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Implementation of Card Media to Improve Students' Learning Activities

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Abstract: The lack of science learning in learning bored students, and many students are not active in learning. To overcome this, needed learning media. The card media in this study is a triangular card with questions and answers in text or images. This study aims to describe the learning steps with card media that can improve student learning activities. This study applies classroom action research consisting of two cycles. The study subjects were 28 grade VI students of UPT Satuan Pendidikan SDN Kejapanan II. Data collection tools used include interviews and guidelines for observing student learning activities. The interview technique is to find data by asking students questions verbally after learning. The interview aims to determine students' difficulties in following learning with card media. The second technique is observation, which aims to determine the completeness of student activities while learning to use card media. From these two techniques, data is obtained and then analyzed according to needs. Based on the study's results, it can be concluded that card media can improve student learning activities. In cycle I, the average score of student activity was 83.8%, while in cycle II, it was 93.3%. Thus, there was an increase of 10%. This increase can be seen from students' enthusiastic learning activities towards using card media guided by the research instrument. The suggestions submitted are: (1) To facilitate the use of card media, detailed rules should be made so that there are no errors and chaos during the implementation of using card media; (2) Card media can develop various subjects, not only science because elementary school children are very interested in the concept of learning while playing.

Keywords: Card Media; Learning Activities; Rotation and Revolution.

Introduction

According to the Law on the National Education System, it is explained that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual strength, religion, self-control, personality, intelligence, noble morals, and skills needed by themselves, society, nation and state[1]. Education has a very important function in guiding and developing the potential of humans in today's world of education. Effective teaching methods are very important in improving student learning activities [2]. One interesting approach is the use of learning media [3]. This medium not only makes the learning process more enjoyable but can also help students understand concepts better [4].

Card media is a paper card containing images, text, or symbols that remind or direct children to something related to the material in their learning. Card media usually vary in size according to needs [5]. Card media are modified with images equipped with words [6]. Each image has its meaning, description, and interpretation, which can facilitate and strengthen students' memories, increase insight and skills, and attract students' interest in activities such as recognizing letters and reading letters and words. Children can respond to the meaning of the image as a supporter of their imagination, which provides a relationship between the content of the lesson material and the real world through image metaphors so that students' initial reading skills can develop.[7].

Picture card media are non-projected visual media that contain messages using the sense of sight to facilitate understanding, memory, and student interest and provide a relationship between the contents of the lesson material and the real-world [8]. Flashcards contain images and writing so that students can easily digest the writing with the help of images. Based on the explanation above, it can be concluded that the card medium in this study is a triangular card measuring 18 cm x 18 cm x 18 cm in which some questions and answers can be in the form of text or images[9]. These card media can also increase student activity during teaching and learning activities [10]. In addition, students' knowledge and understanding are increasingly broad, clear, and not easily forgotten. Using card media in various learning programs in elementary schools may not be common[11]. This may be because teachers have difficulty getting ideas or the right way to help organize the teaching and learning process. This picture card media also has clear question sentences on each card[12]. The material presented is also adjusted to students' learning and teaching process. This card medium can be used to improve and enhance student learning activities. The use of this card media aims to help students be more motivated to learn and more easily remember the material in the card media and writing related to the images in the media. From the results of the study [13], it was concluded that using picture card media can increase teacher and student activities.

Learning can be described as an effort to obtain overall behavioural changes as a result of one's own experience interacting with the environment [14]. Learning

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activities are student involvement in the form of attitudes, thoughts, attention and activities in learning activities to support the success of the teaching and learning process and obtain benefits from these activities. Learning activities are also physical and mental activities in learning activities[15]. Learning activities can also be interpreted as all learning activities that interact with each other to cause changes in learning behaviour. For example, from not knowing to knowing, from not being able to do activities to being able to do activities, and so on. Learning activities, according to one expert, can also be interpreted as all activities carried out to produce changes in knowledge, values, attitudes, and skills in students as exercises that are carried out deliberately. Based on the explanation above, it can be concluded that learning activities in this study are student interactions in groups, group interactions with other groups, student interactions with teachers, and the use of card media by students[16].

Based on the above understanding, to find out students' learning activities in the learning process, the indicators need to be determined first. Indicators for measuring learning activities are: (a) student interaction in groups occurs; (b) group interaction occurs with other groups; (c) student interaction occurs with teachers; and (d) media utilization occurs by students [17]. that indicators of student activity can be seen from students who show activeness in learning activities, namely interacting with other students, teachers, the environment, and other learning resources. In addition, student activity can also be seen in students who show activeness in learning activities, namely interacting with other students, teachers, the environment, and other learning resources. Student learning activities are known by observing the things that students do[18]. Observation or observation includes activities of paying attention to objects using all senses, either through sight, smell, hearing, touch, or taste[19]. The instrument used to measure activity is usually a matrix. In the matrix section, the rows down state the details of the aspects (activity sections) to be measured; the column to the right shows the subjects being observed. The observation guidelines contain visible learning activity indicators written on the observation sheet. The instructions on the observer's observation sheet only provide a check mark (✓) in the column that has been made.

In a study entitled The Use of Flash Card Media to Improve Elementary School Students' Learning Outcomes. The study results showed that using flashcard media during the learning process on teacher activity increased by 74.7%. Teacher activity still needs improvement because it is below the criteria, namely getting criterion C. In cycle II, there was a significant increase in teacher activity getting criterion B (Good) with a percentage reaching 92.4% and reaching the expected criteria [20]. What distinguishes this study from previous studies is the form of card media. This study uses triangular card media, including questions, answers, and learning materials. This card media can support teachers' ability to present enjoyable learning. Students are more independent in dealing with problems during learning.

Using card media is expected to create an active student learning situation to encourage students to involve themselves in the learning process and become happy and not bored. However, based on interviews with grade VI teachers at SDN Kejapanan II, information was obtained that many students were bored and fed up with the learning presented by the teacher. Many students were less active in learning. This can be proven because many students still talk and play with their friends while learning. Students feel bored with the learning presented by the teacher, so students get scores below the KKM.

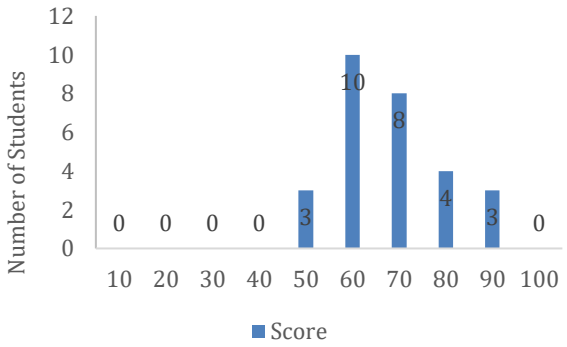

Figure 1. IPAS scores of students in class VI-A

Based on the results of the diagram above, it was obtained that the students' scores in Social Sciences decreased, with an average of 68. Therefore, improvements need to be made to the learning process. Learning conditions such as this result in less-than-optimal student learning achievement. Many students get scores below the KKM. One effort to improve the learning process is to use card media. The selection of card media to improve learning conditions is based on several considerations. Card media is a medium that is very easy to make and can be made together by teachers and students. With the use of card media, it is expected to increase student learning activities that have decreased.

Based on the background above, the problem in this study is formulated as follows: a) What is the process of implementing card media? And b) What is the increase in student activity after implementing card media? Based on the problem formulation above, this study aims to: a) Describe the learning steps with card media that can increase learning activity. b) Describe the extent of the increase in student learning activity after participating in learning with card media.

Research Methods

The form of research is Classroom Action Research (CAR). As stated by Arikunto, Classroom Action Research (CAR) is action research conducted by teachers to improve the quality of learning practices in their classes. Classroom Action Research (CAR) focuses on the teaching and learning process that occurs in the classroom, which is carried out in natural situations [18]. This research was conducted to describe the steps of implementing card media to improve student learning activities. In the data collection process, the researcher acts as the main instrument, namely as a planner, implementer, observer, interviewer, and data collector. The data collected is not only in the form of numbers but also in the form of words or sentences, so it is descriptive. The data that has been collected is then analyzed inductively.

Visually, the research design used in this study is if the teacher is not satisfied with the results of his learning

design and he wants to change the learning design to a new model through 2 cycles covering 4 stages, namely the planning stage, implementation stage, observation stage, and reflection stage. The research stages are shown in Figure 2.

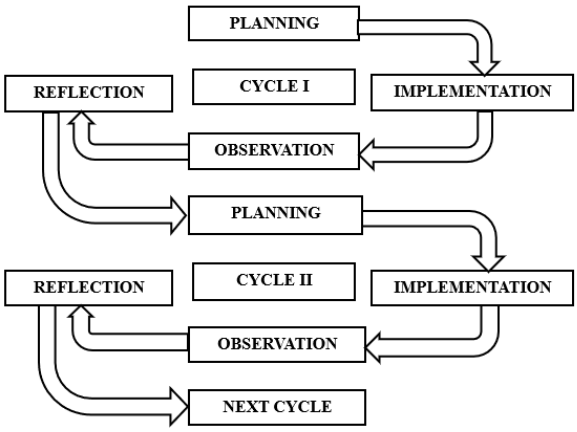

Figure 2. Cycle Chart of Action Research

This research was conducted in class VI A of the 2024-2025 academic year at the UPT Satuan Pendidikan SDN Kejapanan II located on Jalan Pasar Kejapanan RW 24. This research was conducted on November 28, 2024. The research was conducted in 2 cycles. In each cycle, the researcher conducted learning and observation of student activities regarding the use of card media. The cycle is over if the research has reached the target according to the specified criteria. The data source for this research was a class VI A student of UPT Satuan Pendidikan SDN Kejapanan II with a total of 28 students, consisting of 15 male students and 13 female students.

The data collection techniques applied include observation and interviews. The instruments in this study include observation sheets (student learning activities) and interview sheets. Data collection for this research was carried out using several techniques. The first technique is the interview technique. Interviews are a technique for finding data by asking questions verbally to students questions after the learning process. The interview aims to determine students' difficulties in participating in learning with card media. The type of interview conducted is an open interview. Therefore, this interview does not require interview guidelines. The second technique, observation, aims to determine the completion of student activities while learning to use media. Through observation activities, it will be known whether the teacher has implemented learning in accordance with the planning made. In addition, observation activities are used to determine student activities during the learning process with card media. After data collection, the research data were analyzed using validity and reliability tests to determine the validity of the research instrument. The data was then selected according to research needs. The data selection was then presented more simply in a sequential presentation to reduce the error level in the study.

Validity Test

In this study, the validity test could be done using Pearson Product Moment correlation if the data was in the form of intervals or ratios. The validity test can be done using the formula:

$$r = \frac{\mathrm{N}\,\Sigma XY - (\Sigma X)(\Sigma \mathrm{Y})}{\sqrt{[\mathrm{N}\,\Sigma \mathrm{X}^2 - (\Sigma \mathrm{X})^2]\,[\mathrm{N}\,\Sigma \mathrm{Y}^2 - (\Sigma \mathrm{Y})^2]}}$$

Description:
r = Correlation coefficient
N = Number of Respondents
X = Question item score
Y = Total score
ΣXY = The sum of the multiplication of the item score with the total score

This validity test ensures and measures the aspects to be studied, namely student learning activities. In this study, the validity test was carried out using an instrument with a total score to see whether each question or indicator has a significant relationship with the concept being measured.

	N	%
Valid	25	89.3
Excluded	3	10.7
Total	28	100

The results of the validity test show that all instrument items are declared valid, which means that the instrument can accurately and consistently measure student learning activities influenced by the use of card media. Thus, the findings of this study have a strong basis for further analysis and interpretation with a high level of confidence.

Reliability Test

The reliability test in this study could be done using Cronbach's Alpha formula, which is often used to measure the internal consistency of a research instrument. Here is the formula:

$$\alpha = \frac{\kappa}{\kappa - 1}\left(1 - \frac{\Sigma\sigma_i^2}{\sigma_t^2}\right)$$

Description:
α = Reliability value (Cronbach's Alpha)
κ = number of questions in the instrument
Σσ_i^2= total variance of each question item
σ_t^2 = total variance of all questions

The reliability test in this study aims to measure the consistency of the research instrument in providing stable and reliable results. The reliability test was conducted using Cronbach's Alpha method to test the extent to which each instrument item has a high level of relevance in measuring student learning activities.

Cronbach’s Alpha	N of Items
0.831	10

The analysis results show that Cronbach's Alpha value is more significant than 0.70, the minimum limit for declaring the instrument reliable. Thus, the instruments used in this study have a good level of reliability so that the results of measuring student learning activities through card media can be trusted and used for further analysis

In the research implementation stage, the stages carried out are as follows: (1) Planning, (2) Implementation Acting, (3) Observation, and (4) Reflection, which form cycle after cycle so that the established criteria are achieved.

This research was carried out in 2 cycles. Each cycle is carried out by following the stages. The following are the stages of research:

1. Planning. Planning is the most important stage in conducting research. Doing everything must be based on planning. At the planning stage, the researcher created a concept, prepared teaching modules, prepared card media, prepared observation sheets, prepared facilities or supporting facilities needed in the learning plan, prepared instruments to observe the process and results of student work and interviewed teacher and student activities and compile practice questions. This research was conducted collaboratively between researchers who took action and parties who observed the process. To obtain objective results at the planning stage, it was based on problem identification. In detail, planning includes actions that will be taken to improve student learning activities through card media as a solution to problems in the classroom.
2. Implementation Acting. Implementation of action is the application of the contents of the design, namely, taking action in the classroom according to the plan that has been prepared at the planning stage. The stages carried out by researchers at the action stage are as follows: (a) Creating learning devices and action scenarios to be carried out. Includes steps taken by teachers and students in learning activities. (b) Observing the process and results of student work. In addition, I learned how to analyze data on observation and student work results. (c) Practising the design results by considering the time allocation to implement the action. Therefore, teachers must see their teaching hours.
3. Observation. Observation is an observation activity carried out by observers. Observers can be colleagues or teachers themselves. At this stage, researchers observe and document in writing everything that happens in implementing the action to obtain accurate data. Observations are carried out during the implementation of class actions. Teachers and observers assist researchers in observing the suitability of the learning plan and implementation in the classroom.
4. Reflection. Reflection is then carried out based on the results of observations made by researchers, class teachers, and colleagues. Reflection is an activity to improve what has been done in implementing actions based on the findings of events in the learning process for further learning improvements. In this stage, reflection is used to see the entire process of implementing cycle 1 action and student learning activities. The reflection stage includes understanding, explaining, and concluding data from observation and interview results. The reflection results are then used to determine whether the established criteria have been achieved. If the established criteria have been achieved, the researcher stops the research and then prepares a report. However, if it has not been achieved, the researcher carries out cycle II until the established criteria are achieved.

Cycle I

Before conducting classroom action research, the researcher identified the problems in class VI A. This cycle I activity was carried out at SDN Kejapanan II in class VI A on Saturday, November 2, 2024. According to the design above, cycle I has several stages: (1) Planning. Before implementing cycle I, the researcher prepares learning devices first. Such as teaching modules. After preparing the learning devices, namely, holding meetings with colleagues to prepare learning activities by giving pre-tests during the research. Then, determine the learning design that will be applied in the classroom as a research action. Then, the research and materials needed to carry out the research action are prepared. (2) Implementation of Action. At this action stage, namely implementing learning using card media with rotation and revolution material and preparing observation sheets to write down learning activities carried out by researchers in the classroom. These activities are carried out during the implementation of the use of card media. (3) Observation. This observation stage is carried out by colleagues as collaborators in activities carried out by teachers and students during the learning process, from initial to final. As well as documenting student learning activities. Researchers, assisted by colleagues, observe the suitability of the teaching module and the implementation in the classroom data by referring to the observation sheet and interviews. (4) Reflection. In this reflection stage, researchers reflect on the collected data and then discuss it with colleagues and class teachers to get a common view on implementing actions in the first cycle. From the findings in cycle one, researchers make improvement plans in cycle II to quickly resolve problems. The reflection results are used as material to revise the next action plan.

Cycle II

The researcher conducted a reflection after implementing the observation actions in cycle I. Based on the results of observations in cycle I. The second cycle was planned for Monday, November 3, 2025. Teachers and colleagues re-arranged the learning plan according to the results of reflections on cycle I activities. This re-planning is a process of improvement in cycle I. The cycles are: (1) Planning. Researchers make learning plans based on the results of reflections in cycle I, such as re-arranging learning plans and developing card media and teaching materials. (2) Implementation of Actions. Implementing actions in the second cycle differs from implementing actions in the first. It's just that some things may need to be improved or changed. (3) Observation: This is carried out by colleagues as collaborating partners at the observation stage of the second cycle. Colleagues record all learning activities carried out by teachers and students during the teaching and learning process, from the initial to the final activities. (4) Reflection: At the final stage of the second cycle, all data is collected and reviewed together to get a common view of the actions in this second cycle. After being studied together, the results are used as material to conclude.

Based on Table 1, a description of the indicators of student learning activities used in the study is obtained. There are four types of student interaction: student interaction with the group, group interaction with other groups, student interaction with teachers, and student media utilization by students. The four indicators are assessment aspects according to the indicators. Use of instruments to determine student learning activities after applying card

media. For its use, it provides a checklist of the aspects that appear in students.

Table 1. Student Learning Activity Instrument Grid

No.	Indicator of learning activity	Aspects assessed
1.	Student interaction with the group	1. Students look for alternative answers on the cards. 2. Students discuss with their groups. 3. Students are not selfish or self-serving when using the card media.
2.	Group interaction occurs with other groups	1. Are enthusiastic and brave when asked to explain the results of their group discussions to other groups. 2. CompeteStudents fairly in learning. 3. Students pay attention when other groups explain the results of their discussions. 4. There is cohesiveness in the group.
3.	Student interaction with teachers	1. listen to the teacher's explanation of the material. 2. Students ask the teacher questions related to the material. 3. Students dare to answer the teacher's questions about the material. 4. Students take notes on important things.
4.	There is media utilization by students.	1. Students think about the use of card media. 2. Students are happy with the displayed card media. 3. Students are skilled at using card media. 4. 4. Students are interested in using the media.

[16]

Table 2. Student Learning Activity Categories

Criteria	Category
0-25	Less
26-50	Enough
51-75	Good
76-100	Very good

The success criteria are the researcher's expectations, which are used as a reference in achieving the research objectives. The criteria compiled are criteria that must be met as a benchmark for the success of this study. The researcher formulated the success criteria in this study as follows: there is an increase in student activity as indicated by an increase in activity scores to reach an average or good qualification. This is indicated by the basic competency mastery test results, which reached≥75 as much as ≥75% after the action was carried out for two cycles, with very good, good enough, and low categories.

The research is successful if the classical student activity score reaches at least 75%. The following formula obtains the percentage of student learning activity success:

$$N = \frac{SP}{SM} \times 100\% \quad [21]$$

Description:
N = Percentage of sought value
SP = Total score obtained
SM = Maximum score

This study has potential biases, including the researcher's perception of the research subjects and the equalisation of students' abilities in absorbing the material. To overcome these potential biases, the researcher used three observers to obtain objective results and thoroughly prepared the learning process with the homeroom teacher.

Results and Discussion

Before conducting the research, the activities carried out by the researcher in the pre-action stage in cycle 1 are described as follows: Holding a meeting with the Principal. The researcher held a meeting with the Head of the SDN Kejapanan II Education Unit. At the meeting, the researcher asked permission to conduct research at the SDN Kejapanan II Education Unit. The researcher brought a research permit letter from the campus as written proof of permission. The principal welcomed the researcher's arrival to conduct research at the SDN Kejapanan II Education Unit. The principal suggested that the researcher meet the grade VI teacher as the subject of the research.

Figure 3. Meeting with the Principal

After meeting the Principal, on the same day, the researcher met the sixth-grade teacher to seek information about learning activities in sixth grade. He welcomed the researcher and provided a lot of information. He also provided information about science learning. Then, we interviewed learning at SDN Kejapanan II. The results of the interview showed that students were less active in learning. Regarding the learning schedule, the science subject is held on Thursday. Science learning was carried out on Thursday. The researcher asked permission from the class teacher to research the application of card media in cycle 1. The research was carried out on Thursday, January 30, 2025. Learning was carried out using card media. The material is about rotation and revolution.

Implementation of Cycle I

This section presents the data obtained during the implementation of the research in cycle I, which includes planning, implementation, observation, and reflection. The data are presented as follows:

Planning

Based on the findings at the pre-action stage, the researcher prepared the things that would be done during the implementation of the action. The things prepared by the researcher at the planning stage include: (a) Creating a concept for dividing groups; (b) Preparing teaching modules; (c) Preparing PowerPoint media containing rotation and revolution material for the cycle I'm learning; (d) Preparing card media for five groups; (e) Preparing test questions; and (f) Preparing observation sheets. (g) Conducting instrument validation to the first validator lecturer, namely Mrs Dr Tri Linggo Wati, M. Pd. and the second validator, Mr Feri Tirtoni, M. Pd. where my research instrument was validated by three people, including my beloved supervisor, Mrs Vanda Rezania, M. Pd. then validator lecturers one and two. Based on the results of the validation of the student learning activity observation sheet, it has an average score of 4, which means it is in the category of "Good" to "Very Good" for use. Some minor revisions were made based on input from a validator lecturer, Mrs Linggo and one validator, two, Mr Feri, to improve the clarity of the observation indicators of student learning activities.

Implementation of Action

The students who were used as research subjects were 28 grade VI students. However, the number changed to 25 students because 3 were absent due to illness. Learning was carried out on Thursday, January 30, 2025, with a time allocation of 2 x 35 minutes. The researcher acted as a teacher, assisted by colleagues and class teachers as observers of student activities. Before learning began, the researcher and colleagues prepared the projector and all the media used. Learning activities include initial activities, core activities, and endings.

Observation

In the initial activities, when the researcher entered the classroom, it was seen that students were starting to be excited and enthusiastic about receiving lessons because they would learn with different teachers. The researcher began the learning by saying hello and asking the class leader to lead the prayer.

After praying, the researcher conducted an apperception and conveyed the learning objectives. In the core activity, the researcher explained the rotation and revolution material using the help of PowerPoint media containing (a) the definition of rotation and revolution, (b) the occurrence of rotation and revolution, and (c) the effects of rotation and revolution. In addition to explaining the material through the PowerPoint display, the researcher also showed a video about rotation and revolution. Students were seen watching the video. After explaining the material, the researcher helped students form 5 groups consisting of 5–6 students. The researcher distributed card media to each group. Seeing the media, students.

Began to be curious by turning over the card media. The researcher began the application of the card media by explaining what the card media are, the parts of the card media and how to use them. After the researcher explained its use, each group began to discuss by arranging the card media to form the correct answer. After the discussion was finished, each group presented the results of their discussion.

After the learning with the card media was finished, the researcher asked the students to return to their seats and provide conclusions by summarizing all the learning materials. After that, the researcher evaluated by asking questions. The questions were cycled I test questions. After 10 minutes to work on it, the researcher asked the students to collect their work in front of the class. All the students went to the front to collect their work. The researcher ended today's learning by saying hello.

The class VI teacher and colleagues observed the implementation of learning. Observations were carried out using the observation sheet as a guide. Based on the results of the observations, the following information was obtained:

a. Student activities in the cycle of the learning process according to what was planned in the teaching module went well.
b. Student learning activities that include student interaction with groups, group interaction with other groups, student interaction with teachers, and media utilization by students reached 83.8%.
c. Researchers have not provided detailed rules for using card media, so there is chaos. For example, there is a group that opens the card first[22].

Figure 4. Researchers Explain the Use of Card Media

Reflection

Based on the results of observations made by researchers, class teachers, and colleagues, reflections were then carried out on the problems that occurred during the learning process. The reflection results on action learning include: (a) The slides displayed in delivering the material were not very clear in contrast to the surrounding atmosphere, triggering a commotion such as students chatting. The atmosphere also looked tense during the learning process; (b) Students were still confused about using card media. This was because the researcher did not provide detailed instructions. Therefore, it is hoped that in the next cycle, the researcher will provide more detailed instructions in the hope that students will not be confused; (c) the researcher's lack of ability to discipline students, so there was a commotion during group discussions. To

overcome this commotion, the researcher went around each group. (d) Many students were interested in using card media. This can be seen from students' enthusiasm for using the card media. This can be seen from the students' repeated activities in arranging the cards; and (e) the completion of the final test score of the cycle I action of implementing learning with card media in cycle I was 66.6%, which was considered not optimal, so improvements needed to be made in cycle II[23].

Table 3. Results of Cycle I Test Analysis

No.	Description	Test Result Cycle I
1.	Score achieving learning objectives or what is commonly	75
2.	The average class score	76
3.	Number of students who have not completed learning	7
4.	Number of students who have completed learning	18
5.	Number of absent students	3
6.	Percentage of learning completion	66.6

Based on Table 3, it can be seen that in the cycle I action test, of 25 students, the average score was 76. If viewed from the Criteria for achieving learning objectives commonly referred to as KKTP from the UPT of SDN Kejapanan II Education Unit for the subject of Social Sciences, namely a score of 75, then 18 students had passed, while 7 students' scores were still below the KKM. Thus, the percentage of completion of the cycle I test was 66.6%.

Implementation of Cycle II

Planning

Based on the results of reflection on Cycle I, information was obtained that there were several shortcomings in implementing the Cycle I action. The shortcomings in the cycle I include: (a) The slides displayed in delivering the material were unclear in contrast to the surrounding atmosphere, triggering a commotion such as students chatting. The atmosphere also looked tense during the learning process; (b) Students were still confused about using card media. This was because the researcher did not provide detailed instructions. Therefore, it is hoped that in the next cycle, the researcher will provide more detailed instructions in the hope that students will not be confused; (c) the researcher's lack of ability to discipline students, so there was a commotion during group discussions. To overcome this commotion, the researcher went around each group. (d) Many students were interested in using card media. This can be seen from students' enthusiasm for using the card media. This can be seen from the students' repeated activities in arranging the cards; and (e) the completion of the final test score for the cycle I action of implementing learning with ladder card media in cycle I was 66.6%, which was considered not optimal, so improvements needed to be made in cycle II.

In the planning stage of cycle II, the researcher made plans, including (a) Creating a new group division concept according to the results of the cycle I test, (b) Preparing the cycle II learning module, (c) Preparing PowerPoint media containing rotation material and revolution for cycle II learning; (d) Preparing card media for cycle II; (e) Preparing test questions; and (f) Preparing observation sheets for teacher and student.

Implementation of Action

The students who were used as research subjects were 28 sixth-grade students. However, the number changed to 27 students because 1 student was absent due to illness. Learning was carried out on Thursday, February 20, 2025, with a time allocation of 2 x 35 minutes (2 lesson hours) from 10.00 to 11.10 WIB. The researcher acted as a teacher, assisted by colleagues and the sixth-grade teacher. Colleagues as observers of student learning activities and took photos. Before learning began, the researcher and colleagues prepared the projector and card media. Learning activities include initial activities, core activities, and endings.

Observation

In cycle II, the researcher corrected the shortcomings in cycle I. The results of the reflection on cycle I showed that the failure of cycle I was that the slides displayed in delivering the material were not very clear in contrast to the surrounding atmosphere. It triggered a commotion such as chatting, and students still looked tense during learning. Students are still confused about learning to use card media. This is because the researcher did not provide detailed rules of the game.

Therefore, it is expected that in the next cycle, the researcher will provide more detailed rules of the game in the hope that students will not be confused, and the lack of ability of researchers to discipline students will result in chaos during group discussions. To overcome the chaos, researchers went around each group. Efforts made by researchers to overcome this failure were carried out in several ways. Presenting varied slides by arranging the presentation of the material.

Researchers conveyed the rules for using card media in more detail so that students did not feel confused and understood what to do. With conditions like that, students understand what to do. Students who are not disciplined in learning activities are immediately reprimanded. This is intended so that students do not make noise in class. The use of card media in cycle II went smoothly. Students were more active in discussing with groups to find alternative answers. This shows the success of learning with card media that teaches students to work together in groups.

The sixth-grade teacher and colleagues observed the implementation of learning. Observations were carried out using the observation sheet as a guide. Based on the results of the observations, the following information was obtained: (a) Student activities in the learning process of cycle II were in accordance with those planned in the module and went well; (b) Student learning activities that included student interaction with groups, group interaction with other groups, student interaction with teachers, and media utilization by students reached 93.3%. Students paid more attention to the material presented by the researcher, the classroom atmosphere was conducive, and students recorded the material presented by the researcher; (c) Students dared to

ask questions if they did not understand the material presented by the researcher; (d) Students were active in learning to use card media; (e) The use of card media in cycle II went smoothly compared to cycle I. In cycle II learning, students were used to it and discussed first in determining the answers. Solidarity was seen in each group; (f) Cooperation in one group is increasing. This can be seen when the group discusses determining alternative answers; All members try to arrange the card media; (g) When working on test questions, students work on the questions independently; and (h) The results of the analysis of student work on the cycle 2 test can be seen in the following table[24].

Table 4. Results of Cycle II Test Analysis

No.	Description	Test Results Cycle II
1.	Score achieving learning objectives or what is commonly	75
2.	The average class score	83.2
3.	Number of students who have not completed learning	3
4.	Number of students who have completed learning	24
5.	Number of absent students	1
6.	Percentage of learning completion	88.8

Based on Table 4, it can be seen that in the cycle II action test, out of 27 students, the average student score was 83.2. When viewed from the criteria for achieving learning objectives or what is commonly from the UPT of SDN Kejapanan II Education Unit for the subject of Social Sciences, namely a score of 75, then 24 students experienced completion, while 3 students' scores were still below the KKM. Thus, the percentage of completion of the cycle II test was 88.8%.

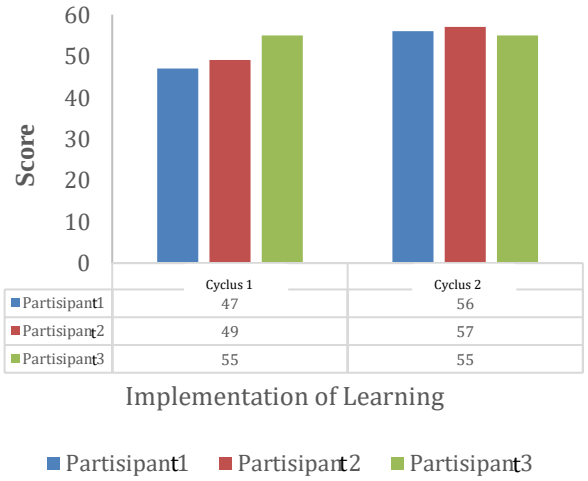

Figure 5. Learning Activity of Cycle I and II

Based on Figure 5 of learning activities carried out by three participants, information was obtained in cycle 1. Participant 1 gave a score of 47 points, participant 2 gave a score of 49 points, and Participant 3 gave 55 points. In cycle 1, the percentage of learning activities was 83.8%. In cycle 2, participant 1 gave a score of 56 points, participant 2 gave a score of 57 points, and participant 55 gave a score of 55 points. The percentage of learning activities in cycle 2 was 93%, an increase of 10% from cycle 1.

Reflection

Based on the results of observations made by researchers, class teachers, and colleagues, a reflection was then carried out on the problems that occurred during the learning process. The results of the reflection on action learning are presented below: (a) During the learning process, the researcher tried to improve the shortcomings in cycle I. With these improvements, learning became smooth, and the noise that arose could be resolved; (b) The researcher improved the slide display so that students paid more attention to the material; (c) Students were confident in working on test questions; and (d) The completion of the final test scores for cycle II actions can be seen and visualized in the image below.

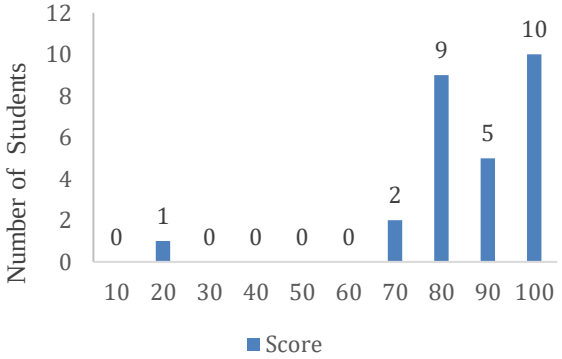

Figure 6. Final Test Score of Cycle II Action

Based on the study results above, the application of learning card media in the classroom becomes enthusiastic. This can be seen from the students actively studying the material using card media. This card media has an interesting shape, namely a triangular pyramid[25]. The card media contains questions, answers, learning materials, pictures and interesting illustrations. The medium is arranged in a pattern so that it produces a match between questions and answers. In a study entitled The Use of Flash Card Media to Improve Elementary School Student Learning Outcomes, learning to use rectangular flash card media is also implemented, which only contains material, while in this study, the card media are in the form of a triangular pyramid which contains questions, answers, and material.

Research findings

The findings obtained in cycle I and cycle II activities are as follows:

1. Findings on students: (a) Learning with card media increases student learning activities. (b) Students are more confident in their abilities. This can be seen when working on tests. Students work independently. (c) Students can work together well. This can be seen when discussing with card media, all members try hard to arrange the card media.
2. Findings on teachers: (a) When learning with card media, teachers use interesting media, such as good triangular card media that contain questions and answers and are accompanied by materials that are adjusted to the material being taught. This makes students enthusiastic about receiving lessons. (b) Teachers

provide discipline in learning because, with discipline, learning can run smoothly. (c) Teachers are fair at learning. This can be seen when learning with card media. The discussion is based on agreed rules so that learning runs smoothly.

Conclusion

Based on the results of the classroom action research that has been carried out and the presentation of data and research findings, the conclusions that can be drawn are as follows: Rotation and revolution learning that can improve the learning activities of class VI students of UPT Satuan Pendidikan SDN Kejapanan II can be implemented using card media with the following steps: (a) The teacher explains the rotation and revolution material using the help of PowerPoint media. (b) Divide students into 5 heterogeneous groups consisting of 5–6 students. (c) Explain the rules of the game. (d) Each group receives a triangular card containing questions and answers that must be arranged to find the correct answer. (e) Each group presents the results of the discussion. Based on the conclusions above, there are several suggestions for further improvement. The suggestions are as follows: To facilitate the use of card media, detailed rules should be made so that there are no errors and chaos during the implementation of card media. They equip teachers with the understanding and skills to implement a flexible curriculum that is in accordance with the characteristics of students so that teachers continue to develop and adapt to changes in the times to improve teacher competence in more interactive learning.

Author's Contribution

Rosania: Designing the research design and compiling the test instruments. Vanda Rezania: Reviewing and validating the research instruments.

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