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Improving Student Mathematics Learning Outcomes Through the Implementation of the Talking Stick Learning Model Assisted by Card Media

Peningkatan Hasil Belajar Matematika Siswa Melalui Penerapan Model Pembelajaran Talking Stick Berbantuan Media Kartu

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Abstract

This research was conducted to improve the learning outcomes of class III students at MI Al-Khairaat Mogolaing by applying the talking stick learning model with the help of card media. The type of research applied was Classroom Action Research, with research subjects consisting of 26 class III student participants and the homeroom teacher as teacher. Research instruments include student and teacher activity observation sheets and learning outcomes tests. The research data was analyzed qualitatively and quantitatively. The research showed that teacher activity increased from the good category in Cycle I to very good in Cycle II. Student activity also increased from good to very good category in each Cycle. Student completeness increased from 46% in Cycle I to 93% in Cycle II. Thus, using the talking stick learning model with the help of card media effectively improves student learning outcomes in mathematics subjects.
Keywords: *Talking Stick, Card Media, Mathematics Lessons*

Abstrak

Penelitian ini dilakukan dengan tujuan meningkatkan hasil belajar siswa kelas III di MI Al-Khairaat Mogolaing melalui penerapan model pembelajaran talking stick dengan bantuan media kartu. Tipe penelitian yang diterapkan yaitu Penelitian Tindakan Kelas (PTK), dengan subjek penelitian berupa 26 peserta siswa kelas III dan guru wali kelas sebagai pengajar. Instrumen penelitian meliputi lembar observasi aktivitas siswa dan guru, serta tes hasil belajar. Data hasil penelitian dianalisis secara kualitatif dan kuantitatif. Hasil penelitian diperoleh bahwa peningkatan aktivitas guru dari kategori baik pada siklus I menjadi sangat baik pada siklus II. Aktivitas peserta didik juga mengalami peningkatan dari kategori baik menjadi sangat baik pada tiap siklus. Ketuntasan peserta didik meningkat dari 46% pada siklus I menjadi 93% pada siklus II. Dengan demikian, penggunaan model pembelajaran talking stick dengan bantuan media kartu efektif dalam meningkatkan hasil belajar peserta didik pada mata pelajaran matematika.
Kata Kunci: *Talking Stick*, Media Kartu, Pelajaran Matematika.

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INTRODUCTION

Efforts in the process of seeking knowledge involve learning steps in the classroom. The success of a learning process can be reflected through indicators such as student learning outcomes. Learning outcomes represent students' ability to do something they have not previously mastered as an assessment of student competence (Andriani & Rasto, 2019). Evaluation of learning outcomes is usually expressed in the form of grades. If a student's learning outcome score is still below the specified standard of minimum completeness of mastery learning, it can be concluded that the student's learning outcomes are still low, indicating that the learning process has not reached the expected level of success. Factors, including the learning model teachers use during learning, can influence low learning outcomes.

In carrying out learning activities, educators are expected to be able to adapt learning strategies or models that suit students' learning styles in order to achieve learning goals optimally (Fathurrohman, 2015). At the elementary level, students tend to be more interested in game-based learning (Pambudi, 2016). Teachers using the lecture method more often can cause students to feel bored and ultimately hinder their maximum understanding of the material (Astuti, 2018).

Learning models have an essential role as one of the determining factors in improving learning outcomes in a learning process. According to most elementary school students, several subjects are considered boring and less enjoyable, which can decrease learning outcomes or an inability to achieve the standard of minimum completeness of mastery learning score. Therefore, the main task of educators is to choose the right and appropriate learning model to overcome this (Kristin, et al., 2016; Asma & Kadir, 2022), especially in the context of mathematics subjects.

To overcome students' low interest in learning, it is necessary to use appropriate and enjoyable learning models, which can positively impact the learning process's success. One practical approach is to use games to make learning mathematics more fun. By introducing the element of fun in mathematics subjects, it is hoped that students can be motivated to achieve grades above the standard of minimum completeness of mastery learning (Nurfadhillah, et al., 2021; Anuli, et al., 2022).

However, in reality, many students are not interested in mathematics subjects; mathematics lessons are considered boring subjects, which means that there are still

many educators who have not used and adapted learning models to existing situations and conditions. Of course, this is very unfortunate because it will impact student learning outcomes. Based on the results of preliminary observations by researchers at MI Al-Khairaat Mogolaing, West Kotamobagu District, Kotamobagu, in the 2022/2023 academic year, according to the class III homeroom teacher, most students have low enthusiasm for mathematics lessons. During the learning process, most students are more engrossed in themselves or busy with themselves, for example, chatting or playing with their classmates. In other words, they are not focused on the teacher's explanation.

This situation harms students' achievement of learning outcomes in mathematics subjects, as can be seen from the fact that 30% of students did not reach the standard of minimum completeness of mastery learning based on reports from class III homeroom teachers. Some indications or causes include a lack of effectiveness in classroom management by teachers, creating less conducive classroom conditions, and the application of conventional learning models by teachers. The minimal variety of learning models causes a lack of innovation in the learning used. From the results of these observations, it is recommended that a learning model that is appropriate and enjoyable be chosen and implemented. One solution is to use the talking stick learning model combined with card media.

The first step in implementing the Talking Stick learning model is that the teacher explains the material to students. Students can then explore the material by reading and understanding the studied subject matter. Sticks are the primary tool used in Talking Stick learning. The first student must answer the teacher's question while holding the stick. So, it can be said that sticks have an essential role in this learning model. In group learning, the stick will be rotated between each group, and the student holding the stick must answer the teacher's questions. This activity will continue to be repeated until all groups have had a turn answering the teacher's questions (Fathurrohman, 2019).

In this context, the talking stick learning model and card media can effectively support the learning process. This is to the PAIKEM learning development principles, emphasizing active, innovative, creative, practical, and fun learning. The talking stick learning model is considered to be able to test children's readiness to understand lesson material quickly and encourage them always to be ready to face various situations. This model combines two essential elements in enjoyable learning: learning and playing. In

addition, this learning model requires all students to master the material being taught. During the game (quiz/question and answer session), the role of the relay baton, adjusted to the music or song sung together, determines which students will answer the teacher's questions. This creates an element of surprise and motivates students to study hard (Nillah et al., 2023).

Card media or time cards only function as a tool in the talking stick learning model. This learning media is a means of determining questions that the teacher will give during the question session. Time cards are cardboard cut out to the size of playing cards. The card contains questions or questions regarding the material being studied. Learning media in the form of cards has often been used in several previous studies as a learning medium and has proven effective in improving learning outcomes (Saragih, 2019).

Several previous studies have investigated using media-assisted talking sticks to improve learning outcomes. A study by Sugiantiningsih & and Antara (2019) shows that talking stick learning with the support of flash card media can improve students' speaking skills. Research by Saputri et al. (2021) emphasizes that talking stick learning using PowerPoint media can improve students' mathematical abilities. Meanwhile, Widhyalestari et al. (2020) found that talking stick learning using question card media effectively increased science knowledge competency. However, research that considers explicitly using talking stick media with the help of card media in improving students' mathematics learning outcomes is still limited. Therefore, this article aims to explore the application of the talking stick learning model integrated with card media in positively impacting the mathematics learning outcomes of class III students at Madrasah Ibtidaiyah.

RESEARCH METHODS

This research used a classroom action research approach and was carried out in class III at MI Al-Khairaat Mogolaing. The number of students involved was 26, consisting of 14 female students and 12 male students. This classroom action research aims to overcome problems or improve student learning outcomes in class, which researchers have identified through initial observations.

This classroom action research consists of several Cycles, each of which includes four main steps: planning, implementing actions, observing, and reflecting. In Cycle I, the steps are: 1) submit an application for a research permit at MI Al-Khairaat Mogolaing; 2)

Interview the school, especially the Principal, to understand the learning program at MI Al-Khairaat Mogolaing; 3) design teaching materials; 4) prepare a Learning Implementation Plan (RPP); 5) prepare material that is appropriate to the learning model that will be applied.

In the action implementation stage, two meetings were held with the collaboration of the class teacher. The meeting is organized following the learning plan that has been previously designed. The learning stages involve stages, namely: 1) The teacher brings material to students; 2) The teacher prepares sticks and gives them to students; 3) Students move the sticks like a relay game while singing together; 4) Each teacher gets a turn to answer questions from the teacher regarding the material; 5) When the song is finished, the stick rolling game ends; 6) The teacher allows students who hold the stick or have a turn at the end of the song to choose a time card containing questions about the material, and so on until all questions are finished; 7) After the game is finished, the teacher conveys the conclusion; 8) Students take a post-test. The post-test is tested to evaluate students' understanding of the material that has been taught. The post-test is carried out at the end of the meeting in one Cycle.

In the observation phase, researchers pay attention to students' activities in receiving and listening to the material presented by the teacher and assessing the learning outcomes achieved by students after the learning process. The final step, the reflection stage, involves interpreting and analyzing data and reviewing whether all action steps have achieved the stated goals or have not yet been achieved. If the desired learning outcomes are not achieved in Cycle I, then further action in Cycle II will be taken as an improvement effort.

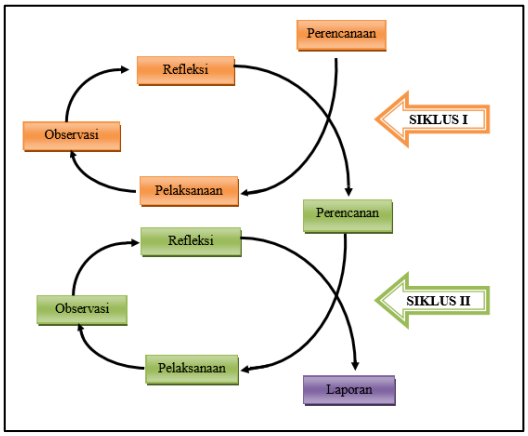

Figure 1. Classroom Action Research Cycle According to the Kemmis Mc Taggart Model

This research then continued to the next Cycle with several improvements based on the reflection results in Cycle I. Because Cycle I had not achieved the targets set, Cycle II was designed to carry out learning activities to improve weaknesses identified in the previous Cycle. In general, Cycle II's stages or research activities continue to follow the same pattern as the previous Cycle.

The data in this article consists of 2 types: quantitative data, which includes student learning outcomes, and qualitative data, which involves teacher and student activities. Learning outcome data was obtained through a multiple choice test instrument consisting of 20 questions, with 10 questions each at the end of Cycle I and Cycle II. Each question is assessed with a score of 10. On the other hand, teacher and student activity data is obtained through observation sheets. Observations were carried out on both activities with specific indicators, and assessments were made on a scale of 4 for very good, 3 for good, 2 for sufficient, and 1 for poor at the end of each Cycle meeting.

The data analysis technique adopted qualitative and quantitative data analysis techniques in this research. Qualitative data is obtained from non-test information, such as observation guide sheets, while quantitative data is collected through test results taken by students. Qualitative data analysis aims to understand the learning process, primarily the actions carried out by teachers and students. On the other hand, quantitative data analysis, through student learning outcomes, aims to test the achievement of success in each research Cycle.

RESULTS AND DISCUSSION

Pre Cycle Results

This research began by collecting test data on learning outcomes at the Pre-Cycle stage. Pre-Cycle is the first meeting, which is held by giving students a learning outcomes test. This Cycle aims to assess the initial score of students' mathematics learning outcomes before starting Cycle I. The results of the Pre-Cycle show that of all students, only 7 people achieved learning completeness, with a classical completion percentage of 27%, and the average reached 50.38. These results indicate that students' learning outcomes in class III MI Al-Khairaat Mogolaing are still low at the Pre-Cycle stage.

At this stage, the observations of class III students showed that during learning activities, especially during the presentation of material, almost all students played or told stories with their classmates. Even though teachers sometimes remind students who

are making noise, the students' responses are only temporary. This situation causes the classroom atmosphere to become less conducive, affects the course of the learning process, and ultimately results in low learning outcomes achieved by students.

Cycle I Results

In implementing Cycle 1 learning, the teacher acts as an instructor, while the researcher acts as an observer. The learning process is divided into several stages, namely introduction, core activities, and conclusion, according to the learning plan that has been previously designed. From the learning results in Cycle 1, it was found that the number of students who achieved learning completeness was 12 people, with a classical percentage of completeness of 46%, illustrated in the image in Figure 2. Analysis of Figure 2 shows that students' achievement of learning completeness is still below the standard. Classical is set at 75%.

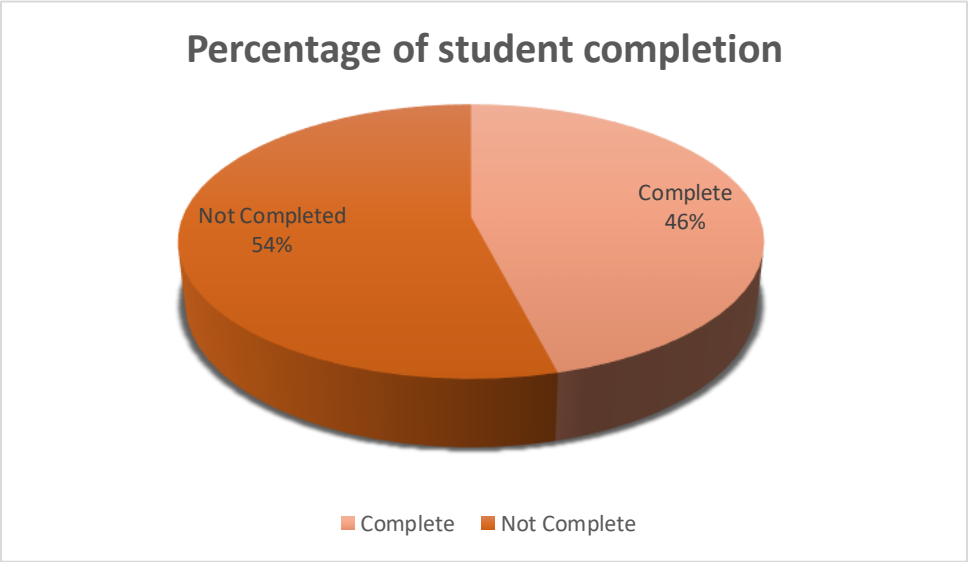

Figure 2. Cycle I Student Completeness Diagram

Meanwhile, the results of observations of teacher activities in learning activities in Cycle I showed that teacher performance was in the very good category in managing mathematics learning by implementing the talking stick learning model integrated with card media. However, there is room for improvement, especially in class mastery, when implementing the talking stick model assisted by card media. On the other hand, the results of observations of student activities show an excellent category. It is necessary to increase students' attention to teacher explanations and their enthusiasm for learning in participating in the learning process, which is still low.

Several obstacles emerged in Cycle I. The first obstacle was the inattention of most students to the material during the learning process. Most of them are more interested in playing with their classmates, resulting in a noisy classroom atmosphere and disrupting the smooth learning flow. The second obstacle is related to the selection of songs sung by the teacher during learning activities using the talking stick game. The song was considered less effective because most students had not memorized the song, causing low student enthusiasm.

The problems described previously have a significant impact on the low learning outcomes of students and influence activities in learning activities. Therefore, these problems are essential for the next stage of planning Cycle II. In this way, it is hoped that the problems faced can be overcome, thereby successfully increasing student learning outcomes and improving the learning process for teachers and students.

Cycle II Results

In Cycle II, researchers started with the planning stage. Cycle II was carried out by researchers in collaboration with the class III homeroom teacher to resolve the problems encountered in the previous Cycle, namely the low level of student participation in paying attention to the presentation of the material during the learning process. In this case, the solution will be to attract students' attention by maximizing the talking stick game with the help of card media by adjusting the songs that will be used in the learning process to the songs that students want. Another innovation is done by singing songs accompanied by interesting motivational sentences. Apart from that, use more straightforward sentences when explaining learning material.

In this Cycle, there was an increase in students who achieved complete learning, namely 24 people (92%) and an average score of 80.38. This means that the application of the talking stick learning model, which is integrated with card media, has proven to be effective in improving student learning outcomes and has succeeded in providing an increase in student learning outcomes because it has succeeded in achieving the classical standard of completeness which is set at 75%. The percentage of students' completeness is presented in Figure 3.

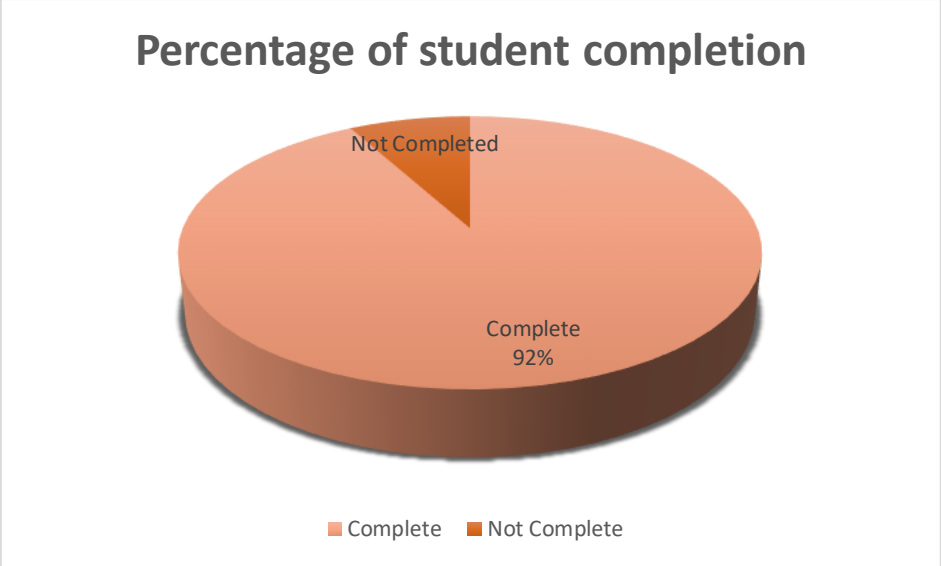

Figure 3. II Student Completion Diagram

Figure 4 is a documentation of the learning process in Cycle II, precisely when the implementation of the talking stick learning model integrated with card media was in progress. Students are singing together while rotating sticks. The teacher gives instructions before the song begins.

Figure 4. Cycle II Learning Process

In general, the results of observations of student activities when using the talking stick learning model assisted by card media in mathematics learning showed a significant increase. Previous observations of student activity were only in the good category, but with this model, the assessment of student activity increased to the very good category. Meanwhile, teacher activities in managing mathematics learning by implementing the talking stick learning model assisted by card media in Cycle II remain in the very good category.

Most students achieved learning completeness in Cycle II with a score reaching 93% (average 80.38), which passed the classical criteria for completeness. Apart from that, there was an increase in teacher and student activities from the previous Cycle. Thus, it was concluded that there was an increase in student mathematics learning outcomes through the implementation of the talking stick learning model, which integrated card media, as a result of achieving the classical learning completeness percentage value, namely 75%. So, this research ended only in Cycle II.

Based on the results of observations in Cycle II, students have shown better interest during learning activities. This can be seen from achieving the classical learning completeness percentage value. Each student activity indicator has also increased, as illustrated in Figure 5.

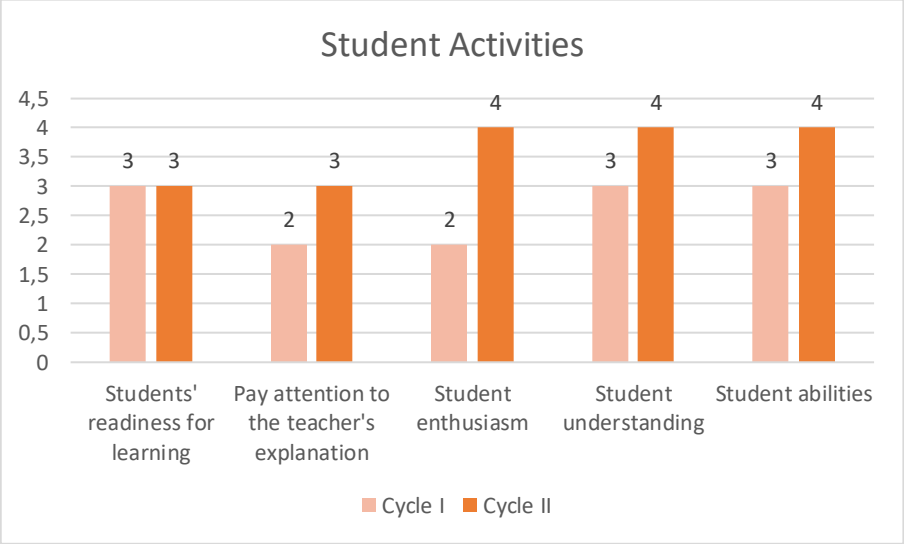

Figure 5. Student Activity Diagram

Applying the talking stick learning model integrated with card media has proven to improve student learning outcomes in time unit material in mathematics learning. This is reinforced by the change in student learning outcomes from Cycle I, which did not meet the standards, to very good in Cycle II, with scores that met the maximum score criteria. Thus, the conclusion of this research can be claimed that the application of the talking stick learning model assisted by card media can improve student learning outcomes.

The average student learning outcome score in the first Cycle reached 61.92, which shows an increase compared to the Pre-Cycle, which was only 50.38. Even though there has been an increase, this result cannot be considered successful because most students have not met the completion criteria. So, the researchers then continued to Cycle

II. There was a significant increase in Cycle II, with an average learning outcome score of 80.38. This score has reached the standard of completion, namely 70. Thus, Cycle II can effectively improve students' mathematics learning outcomes.

Based on research findings, it can be said that there has been an increase in student mathematics learning outcomes through the application of the talking stick learning model assisted by card media. This finding aligns with research by Pambudi (2017), which shows that the talking stick learning model has a role in improving students' mathematics learning outcomes, considering the characteristics of elementary school students who like games. Apart from that, this learning model encourages students to be active, practice student communication, and express opinions, making it easier for them to understand the lessons being taught. Other research by Lidia (2018) also shows that the talking stick learning model can stimulate children's readiness, encourage quick understanding of the material, and motivate children to be ready in various conditions, which is by the increase in learning outcomes found in this research.

CONCLUSION

Implementing the Talking Stick learning model in class III of Madrasah Ibtidaiyah Al-Khairaat Mogolaing can improve student learning outcomes. The average student learning outcome score increased from 50.38 in the Pre-Cycle, then increased to 61.92 in Cycle I, and in Cycle II, student learning achievement reached 80.38. With this achievement, the score reached the standard for completeness, namely 70. This success can be attributed to the increase in student activity who become more involved, indicating that students tend to participate actively in learning activities presented by the teacher, as observed from the activity observations between teacher and student.

For further research related to this article, it is hoped that we can explore the use of the talking stick learning model assisted by card media on other selected discussion points that are appropriate to the learning steps. Apart from that, a classical student activity assessment format can be applied in subsequent research so that the assessment process gets more accurate results. This will help gain a broader understanding of the effectiveness of this learning model in various learning contexts.

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