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Efforts to Improve Science Learning Outcomes Using Flashcard Learning Media and Jellyfish Hunting Games

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Abstract: The low learning outcomes of students at SDN Rangga Mekar are different from the Minimum Completeness Criteria (KKM) of Elementary School, so research needs to be conducted. This study aims to discover how using *flashcard* learning media and jellyfish hunting games improves science learning outcomes at SDN Rangga Mekar in theme two, subthemes 3 of the material "Maintaining the Health of Human Respiratory Organs." The research method used is Classroom Action Research (PTK), using the Kemmis MC Taggart model through four stages: planning, action, observation, and reflection. The research respondents comprised 26 students in grades V-B at SDN Rangga Mekar, South Bogor District, West Java Province. The success indicator of this study is 80%, with 26 students in grades V-B who have a score above KKM or have a minimum score of 70. The results of the study showed that the data obtained from the pre-cycle was as many as 13 students (50%) who achieved KKM, the first cycle showed completeness data as many as 19 students (73%) achieved KKM, and in the second cycle obtained data on 24 students (92%) who achieved KKM. There was an increase of 23% for pre-cycle results to cycle I, from cycle I to cycle II by 19%, and by 42% from pre-cycle to cycle II. Based on this, *flashcard* learning media and jellyfish hunting games can improve science learning outcomes in class V-B SDN Rangga Mekar.

INTRODUCTION

Natural Science (IPA) learning at the elementary school (SD) education level aims to be the initial foundation in providing students with knowledge, abilities (expertise), and scientific attitudes. Science subjects should be carried out in a way that can help students understand science and think logically, creatively, and critically

(Rahayuni, 2016). Learning science leads to how to find out and know about nature systematically, so science is a science that not only depends on facts, theories, concepts, and principles but is also related to finding and forming scientific attitudes (Tursinawati, 2013). Therefore, science subjects must be taught at all levels of education, both elementary school education, secondary education, and upper education, as well as in higher education (Ridwanulloh et al., 2016).

Learning outcomes are changes that occur in one's character upon completion of learning activities, whose scope is on cognitive, affective, and psychomotor aspects analyzed through teacher assessment data (Aliyyah, Amini et al., 2021). Changes in competencies and skills experienced by students after learning planned by educators in the classroom are changes in learning outcomes (Teni Nurrita, 2018). Learning outcomes can also be interpreted as a change in student behavior, which is not one of these aspects (Wiyono & Budhi, 2018). This learning outcome becomes a benchmark for teachers when assessing student development.

However, in the conditions of facts that occur in the field, science learning is one of the most challenging learning for students at the elementary level. The results of observations and interviews with teachers of grades V-B of SDN Rangga Mekar indicate that this condition is proven which is greatly influenced by several factors regarding the use of media, methods, or learning resources so that it is found that the learning outcomes of science in grades V-B are so low that they do not reach the KKM that the school has made with a minimum score of 70. Based on the results of the pre-cycle data, it is known that there are 26 students in classes V-B and that there are 13 students, namely (50%) who are by the KKM, and 13 students with a percentage (50%) who do not meet the KKM. So, it is known that students in grades V-B at SDN Rangga Mekar have relatively low science learning outcomes, with KKM in classes V-B at only 50.

According to the pre-cycle data collected, the learning outcomes of student assessments under the KKM are caused by several factors, namely 3 students (11%) do not pay attention to the teacher in explaining and are not

enthusiastic when participating in learning because the teacher is less creative in providing learning evaluation questions, four students (15%) lack intelligence or intelligence, three students (11%) are sleepy in class, two students (11%) lacked in enthusiasm for learning due to the lack of teachers in providing sufficient motivation and the lack of teachers in applying learning media to learning activities in the classroom. In this condition, the teacher only relies on the student's theme book and the teacher's book and applies the lecture method only. Therefore, students feel bored when learning in class and chat a lot when the teacher explains the learning material. The researcher's observations show that V-B classes are less conducive because students are too hyperactive or want to be quiet.

Explaining the problems above, the researcher tries to help change student learning outcomes in learning activities by providing solutions for using learning media, namely *flashcards* and playing jellyfish hunting games. Through *flashcard media*, students can do more fun learning activities because of the presence of exciting pictures and writing. Having fun learning fosters a spirit of learning and attracts attention. Classroom learning activities are exciting, so students are helped to understand the material. Using learning media that harmonizes with the teaching material can increase their motivation and influence students' learning achievement (Astuti & Ghoni, 2020).

This study aims to determine how efforts are being made to improve science learning outcomes using *flashcard* learning media and jellyfish hunting games at SDN Rangga Mekar.

METHOD

Research Design

The method used in this study is PTK or *the* Kemmis & McTaggart classroom action research model. In the Kemmis & McTaggart model, four components are designed as a cycle. However, in this case, it consists of a cycle with action steps in the form of *planning*, acting, and observing until *the reflection* is placed in one realization or stage (Kemmis et al., 2014). The stages in this model continue to be repeated until they are right to be achieved (Machali, 2022).

This model has a cycle in which three stages of action research are carried out. The following is an

explanation of the stages of the Kemmis & McTaggart model, as follows:

1. Planning

   This stage indeed discusses initial planning for compiling a learning tool, which is guided by the results of the implementation evaluation and the research conducted.

2. *Acting* and Observing.

   The second stage in the Kemmis & McTaggart model is an action in the form of learning activities in the classroom as a teacher. Meanwhile, observation is an observation activity after carrying out the learning process in the classroom at the same time as the stimulant process from the researcher. This activity requires attention or observation of changes in student behavior while learning. The observation stage can be applied through data collection and direct observation instruments.

3. Reflection

   The final stage of the Kemmis & McTaggart research model is the final result and evaluation of the analysis data that has been obtained that is used to follow up on the next cycle (Aliyyah, Saraswati, et al., 2021).

To find out the design of Kemmis & McTaggart, you can find out through the image below:

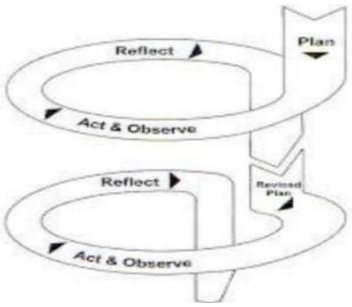

Figure 1 Kemmis & McTaggart Model (Kemmis, S., McTaggart, R., 2014)

Participants

This research involved students in grades V-B at SDN Rangga Mekar, Jalan Jaya Sari, RT/RW: 5/5, Rangga Mekar Village, South Bogor District, Bogor City, West Java Province. The subjects were 26 students in classes V-B, with 17 male and nine female students. Student learning outcomes are the object of this study, as well as the use of *flashcard* learning media and jellyfish hunting games. This research focuses on science learning with Theme 2 Subtheme 3 on "Maintaining the Health of the Human Respiratory Organs". The study began in October 2023 – November 2023.

Success Indicators

This research has an indicator of success, which is 80%, with 26 students in grades V-B scoring above KKM or having a minimum score of 70 for

science subjects at SDN Rangga Mekar. This study did not reach 100% because one student (3%) needed more intelligence or delayed reading and writing, so it was not easy to understand the material, and 3 students (11%) needed an understanding of learning in the classroom.

Data Collection

The data collection techniques used in this study are as follows: (1) Interviews were conducted to provide questions to teachers of classes V-B regarding low learning outcomes and factors that cause students in classes V-B SDN Rangga Mekar. (2) Observation is carried out to directly observe the condition or situation of implementing learning activities by teachers and students in V-B science learning classes about maintaining the health of the human respiratory organs. (3) The test was conducted to determine the use of *jellyfish hunting flashcard media* regarding science learning about maintaining human respiratory organs' health. This written test uses an essay to cover material on maintaining the health of the human respiratory organs. (4) The documentation needed is books, lesson plans, student test results, interview sheets, a list of students in grades V-B, observation sheets, data on pre-cycle scores of students in grades V-B, and photos of learning implementation.

Data Analysis

This study uses qualitative and quantitative data analysis. Quantitative data is in the form of point data, then analyzed in the form of numbers from the assessment of learning outcomes in the form of assessment points for each cycle, which are then presented in the form of graphs and tables. Analyzing the data that has been collected, then carrying out activities to analyze the results achieved by students in each part of the test results in each cycle. The research data is in the form of numbers classified as very good, good, quite good, not good, and not good. Student test scores are used to find out the improvement of their requirements in the following ways:

1. The support for excellence follows the school's policy, which states that "students are considered to have passed every exam with a score of ≥70 up to a maximum score of 100". Therefore, this study will use the provisions from SDN Rangga Mekar that have been determined to

determine the level of student completeness (%) with the following calculation of the graduation percentage (%) used:

$$(\%)\ Completeness: \frac{Number\ of\ students\ who\ completed}{number\ of\ students} \times 100\%$$

2. Students' learning outcomes are also shown in the increase in the average test score of each cycle. The average score of students is calculated from the exam score data of each cycle in the following way:

$$\frac{\sum Students\ have\ finished\ studying}{\sum\ students} \times 100\%$$

Meanwhile, qualitative data is analyzed from interviews conducted with homeroom teachers of class V-B, field notes, documentation, and the results of observations of student activities in the classroom, which are analyzed as a description of the conclusion. This study uses qualitative data analysis, one of the models initiated by Miles Huberman in 1984, which is an interactive analysis technique with three parts: data reduction, data presentation, and conclusion drawing (Kunandar, 2011). The following is an explanation of the three components:

1. Data Reduction

   Data reduction is the first step in the analysis process, which means selecting, focusing, simplifying, summarizing, and converting the initial data results into field notes. In this step, the researchers selected and formulated the data based on several defined and formulated categories and the focus of the main problem. In addition, information is organized as needed so that after reducing relevant information, it is compiled and rearranged according to the needs of the next step.

2. Data Display

   In this step, the researcher seeks to collect relevant data to produce significant conclusions and information. Data that connects the researcher's variables with events must be presented and observed to achieve research objectives.

3. Conclusions

   The researcher thoroughly understands the results obtained from reducing and presenting data so that the results will draw research conclusions and respond to the

problems faced with the information collected and empirical evidence. After conclusions are drawn, the data must be verified to make the research results stable and accountable. Verify a recurring activity to connect and track data accurately.

RESULT & DICUSSION

Before starting the research cycle, the researcher conducts the pre-cycle as follows:

Pre Cycle

The purpose of the pre-cycle is to determine the initial situation of the problem in the research being studied. The researcher did not use science learning media for Theme 2 Subtheme 3 material on "Maintaining the Health of the Human Respiratory Organs." The pre-cycle starts on Friday, October 13, 2023.

Table 1 Pre-Cycle Data on Student Learning Outcomes

NO	KKM	Value	Number of Students	Total Value	Percentage (%)	Ket
1	70	> 70	13	1110	50%	Complete
2	70	< 70	13	560	50%	Incomplete
	Total		26	1670	100%	-
	Average			64,230	64,230%	Low

Viewed in Table 1 above, the pre-cycle scores of 26 students showed low information. Only 13 students achieved a score above the KKM with a percentage result of 50%, and 13 got a low score below the KKM with a percentage result of 50%. The total number of values is 1670, with an average of 64,230, so it gets low information.

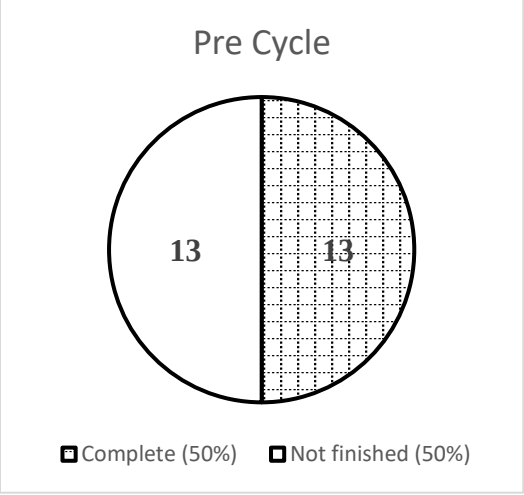

Diagram 1 Pre Cycle

It can be seen from the data in diagram 1; it is clear that in the science subject with Theme 2 Subtheme 3 material on "Maintaining the Health of

the Human Respiratory Organs," the learning outcomes of students who meet the KKM are 13 students at the percentage (50%), and students who are not by the KKM are 13 students at the percentage (50%). Based on the incomplete factor of student learning outcomes obtained through observation data in the classroom, the researcher tried to use *flashcard* learning media and jellyfish hunting games to follow the process of the stages of the Classroom Action Research plan.

Cycle I

Cycle I activities were carried out in the Science Subject Theme 2 Subtheme 3 material "Maintaining the Health of the Human Respiratory Organs." The number of students in classes V-B is 26, with 17 boys and nine girls. The researcher uses four processes for conducting research in systematic learning activities in the learning process. According to the Kemmis and MC Taggart models, there are four stages: planning, acting, *observing*, and *reflecting*. The details of the results of the stages in cycle I are:

Planning

The activity was carried out at the planning stage in cycle I; the researcher prepared a Learning Implementation Plan (RPP) on science learning according to the material given. The researcher designs and prepares *flashcard* learning media to be used to explain the topics that will be discussed in the classroom. Another plan that was prepared was to design and make a jellyfish hunting game learning media that would be used as an LKPD containing questions about the subject matter. The researcher also prepares a learning video of the topic to be discussed **and** then prepares a PPT related to the learning topic that is presented according to the topic in the *flashcard* media. The last plan that was prepared was to make a student assessment instrument.

Action

Cycle I of the activity occurred on Thursday, October 26, 2023. According to the lesson plan that has been prepared, this activity stage begins with the teacher's greeting and invites students to pray according to their beliefs before class starts. The lesson plan also includes checking student absences and preparing necessary materials and learning tools. It requires students' readiness to learn, apply

perception, and explain today's learning objectives. For the implementation of the core learning activities in the classroom, the teacher invites students to listen to the learning video presented through a projector and then make notes or conclusions from the material presented from the learning video. The next activity is for students to read aloud the learning materials on *the flashcards* that have been distributed. The researcher also carried out activities to explain the material by displaying PPTs according to *the flashcards* the students had read. After delivering the material, the researcher conducted a question-and-answer activity about maintaining the health of the human respiratory organs. After the learning activity is completed, the teacher conveys the tasks that need to be done by the students by doing jellyfish hunting game activities, such as LKPD, which must be completed. This jellyfish hunting game has a gameplay system. Namely, five types of jellyfish differ in shape and color. For each jellyfish, there is a different question. Students will pick up or hunt each tentacle of five different jellyfish and then stick it on a sheet of paper. In these tentacles, students need to solve questions. Furthermore, at the end of the learning activity, students are given time to ask about explanations they still do not understand; teachers and students conclude and carry out activities to end learning in class.

Observation

In the observation stage, the researcher observed student learning and events during the learning process using a data collection technique, namely field notes. Based on the results of observations from field records, learning activities in the classroom have improved quite a bit. Students are very involved and enthusiastic in the lessons. This is helped by using *flashcards* as a learning medium; students like it because there are pictures and explanations about the material on the flashcards. Students are active and happy with the use of jellyfish hunting game media, and it becomes a new thing for them because they learn while playing or working on problems accompanied by exciting games. Students were very enthusiastic and watched the video that was shown. However, the sound from the video was not loud because they did not use

loudspeakers, so there were still students who did not observe the video display and needed more focus. Researchers ask students questions, and many actively ask about material they do not understand. LKPD, a jellyfish hunting game, determines the average success after completion.

Reflection

In implementing reflection activities, the researcher provides an assessment and reflects on observation, implementation, and planning activities. Holding this reflection, we hope to find out the advantages and disadvantages of learning activities so that they can be used to improve classroom learning outcomes. Cycle I still has some shortcomings so that learning could be more optimal. There are still several shortcomings in implementing cycle I, so learning is not optimal. This impacts student learning outcomes not by the 80% success indicator. Only 19 students who met the indicator had a percentage of 73%, and seven students who did not meet the indicator had a percentage of 27%.

Table 2 Cycle I Data on Student Learning Outcomes

NO	KKM	Value	Number of Students	Total Value	Percentage (%)	Ket
1	70	> 70	19	1530	73%	Complete
2	70	< 70	7	370	27%	Incomplete
Total			26	1900	100%	-
Average			73,076		73,076%	Hight

As can be seen from Table 2, the results of the first cycle of 26 students show that only 19 achieved KKM, which had a percentage of 73%, and seven others received a score below the minimum KKM score, which had a percentage of 27%. The total value is 1900, with an average of 73,076 high descriptions.

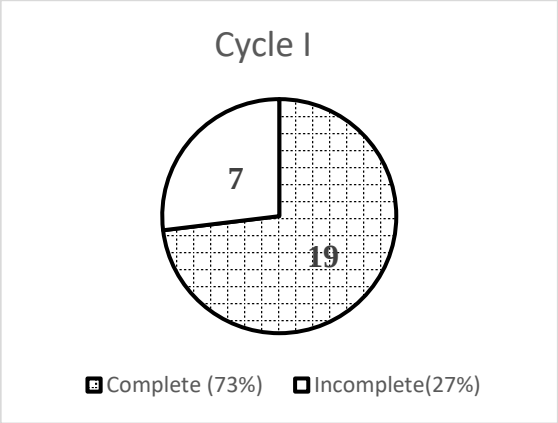

Diagram 2 Cycle I

It can be seen that the data in diagram 2 shows that 19 students (73%) met the KKM Criteria. In comparison,

seven students (27%) did not meet the KKM in science learning with Theme 2 Subtheme 3 material on "Maintaining the Health of the Human Respiratory Organs." Based on the results of the first cycle data, it was found that low student learning outcomes were influenced by several factors: students' inability to concentrate on listening to the teaching materials presented and the lack of student motivation to understand what they were learning. So, it has yet to reach 80% in the first cycle stage of all students in grades V-B SDN Rangga Mekar, a total of 26 students who received a score above 70 from the KKM. Therefore, this needs to be done to complete the second cycle activities that consider the advantages and disadvantages of the first cycle stages and the reflection process to improve the teaching and learning improvement process in the classroom.

Cycle II

Planning

Planning in cycle I learning activities is updated to carry out cycle II activities. Based on the results of the analysis and reflection on the shortcomings of the first implementation phase, the researcher, as a teacher, makes the second cycle action plan better, so it must be made specifically according to the learning process. To ensure that students can improve their learning outcomes from the implementation of the previous cycle, I. In the implementation stage of cycle II, improvements and additions will be made. Namely, researchers motivate learning activities and pay special attention to students who could be more active and lack intelligence. The goal is for students to be encouraged to dare to ask if there is material they do not understand and to be more enthusiastic to follow learning well.

Furthermore, the researcher still uses *the same flashcard* media, improves the lesson plan and designs, and makes another jellyfish hunting game learning media that will be used as an LKPD that contains the same questions as the learning material. The researcher also prepared a learning video that was different from the learning video in cycle I, of course, by the material presented**,** then prepared the material in the PPT to be delivered according to the material in the *flashcard* media. The last plan that was prepared was to make a student assessment instrument.

Action

In the implementation of actions, cycle II carried out the preparation and development stages of the implementation of the previous cycle I, which was held on Thursday, November 2, 2023. The action stage in cycle II is a follow-up process of research carried out during cycle I activities, and then attention is paid to its reflection. This activity stage begins with the teacher's greeting and invites students to pray according to their beliefs before class starts. The lesson plan also includes checking student absences and preparing necessary materials and learning tools. It requires students' readiness to learn, apply perception, and explain today's learning objectives. At the beginning of this activity, the teacher invited students *to an ice break* before continuing the core activity in order to improve the fun atmosphere in the classroom, which aims to make students enthusiastic about starting learning, encouraging students to make more efforts in learning, especially in the scope of science lessons, the material on "Maintaining the Health of the Human Respiratory Organs" because they learned a lot about the benefits of maintaining the respiratory system. For the learning stage, at the core of the activity, the teacher invites students to listen to the learning video presented through a projector that has been prepared with a hardening sound and then make notes or conclusions about the material presented from the learning video. The next activity is for students to read aloud the learning materials on *the flashcards* that have been distributed. The researcher also carried out activities to explain the material by displaying PPTs according to *the flashcards* the students had read.

After delivering the material, the researcher conducted a question-and-answer activity about maintaining the health of the human respiratory organs. After the learning activity is completed, the teacher conveys the tasks that need to be done by the students by doing jellyfish hunting game activities, such as LKPD, which must be completed. This jellyfish hunting game has a gameplay system. Namely, five types of jellyfish differ in shape and color. For each jellyfish, there is a different question. Students will pick up or hunt each tentacle of five different jellyfish and

then stick it on a sheet of paper. In these tentacles, students need to solve questions. Furthermore, at the end of the learning activity, students are given time to ask about explanations they still do not understand; teachers and students conclude and carry out activities to end learning in class.

Observation

In the observation stage, the researcher observed student learning and events during the learning process using a data collection technique, namely field notes. Based on the observations from field notes, the learning is better than the learning cycle I. Students are involved and enthusiastic in the lesson. Students with enthusiasm and attentiveness listened to the video shown because they had been using loudspeakers since cycle II, and students paid close attention to it. The learning went smoothly and smoothly so students could re-digest the material on "Maintaining the Health of the Human Respiratory Organs." The teacher asks students questions, and students are very active in asking questions they do not understand. Students can answer questions from their teachers. LKPD, a jellyfish hunting game, determines the average success after completion. All activities can be completed on time, safely, systematically, smoothly, and in a comfortable and fun atmosphere.

Reflection

After all the activities in the second cycle have been completed, starting from observation activities and implementation to planning, the next step that the researcher takes is to reflect and analyze the observations found recorded in the observation sheets and field notes. The purpose of the reflection and analysis task in cycle II is to see the improvement of students and completeness in mastering the learning material. In the final learning activity during cycle II, a test was carried out to see if the students' learning outcomes had improved compared to the previous cycle I about the material "Maintaining the Health of the Human Respiratory Organs." Knowing students' learning outcomes during cycle II implementation, the researcher found that students achieved a success indicator of 80%, with 24 students who completed, which had a percentage of 92%. Two students, 8%, still need to meet the success indicator. Thus, there

has been an increase in the second cycle. Therefore, the researcher did not continue the research in the next cycle.

Table 3 Cycle II Data on Student Learning Outcomes

NO	KKM	Value	Number of Students	Total Value	Percentage (%)	Ket
1	70	> 70	24	2190	92%	Complete
2	70	< 70	2	120	8%	Incomplete
Total			26	2310	100%	-
Average			88,846		88,846%	Very High

According to Table 3, the results of the second cycle of students showed that 24 out of 26 students got a score above the KKM with a percentage of 92%, and only two students' scores were below the KKM with a percentage of 8%. The total student score is 2310, with an average description of 88,846, which is very high.

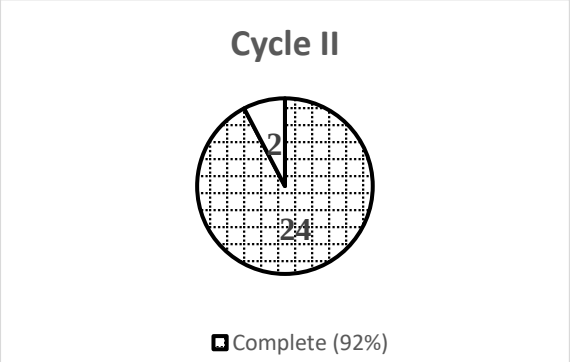

Diagram 3 Siklus II

Science subjects in Theme 2 Subtheme 3 material on "Maintaining the Health of Human Respiratory Organs," there were 24 students (92%) who met the KKM and two students (8%) who did not meet the KKM. According to the data from cycle II, the learning outcomes are better than the data from cycle I. Therefore, in the second cycle, the student evaluation score increased to be better. So, researchers do not need additional research in the next cycle.

DISCUSSION

This study explains that the pre-cycle learning outcomes to cycle I have increased, as shown in diagram 4.

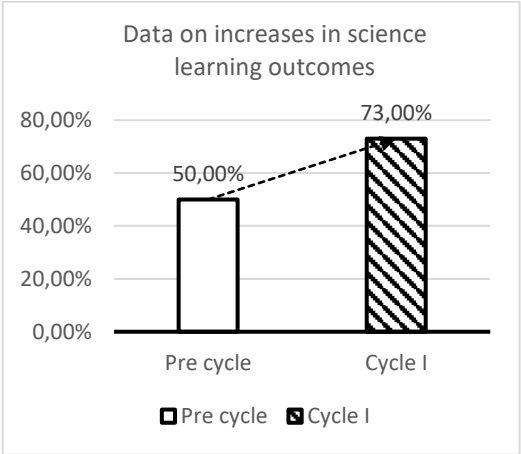

Diagram 4 Increased Yield Learning in Pre-Cycle to Cycle I

Based on diagram 4, it is explained that student learning outcomes increased from the pre-cycle of change in the first cycle, which increased by 23%. With the proportion of students in grades V-B SDN Rangga Mekar, there was an increase in the efficiency of science learning outcomes after obtaining KKM scores. The student's pre-cycle score increased in the first cycle, namely (73%—50%) = 23%.

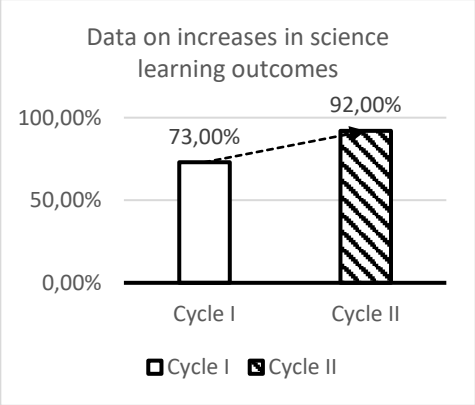

Diagram 5 Increased Yield Learning in Cycle I to Cycle II

It can be seen in diagram 5 that the increase in student learning outcomes from the process of cycle I activities to the increase in actions in cycle II is 19% adjusted to the percentage of students who get the percentage of KKM scores. In the first cycle where students achieved the percentage in the second cycle, namely (92% - 73%) = 19% increase in the efficiency of science learning outcomes for students in grades V-B SDN Rangga Mekar.

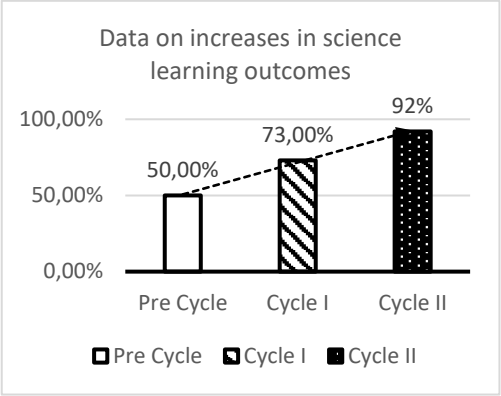

Diagram 6 Improvement of Learning Outcomes in Pre-Cycle, Cycle I, and Cycle II

As shown in diagram 6, the science learning outcomes of students in grades V-B SDN Rangga Mekar increased by 42% from pre-cycle to cycle II.

The percentage data up to the second cycle is (92%—50%) = 42% increase. Therefore, Sisiwa's learning outcomes in this study can be said to have been successful in Theme 2 Subtheme 3, "Maintaining the Health of the Human Respiratory Organs," reaching more than 80% of all students in grades V-B SDN Rangga Mekar, including 26 students who received a score of more than 70 from KKM.

Discussion of Cycle I

Implementing activities during the first cycle of the learning process is quite good, but there are areas for improvement, so some students still score below the KKM, which is 70. In the learning activities in the first cycle,

students are quite enthusiastic to take part in lessons. Flashcard learning tools support this learning. The teacher presents the material, and students like it because there are pictures and explanations about the learning material on the flashcards. Students are active and happy with the use of jellyfish hunting game-based learning media, and it is a new thing for them because they learn while playing or working on problems accompanied by exciting games. Students were very enthusiastic and paid attention to the display of the video. However, the sound of the video was not loud because they did not use loudspeakers, so there were still students who needed more attention and focus. In the first cycle, it was recorded that 19 students (73%) were by the completeness of learning outcomes.

Seven students (27%) had not met the KKM in the science subject of Theme 2 Subtheme 3 on "Maintaining the Health of the Human Respiratory Organs." So, the first cycle data shows that students have poor assessment learning outcomes because of several factors, namely, students' inability to concentrate on listening to the learning materials presented and students' lack of motivation to understand learning. So, in the first cycle, it did not meet the achievement of 80% of all students in grades V-B SDN Rangga Mekar, which amounted to 26 students with a score above the KKM of 70. This needs to be done to complete cycle II activities by considering the advantages and disadvantages of cycle I and the stages of reflection to improve learning activities in the classroom.

Discussion of Cycle II

The learning process in the action of activities in cycle II is better than the activities in cycle I. Students are very involved in learning. Students pay close attention and listen to the videos shown. No one lost their attention because they used loudspeakers in cycle II. So, in the activities in the second cycle, there was an increase in the results in class V-B SDN Rangga Mekar. *Flashcard learning media and jellyfish* hunting game learning media positively impact student learning outcomes, so students can understand the science subject of material on "Maintaining the Health of the Human Respiratory Organs." In this cycle II activity, it is known that 24 students (92%) have experienced

increased learning outcomes by the KKM. Two students (8%) from class V-B SDN Rangga Mekar have not completed according to the KKM, so more than 80% of the students have completed the second cycle, namely 26 students with a score exceeding the KKM of 70. Therefore, the researcher did not continue the investigation in the next cycle.

This study is known to have resulted from conducting cycle I and cycle II activities that can significantly improve student learning outcomes through *flashcard learning* media and jellyfish hunting game learning media in science learning about "Maintaining the Health of Human Respiratory Organs." Learning outcomes are also a process that a person carries out after learning activities; learning outcomes include cognitive, affective, and psychomotor domains taken from teacher assessment data (Aliyyah et al., 2017; Rasmitadila et al., 2020). Science learning is an activity in which students must participate directly, so teachers must use learning media whose learning activities can be observed directly. Using learning media in subjects can increase student motivation and success in understanding learning, which will help students improve their learning outcomes (Aliyyah & Malia, 2016).

This is the case when using this *flashcard* learning media because one of the graphic visual media, three-dimensional, is designed to be more attractive to learn. *Flashcards* are visual media consisting of small cards containing text, symbols, and even images that provide information or guide students to topics related to the card. (Winangun, 2020). *Flashcards* generally have a size of 8x12 cm and can be adjusted to the class size. With this media, students will experience learning directly, so it is hoped that students can absorb and understand learning materials through *flashcard media,* which has various elements of images, writing, and designs. Using this media will allow students to learn a lot with multiple combinations, such as reading, seeing, listening, and understanding it, so that they can remember and understand the learning material in class.

Learning using media also increases students' enthusiasm for learning and curiosity because media

practices encourage students' sensitivity and even imagination through experiences in the form of concept-based understanding in expanding their horizons toward new things (Aliyyah et al., 2017). This is the case with game-based learning media, namely jellyfish hunting. Learning while playing can foster student motivation in learning because the characteristics of children prefer a game (Afandi, 2015; Aliyyah et al., 2023). Therefore, the advantages of using this play learning media are active student participation in learning, the emergence of interaction between others, making it easier for students to gain understanding, and high learning motivation to increase student learning outcomes in the classroom while learning.

This study shows that in the classroom, using 2-dimensional learning media, namely *flashcards,* and game-based learning media, namely jellyfish hunting, can experience an increase in student learning outcomes in science learning; the material on "Maintaining the Health of Human Respiratory Organs" in class V-B SDN Rangga Mekar for the 2023/2024 Academic Year. Because of this, research activities that use learning media, namely *flashcards* and game-based learning media, namely jellyfish hunting in classes V-B at SDN Rangga Mekar, South Bogor District, are considered successful because the success rate is more than 80% of the assessment so that the research can be stopped and does not need to be continued in the next cycle.

CONCLUSION

The results of the research findings that have been carried out show that there has been an improvement, according to the KKM, regarding student learning outcomes in science subjects. Pre-cycle data conveyed that only 13 (50%) out of 26 students had the same score as KKM, which was 70. In the first cycle, data was obtained for 19 students (73%) who completed the KKM. Meanwhile, 24 students (92%) completed the KKM in the second cycle. So, there was an increase of 23% for the results of the pre-cycle to cycle I, from the first cycle to the second cycle by 19%, and by 42% from the pre-cycle to the second cycle. Based on this, *flashcard* learning media and jellyfish hunting games can improve science learning

outcomes in class V-B SDN Rangga Mekar.

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