

The Effectiveness of the Scramble Cooperative Learning Model in Improving Senior High School Students' Interest and Learning Outcomes on Chemical Elements

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ABSTRACT

Chemistry lessons are synonymous with complex subjects in high school. So, it can reduce students' interest. This research aims to determine the application of the Cooperative Scramble Learning Model in increasing students' interest and learning outcomes in Elemental Chemistry material for class XII SMA in Banyuwangi. The subjects of this research were 19 class XII students. The method in this research is Classroom Action Research which is carried out in two cycles consisting of four stages, namely planning, implementation, observation and reflection. The data collection stage was carried out using tests and non-tests. Data from research on indicators of learning interest in cycle I and cycle II showed an increase in the frequency of student activity during the learning process. Meanwhile, research results on indicators of learning outcomes in cycle I were 70.26 with learning completeness 42.11%, while in cycle II it was 83.84 with 100% learning completion. It can be concluded that the scramble model can increase students' interest in learning and learning outcomes in high school chemistry element material.

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INTRODUCTION

At the high school level, chemistry is one of the subjects taught to students. Chemistry is a compulsory subject, but many students are less interested in it. The results of research on students' interest in learning chemistry subjects are generally low, with less than 50% showing interest. This is because students still consider the chemistry lessons they study to be complicated and demanding (Sari & Maharani, 2019). Most chemistry is conceptual, sequential, and constantly developing rapidly. Chemistry is a simplification of real substances, and not only problems but also the substances studied thoroughly (Djangi et al., 2021).

Given the presence of abstract and complex concepts in chemistry, some students assume that chemistry is a complex subject. With material packaged with concepts, most students only memorize the material without truly understanding it. One of the materials that requires memorization is the material of elemental chemistry. As a result, many students in elementary chemistry classes have low interest and feel

bored, so they become inactive in the learning process. Due to a lack of interest in learning, the learning outcomes achieved cannot be maximized.

Learning outcomes are greatly influenced by interest. Based on the findings and observations of researchers at SDN Garot Juseu Aceh Besar, interest plays a vital role in determining student learning outcomes. Research has proven a positive relationship between learning interest and learning outcomes in science lessons (Karina & Syafrina, 2017). The achievement of student learning outcomes depends on interest. Most students who dislike chemistry lessons tend to have negative assumptions and consider chemistry a complex subject. Therefore, teachers must innovate in their approach to learning by implementing innovative methods.

Innovative learning that is applied is learning that is not boring, which can build student interest and students are directly involved. One of the learning models that is considered appropriate is Scramble Cooperative Learning. Cooperative learning is a learning model where students learn and participate in small groups consisting of 4-5 students with different group structures. The concept of heterogeneity means different group structures with various backgrounds, different genders, different races and even ethnicities. The goal is to teach students to accept differences in educational levels, genders, races, and even ethnicities. This training aims to help students accept differences and collaborate effectively with colleagues from diverse backgrounds. (Nurdyansyah, 2016).

According to Hidayati (2021), the scrambling learning method is a learning approach that utilizes language to encourage students to seek out answers that have been randomly provided. This aligns with the statement that the Scramble Learning Method is a cooperative learning approach, enabling students to be active and creative in finding answers to questions or pairs of questions by rearranging randomly arranged letters to create appropriate answers. This method is included in language games (Alisha & Muflihah, 2020). The scrambling cooperative learning model is characterized by students participating in small learning groups, where they provide answers to questions randomly based on those provided in the classroom (Dieviana et al., 2017).

Through this learning method, it is hoped that students will feel happy and enthusiastic in the learning process. According to Putri et al. (2019), the steps in the scrambling cooperative learning model are: 1) In presenting the material, the teacher uses scientific methods. 2) Small learning groups are formed by the teacher and the teacher provides question sheets and answer cards to each group. 3) Each group conducts a discussion based on the time that has been determined. During the discussion, each group competes to display the correct answer card on the question card that the teacher displays on the board. 4) The teacher calls a student from the group representative to conduct a presentation on the results of his/her group's work and the other students pay attention to the presentation to provide their opinions. 5) The results of the lesson are concluded by the students with guidance from the teacher.

Based on the background above, the researcher aims to enhance the interest and learning outcomes of grade XII students studying Chemistry, specifically in the subject of Elemental Chemistry, through a Chemistry Action Research project that implements a cooperative scrambling chemistry learning method.

METHODS

This research was conducted at one of the senior high schools in Banyuwangi Regency with 19 students as the research subjects, namely class XII in the 2023/2024 Academic Year. This research used the Class Action Research methodology. The implementation of this Class Action Research consists of two cycles, each carried out in four stages: the planning stage, the implementation stage, the observation stage, and the evaluation stage, which is also known as the reflection stage (Zainab, 2016). Cycle II is an improvement on Cycle I. The data collection stage is carried out with the participation methodology at the end of the cycle and observation of student activities. The participation is carried out after Cycle I and at the end of Cycle II. Meanwhile, the observation of student activities is a direct observation in the classroom for two cycles. The Classroom Action Research Design used by the author can be seen in Figure 1.

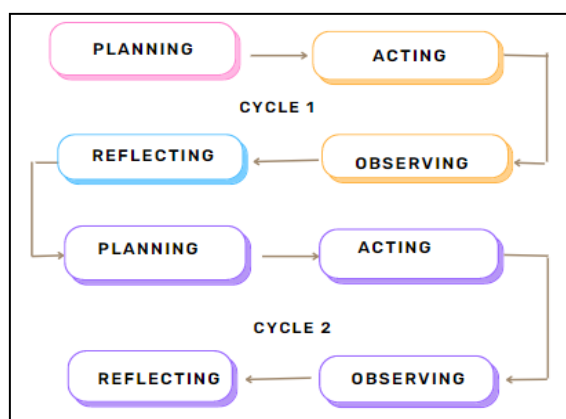


Figure 1. Action research plan

RESULT AND DISCUSSION

This research was carried out in two cycles, namely Cycle I and Cycle II. This research was conducted four times, with findings grouped into Cycle I and Cycle II. The researcher used a learning medium in the form of Scrambling Chemistry, which incorporated material taught in elementary chemistry. The results of the data collection were obtained from observations in Table 1.

In Table 1, there is an increase in student activity during ongoing learning. Before the first cycle was carried out during the learning process, many students ignored the teacher when explaining the material, they played alone and were not active in the learning process. This tier thing is said to be since in cycle I of tier 1 there were still some students whose activity was lacking, and in cycle II there was an increase. In cycle II, the students demonstrated higher attendance levels, actively participated in discussions, and were fully engaged in the learning process. This data aligns with the findings of Ervan Pantu's (2022) observations, which suggest that implementing learning planning strategies can increase students' chemistry learning activities.

The increase in student activity indicates a corresponding rise in learning interest, particularly when applied to the scramble interactive learning method among grade III students at Siekardangan Elementary School (Putri, 2018). The collection of data on ties is carried out at the end of each cycle by assigning students to carry out

ties and evaluation individually. The tie results from both cycles are displayed in Table 2 and Table 3.

The results of the questionnaire given to students after the end of the cycle, using the scramble cooperative learning model, can provide a positive perception. This can be observed from the number of people who like chemistry lessons, actively ask questions, feel helped, and are enthusiastic about learning, the frequency of which is that more people answer always than sometimes, and never. From this, it can be concluded that students' interest and learning outcomes can be improved by implementing the Scramble cooperative learning model.

Table 1. Observation results of student activities during the study

No.	Observation Aspect	Frequency of Cycle I		Frequency of Cycle II
		Meeting 1	Meeting 2	Meeting 1
1	Student Attendance			
	Present	17	16	19
	Absent	2	3	0
2	Students who always pay attention to the teacher explain the ethics	16	13	17
3	Students who actively ask questions and answer questions from the teacher	5	5	8
4	Student who is active in discussions in his lectures	12	10	14
5	Students who are active in completing assignments in their classrooms	15	14	19
6	Students who are able and brave enough to conclude the knowledge they have learned	2	3	5
7	Students who do activities during class (playing alone, playing with friends, etc.)	6	4	1

Table 2. Analysis of learning outcomes in Cycle I

Statistical Parameter	Statistical Score	
	Cycle I	Cycle II
Ideal Score	100	100
Highest score	94	98
Lowest Score	47	76
Score Range	47	22
Average Score	70.26	83.84

Table 3. Learning completion results

Score	Category	Frequency/Percentage	
		Cycle I	Cycle II
0 - 74	Incomplete	11 (57,89%)	0 (0%)
75-100	Complete	8 (42,11%)	19 (100%)

CONCLUSION

Based on the results of research that has been carried out, it can be concluded that the scramble cooperative learning model can increase the interest and learning outcomes of class XII students at one of the high schools in Banyuwangi. The increasing frequency of student activity proves this during the learning process. Apart from that, the average value obtained in cycle I and cycle II has increased. The average value in cycle I was 70.26 and in cycle II it increased to 83.84. Likewise, achieving the minimum criteria for completion of Cycle I is 42.11% to 100%. The use of collaborative or cooperative scramble learning models also produces positive perceptions from students based on the questionnaires given to them. Thus, students' interest and learning outcomes in elemental chemistry material can be increased by implementing the Cooperative Scramble learning model. Through the results of this research, apart from the aim of improving student interest and learning outcomes, it is hoped that teachers can use collaborative or cooperative scramble learning models, especially in chemistry learning.

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