

## The Influence of Active Learning Strategy with Cardshort Method at SMA 2 Percut Sei Tuan

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### ABSTRACT

Active learning is optimizing the use of all the potential possessed by students, so that all students can achieve satisfactory learning outcomes according to their personal characteristics. In this mini-research task, the author discusses active learning strategies using the card short method. The purpose of this study was to determine the effect of active learning strategies using the card short method on student learning outcomes. The method used in this study is the method of direct observation or survey in Class XI IPA 3 SMAN 2 Percut Sei Tuan. Data collection techniques used pretest and posttest and the results showed that there were differences in the effect of active learning strategies using the cardshort method with the blood circulatory system material. The card sort learning method with the technique of the games is expected to help students understand the lesson and understand the classification of the circulatory system material. Based on the results of research conducted at SMA Negeri 2 Percut Sei Tuan, there are differences in the influence of active learning strategies using the cardshort method with blood circulatory system material.

### KEYWORDS

Cardshort  
Active Learning  
Learning outcome

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### 1. Introduction

According to Uno (2007), learning is a process of interaction between teachers and students. In the learning process, students will get something they don't know yet, they will learn knowledge in a more efficient way, from this process there will be a connection between new knowledge and a more solid cognitive structure, which can be obtained from learning outcomes. Learning is a part that has a very dominant role in realizing quality, both in terms of process and graduates. Learning has an influence that causes low quality education, meaning that learning is very dependent on the ability of a teacher in carrying out the learning process. The purpose of learning is more emphasized to expand or add student knowledge, so that students have the ability to express the knowledge and understanding that has been learned, both in a short time and a long time, which is obtained through various methods in the learning process (Saekhan, 2008; Hattie & Timperley, 2007).

According to Uno (2007), efforts to teach students in the activities of choosing, determining, developing to achieve good learning outcomes are called learning. Learning will focus on "how to teach students", and not on "what students learn". The purpose of learning itself is the achievement of behavior by students in a competency, improving learning outcomes, and the hope of skills possessed by each student that they want to achieve.

Active learning is intended to optimize the use of all potentials possessed by students, so that all students can achieve satisfactory learning outcomes according to their personal characteristics. In addition, active learning is also intended to keep students' attention focused on the learning process. Active learning is a unified source of a comprehensive collection of learning strategies. Active learning includes various ways to make students active from the start through activities that build group work and in a short time make them think about the subject matter. There are also techniques for leading learning for the whole class, for small groups, stimulating discussion and debate, practicing skills, encouraging questions, and

even allowing students to teach each other (Nelyza, Ruslaini, & Novika, 2022; Nelyza, Ruslaini, & Novika, 2022).

With active learning, students are invited to participate in all learning processes, not only mentally but also physically. In this way, students will usually feel a more enjoyable atmosphere, so that learning outcomes can be maximized. Active learning strategies are needed to foster a sense of independence, creativity so that they are able to make new innovations, and also to obtain maximum learning outcomes because when learning is passive, students only receive information from the teacher and tend to quickly forget what has been given (Deslauriers, Schelew, & Wieman 2011; Felder & Brent, 2009; Freeman et al., 2014).

The card sort method (sorting cards) according to Fatah Yasin, is "a method used by educators with the intention of inviting students to find concepts and facts through the classification of the material discussed in learning". The card sort learning method with its game techniques is expected to help students understand the lesson and understand the classification of the material. Through card games, students' interest in learning will grow, because in the application of the card sort learning method, the teacher only plays a role as a facilitator who facilitates his students in learning, while students learn actively with facilities and direction from the teacher, so that the active person here is not the teacher but the students themselves who must be active in learning (Aulia, Dewi, & Mulyana, 2023; Priando, Armariena, & Rizhardi, 2023).

The use of visual-based card media in the card sort method can facilitate understanding, strengthen memory, foster interest, and can provide a relationship between the contents of the material and the real world (Musdalifah et al, 2021). This is in line with what was expressed by Melvin L. Silberman that the use of visual-dimensional cards in learning can increase memory from 14 to 38 percent. In addition, the visual-dimensional card sort learning method according to Silberman can also "stimulate the activity of the two hemispheres of the brain, namely the left brain (cognition) which functions to remember information and the right brain (emotion) which functions to bring students to a feeling of pleasure when participating in learning with the card sort method". Active learning of the card sort model is learning that emphasizes student activity, where in this learning each student is given an index card containing information about the material to be discussed, then students are grouped according to the index card they have. After that, students discuss and present the results of the discussion about the material from their group category. Here, educators act more as facilitators and explain the material that needs to be discussed or material that students have not understood after the presentation is complete. This study focuses on the influence of the use of the cardsort method in active learning on learning outcomes of the circulatory system material.

## **2. Method**

The method used in this study is the direct observation or survey method. The sample in this study was 32 students of Class XI IPA 3 SMAN 2 Percut Sei Tuan with a 1-meeting technique where the meeting consisted of 3 stages, namely preliminary activities, core activities and closing, and where before being given treatment and after being given treatment, a test was given to the students of science 3 Percut Sei Tuan. This research was conducted at SMAN 2 PST which is located on Jl. Pendidikan, Bandar Klippa, Kec. Percut Sei Tuan, Deli Serdang Regency, North Sumatra. The research time was May 23, 2022. The data collection technique uses pretest and posttest and the results show that there are differences in the influence of active learning strategies using the cardshort method with the material of the circulatory system.

## **3. Results and Discussion**

This research was conducted at SMAN 2 Percut Sei Tuan on grade XI students of the even semester of the 2021-2022 academic year on May 23, 2022. The research sample was taken from 32 students. Before taking samples, a pretest was conducted on students to determine the extent of students' understanding of the Circulatory System material. From the pretest sheet, data was obtained as in Table 1.

**Table 1.** Pretest Score and Number of Students

<b>Score</b>	<b>Number of Students</b>
40	6
50	7
60	7
70	4
80	4
90	4
100	0
<b>Average</b>	<b>61,5</b>

From the data above, it is known that students' understanding of the material on the Circulatory System is still low with an average value of 61.5. It is known that children who have understood the material with a score above 70 are 12 students. While students who have not yet completed are 20 students. Based on the results of this pretest, the researcher wants to increase students' understanding of the material on the circulatory system. One way is to apply the Card Short method. Here the researcher divides the card short learning group into 4 groups. The card sort learning model or sorting cards is a fairly simple learning model. The learning media used consists of master cards and detailed cards containing material that will be delivered by educators to students. From this card short method, the following student data was obtained (Table 2):

**Table 2.** Level of Understanding of Each Group

<b>Group</b>	<b>Understanding of the Material</b>
1	Enough
2	Good
3	Good
4	Very Good

The activities carried out are that the teacher focuses on how students work in finding card pairs to pay attention to the topics provided. then students work in groups by arranging the cards. From table 2 it was found that the average student has a fairly good ability in learning, data has been obtained in group 1 has a fairly good ability, in group 2 has good ability as well as group 3, and in group 4 has very good ability.

By holding this card short learning, student interaction in teaching and learning activities when forming groups takes 5 minutes. during the implementation of the activity, students play an active role in discussions and group cooperation, some are compact and some are not, this card short method is one of the good solutions for the learning process. With this method, students find it easier to understand the concept of material from the circulatory system. Activities with this Biology learning with an active strategy using the card short method make students more motivated to learn biology. When students play an active role. discuss and run the game well and the teacher places his position as a facilitator, here it is seen that students are required to go through a process that can bring out their own creativity. Students have the motivation to learn which is driven by curiosity, this curiosity is the power to increase learning motivation which also affects the improvement of learning outcomes. The card sort method encourages students to actively participate in the learning process. Students are directly involved in activities to group cards, discuss with friends, and present results. This increases students' physical and mental involvement in learning (Al Haddar, 2017; Sholekah & Mustaqim, 2023). While conventional learning is less interesting for students so that it is not able to maximize the motivation to learn chemistry. This is because the learning process is centered on the teacher.

Then to find out how much influence this active learning strategy uses the card short method on student learning outcomes, the researcher conducted a posttest with the following results (Table 3).

**Table 3.** Posttest Score and Number of Students

Nilai	Banyak Siswa
50	4
60	4
70	4
80	9
90	6
100	5
<b>Average</b>	<b>77,5</b>

Based on the posttest conducted on students of SMAN 2 PST, the results were quite good with an average score of 77.5. There were 20 students who achieved a score of 80 and above. This shows that the implementation of this card short strategy has a significant impact on student learning outcomes.

Based on the results, there can also be changes in learning outcomes using active card short strategy learning with those who do not use card short. When viewed from the involvement of students in the teaching and learning process. During the experiment, students who were taught using card sort learning appeared collaborative and more enthusiastic in receiving lessons, because the presentation of the lesson material was in the form of colored cards. Students were given paper containing keywords and then searched for and matched them with colored keywords located at the front of the class as answers to the questions, so that students were expected to be able to explain their work to other friends.

Card sort prioritizes physical movement which can help to energize a class that is tired/less enthusiastic (Silberman, 1996). The application of card sort learning can reveal the memory or recall of the subject matter that has been studied by students, in addition it can create conditions that require good cooperation between class members and the formation of student creativity in finding the right answer. When compared to students who are taught without card sort learning, student involvement is not very apparent. Students tend to wait for answers from the teacher. In other words, students who are taught using card sort learning are more active both physically and intellectually, while students who are taught without card sort learning are more passive because they are not challenged by a problem and they tend to wait for answers from the teacher. Research conducted by UINSU students (2022) in the application of learning "The Effect of Active Card Sort Learning Strategy" shows that teaching Biology using the active card sort learning strategy has an effect on student learning achievement. This student's learning outcomes in the Biology subject have increased. Previous studies have reported that the card sort method can improve student learning outcomes through increased active participation, conceptual understanding, and learning motivation. This method has been proven effective at various levels of education and subjects (Astuti, 2018; Astuti, 2017; Khalid, 2022; Musfirah, Muslimin, & Jumaini, 2022). Although these results are promising, it is important to note that the effectiveness of the card sort method may vary depending on the context, subject, and student characteristics. Therefore, further research in specific contexts is still needed to validate the effectiveness of this method in various learning situations.

The increase in learning outcomes occurs because learning is carried out through the card sort learning model which is considered effective for use in learning so that students do not feel bored and stressed when carrying out the learning process. So classroom action research through the card sort learning model can improve the learning outcomes of class XI students of SMA Negeri 2 Percut Sei Tuan in the 2021/2022 academic year. Based on the discussion above, the application of the card sort learning model needs to be given innovation in implementation in the classroom by showing real learning media, especially for high school students.

#### 4. Conclusion

Based on the results of research conducted at SMA Negeri 2 Percut Sei Tuan, there are differences in the influence of active learning strategies using the cardshort method with the material of the circulatory system. The card sort learning method with its game techniques is expected to help students understand the lesson and understand the classification of the material. Through card games, students' interest in learning will grow, because in the application of the card sort learning method, the teacher only acts as a

facilitator who facilitates his students in learning, while students learn actively with facilities and direction from the teacher. With that, the active ones are students, not teachers.

Research on the effect of active learning with the card sort method on learning outcomes has several limitations that need to be considered. In general, this study is constrained by small sample sizes, short duration, and difficulties in controlling external variables. To overcome these limitations and deepen understanding of the effectiveness of the card sort method, several recommendations can be considered for future research. These include enlarging the scale of the study by involving more participants and conducting long-term studies. Researchers are also advised to use a more rigorous research design, test this method on a variety of topics, and compare it with other active learning methods. In addition, research on the role of teacher training and technology integration in the implementation of the card sort method can also provide new perspectives.

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