning that is linked to the student's experience so that they become more active and motivated to learn. Secondly, after implementing the Experiential Learning model, student learning outcomes in the cognitive aspect increase. It is shown by the student's Gain value and the calculation of classical learning completeness in the pretest having a percentage of 64%. In comparison, the posttest has a ratio of 96%.

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