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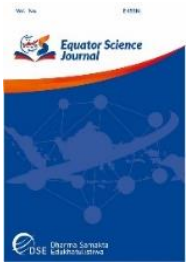

Implementation of The Role Playing Method to Improve Student Learning Outcomes in The Solar System Subject Science

Muzdalifah[1], Ismail[2*]
Primary Teacher Education Program, Universitas Terbuka, Semarang, Indonesia [1],
Departement of Science Education, Universitas Pendidikan Indonesia, Bandung, Indonesia[2]

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**Corresponding author: smile.dza@upi.edu*

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ABSTRACT
The research began with observations in May 2023, the purpose of this study was to describe how the role playing method improves student learning outcomes on the solar system at MI Mu'awanah Muslimin Muslimat. This study uses a class action research method in four stages. Each stage has four activities, namely as follows: preparing, implementing, observing, and contemplating. With observation sheet instruments, documentation, and a ten-question essay test, the research data consisted of an analysis of quantitative descriptions of the application of the role of playing learning methods. MI Mu'awanah Muslimin Muslimat class VI students are the subject of this study. After the data was collected, qualitative and quantitative data analysis was carried out. The results showed that MI Mu'awanah Muslimin Muslimat students in Samirejo village had utilized the planning, action, observation, and reflection stages of the role-playing learning approach starting from Cycles 1 and 2. The application of the role-playing method to solar science subjects at MI Mu 'awanah Muslimin Muslimat has the potential to improve student learning outcomes, with the percentage of learning outcomes as evidenced by the class average starting at 69% in the first cycle, and increasing to 88% in the second cycle. The role playing learning method can also be used with different materials, as evidenced by the findings of published

researchers and the results are quite satisfactory. Implementation in the field of Limnology education.

INTRODUCTION

According to Abdurrahman (in Setiawan, 2022) states, learning outcomes are skills that children develop as a result of participating in learning activities. In addition, he emphasized that children who are academically successful also achieve instructional or learning goals. Prayitno (in Hasri, 2017) that learning outcomes are things that are learned, achieved, or produced during the learning process. Most of the time, learning outcomes are seen as a representation of the values that students learn through the teaching and learning process.

Evaluation or assessment leads to achievement. There will be different learning outcomes or achievements for each child. After being assessed and evaluated, learning outcomes can have low, medium, or high achievement, (Abdullah, 2022). From some of these opinions it can be concluded that a process based on various student learning understandings produces learning outcomes in the form of grades or achievements obtained from evaluation or assessment activities.

Hendri Setiawan (2022). The Role Playing method is used to improve student learning outcomes about the human circulatory system at SDN Songgokerto 03 Batu. The Role Playing method is a science learning method, according to this study. Based on research results which show an increase in value of 0.32 or 32%, the Role Playing method can improve student learning outcomes, increase student interest in learning science, increase student learning effectiveness and improve understanding of the material, and make students enthusiastic about learning.

Syahruni Karim (2022). Using the Role Playing Model Effectively to Increase the Chances of Success for Class VIII Students of SMP YP PGRI 4 Makassar. Based on the findings of this study, more and more improvements reflect an increase in student achievement after the implementation of the Role Playing learning model. of the minimum completeness criteria (KKM) they fulfilled in cycles I and II, namely 70%. In terms of the results of student activities, it was also seen that there was an increase in activity, starting with students actively participating in discussions which resulted in "very good" responses, actively asking questions, which resulted in very good responses. "good" in judgment, and active. The researcher came to the conclusion that the effectiveness of the Role Playing Model as a means of increasing the chances of success for Class VIII students of SMP YP PGRI 4 Makassar resulted in a "good" response from students who took part in the learning activities. Effective Use of the Role Playing Model to Increase the Chances of Success for Class VIII Students of SMP YP PGRI 4 Makassar.

Marwati (2022) Improving Learning Outcomes of Class V Science Students Using the Role Playing Method at SDN 04 IX Koto for the 2021/22 Academic Year with the theme "Clean Air for Health". Evidenced by an increase in mastery in each cycle starting from the pre-cycle (28%), cycle I (68%), and cycle II (100%), this study found that the role playing cooperative learning model had a positive effect. impact on improving student achievement. Based on the results of interviews with a number of students, the majority of students stated that they were interested in the cooperative learning method of role playing learning models (Role Playing) to arouse enthusiasm for learning. The application of the role playing learning model of cooperative learning has a positive effect, namely it can increase student learning motivation. By using the role playing method, it improves the learning outcomes of fifth grade students in science subjects with the theme "Clean Air for Health" for the 2021–2022 academic year at SDN 04 IX Koto.

Tri Budi Astuti, et al (2022). The Use of a Role Playing Learning Model to Develop Student Learning Outcomes in Class 6 Science Content Material Development of the Earth, Moon, and Sun at SD Negeri 1 Kemiri, Mojosongo Region, Boyolali Regency, Even Semester, 2021/2022 Academic Year. This is indicated by an increase in learning outcomes in each cycle. In the pre cycle there were 4 students who had completed, with cycle 2 there were 14 students as much as 35% and cycle 2 (18 students) as much as 45%.

Because learning science in elementary schools requires a lot of memorization and many concepts that are not clear, this subject is less attractive to students. The dominant role of the teacher in the classroom is to become a facilitator who encourages active and fun learning, which is in line with the demands of the curriculum in the globalization era. This is what is called student-centered learning.

The basic competencies included in science learning in class VI are: 3.7 describing the solar system and its constituent characteristics. The sun is the center of the solar system, which consists of planets, satellites, asteroids, comets and meteors that revolve around it (Darunnajat, 2021). According to Karitas, et al (2018) The group of moving planets includes eight planets and the Sun as the middle. Even though the material is very interesting, not all students are able to fulfill the competency learning objectives which require students to be able to explain the solar system and its characteristics when the teacher presents material in an abstract manner and uses uninteresting learning methods.

The question faced is how to choose and select teaching strategies that can encourage students to learn more independently and actively. To help students reach their full potential, every instructional strategy has strategic implications. However, teachers must adapt when choosing and implementing the best learning strategies, especially in the classroom. Therefore, in order to motivate students to actively participate in the learning process, the teacher's teaching methods in learning must really pay attention to the characteristics of students.

MI Mu'awanah Muslimin Muslimat, on the other hand, is in this predicament. The researcher observed Class VI students at MI Mu'awanah Muslimin Muslimat, Dawe District, Kudus Regency on March 6 2023 during their daily learning activities. The researcher found that many students were passive during learning activities, and they also had difficulty remembering the information being taught, making it difficult for them to answer questions. As a result, many students scored less than 75 of the Minimum Completeness Criteria. Only three out of 32 students completed their assignments, and 29 other students scored below the Minimum Completeness Criteria. A researcher must develop effective learning strategies based on the problems mentioned above, which meet students' needs, involve students actively, and foster students' creativity and self-confidence.

If the right methods and approaches are used, students will be encouraged to make connections between what they know and how it can be used in everyday life. Teachers will find it easier to make connections between the lessons they teach and the real-world problems their students face. It is hoped that this teaching method will make learning outcomes more meaningful. Student learning activities must be expanded and developed using role-play teaching methods so that students understand the importance of science in education.

According to Adini (2021) Students take on the role of characters in various situations and show appropriate behavior through role playing. According to Santoso in (Darunnajat, 2020) Students take on the role of characters in various situations and show appropriate behavior in the role-playing teaching method. The role playing teaching method has several advantages, including: for those who act as other people, participants can put themselves in the position of the character being played, which helps understand the difficulties encountered.

According to Hamalik in (Astuti, 2022) in the *role playing* teaching method students are actively involved in pleasant situations when using this role playing method, that is one of the reasons for choosing this teaching method. Students' boredom and boredom can be reduced by playing roles. During the *role play*, it is possible to accommodate students' interest in learning science. Students are not only involved in physical but also mental activities by asking questions, voicing opinions, responding to these opinions, and asking more questions. It creates a new learning environment, encourages students to think more creatively and actively, and helps them to recognize real-world situations. When students accept each role they play, this identification makes it possible to change student attitudes and behavior.

Students must have prior knowledge of the characters they will play before participating in *role playing*. The function of an educator in the practice of *role playing* in class is very important where an educator must act as an observer, such as demonstrating techniques, evaluation, and planning (Kasdriyanto, 2022). While the teacher functions as a guide or guide how to solve problems, the application of learning methods is expected to encourage students to be more involved in the process of finding solutions. In addition, by giving students more confidence to voice their opinions during learning activities, it improves student learning outcomes. The research title proposed to improve the

learning outcomes of class VI students in this material is, "Application of the *Role Playing* Method to Improve Student Learning Outcomes of Class VI MI Mu'awanah Muslimin Muslimat in Solar System Materials for the 2022/2023 Academic Year."

METHOD

The present study employs a quantitative approach, specifically utilizing a quantitative descriptive design. The primary selection criteria for the sample population consisted of class VI MI Mu'awanah Muslimin Muslimat students for the 2022/2023 academic year, especially in the even semester. The sample size consisted of 32 students who were determined by the specified criteria. There were 19 male students while 13 female students from various backgrounds and abilities, including students with high, medium, low and very low abilities.

Instruments for Data Collection
Student learning outcomes that occur during the learning process of the role playing learning method will be the main focus of activity data that will be collected for research purposes. Learning achievement tests will be given simultaneously at the end of each cycle to collect data. To collect the necessary and desired data, researchers in this study used observation sheets, formative tests with ten essay questions, and photo documentation. Documentation serves as a means of gathering information pertaining to student learning outcomes.

Data Analysis
This study uses classroom action research which uses several cycles to successfully meet the learning targets. There are several stages in CAR, namely planning, implementing, observing and reflecting. researchers used data collection techniques including observation, test descriptions, and documentation. To measure test results in learning mathematics, it is calculated using the student formula:
To calculate the average value, the formula is used:

$$\boldsymbol{X}=\frac{\sum \boldsymbol{X}}{\boldsymbol{n}}$$

To calculate the percentage, use the formula:

$$\mathbf{p}=\frac{\sum \boldsymbol{X}}{\boldsymbol{n}}$$

RESULTS AND DISCUSSIONS

Classroom action research (CAR) is used in this research method. The purpose of this study was to improve the science learning outcomes of sixth grade students at MI Mu'awanah Muslimin Muslimat. This research was conducted for two cycles, with each cycle consisting of two meetings for 35 minutes. Observation sheets are used to record student activity data during the teaching and learning process. At the end of each cycle, learning outcomes are recorded using tests.

Pra Cycle
The researcher's observations showed that the classrooms looked crowded. The average learning response was given by students, and no one actively expressed their opinions. There are students who are quiet, there are students who always make noise and disturb their friends, and there are students who actively participate in learning activities.

The researcher entered class VI on Monday 6 March 2023 according to the plan to make observations. The situation and condition of the class VI students who were used as research subjects were observed carefully by the researcher. On the same day, the researcher conducted a preliminary test. Researchers asked 10 questions in this initial test.

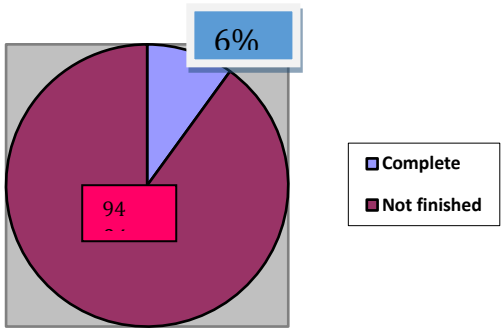

Fig 1. Pre-cycle Student Achievement Percentage Diagram

Based on the data from the initial test results (pretest), the diagram above shows that student learning outcomes in science subjects, especially solar system material, have not been maximized. due to conventional learning methods. This shows that only 6% (2 students) out of 32 students have completed their studies, and 94% (30 students) have not finished it. This average does not meet the learning completeness requirements which include more than 75% of students in a class. This indication is based on data from the results of the initial test (pretest), as can be seen from the diagram above.

Cycle I

Student capacity in working on special test questions Minimum Completeness Criteria is the basis for assessing learning outcomes. Twenty of the 32 students achieved scores above the Minimum Completeness Criteria of 63%, while ten students achieved scores below the Minimum Completeness Criteria of 31%. According to research findings, although student learning outcomes have not been fully achieved, posttest learning outcomes increased by 57% in cycle 1. However, this average does not meet the learning completeness requirements, namely more than 75% class participation. The results of the reflection reveal the following: There are still shy students who are held back and lack confidence when demonstrating the role-playing of the solar system. As a result, student learning outcomes do not reach the target because they do not feel comfortable and do not understand the role playing method. During cycle 2. Using observation sheets, researchers observed teacher activities. the success rate of 71% was achieved by the teacher in the first cycle of activities. This is due to the teacher's still developing understanding of how students learn and their ignorance of the role-playing learning method. Based on the constraints found in cycle 1, improvements were made using the same stages as in cycle 1.

Cycle II

In cycle 2, improvements were made after cycle 1 was considered. Planning, carrying out actions, observing, and taking action are the stages. Cognitive abilities are used as the basis for evaluating student learning outcomes. A total of 32 students took the posttest to find out their learning outcomes at the end of cycle 2. The second round of research revealed that 32 students achieved scores above the Minimum Completeness Criteria and four students achieved scores below the Minimum Completeness Criteria.

Improvements were made in cycle 2 after reflecting on cycle 1. Planning, carrying out actions, observing or observing, and taking action are the stages. Cognitive abilities are the basis for assessing student learning outcomes. At the end of cycle 2, 32 students took the posttest to find out their learning outcomes. The second round of research revealed that 32 students scored above the KKM and four students scored below the KKM.

Students looked enthusiastic when playing roles, and they were more active in participating in question and answer activities, according to the findings of reflection. The teacher helps in escorting problematic students, which contributes to the success of the discussion activity. The activity of researchers or educators increased to 85% during this second cycle. Students are directly involved in learning by playing roles based on the material being taught. This allows students to understand material

without having to memorize it or just listening to the teacher explain it. This increase in learning outcomes is due to the very interesting role-playing method. Students become more engaged in their studies and less bored as a result of this role-play teaching method. As a result, many students were able to answer the test questions correctly.

For clarity, the presentation of the contents of the Results and Discussion section is carried out in the following way.

Table 1. Recapitulation of Student Achievement Results

No	Criteria	Pre- cycle	Cycle 1	Cycle II
1	Class average	46,9	73,75	83,13
2	Students finish studying	6%	69%	88%
3	Students have not finished learning	94%	31%	13%
4	Observation results of research activities	60%	71%	84%

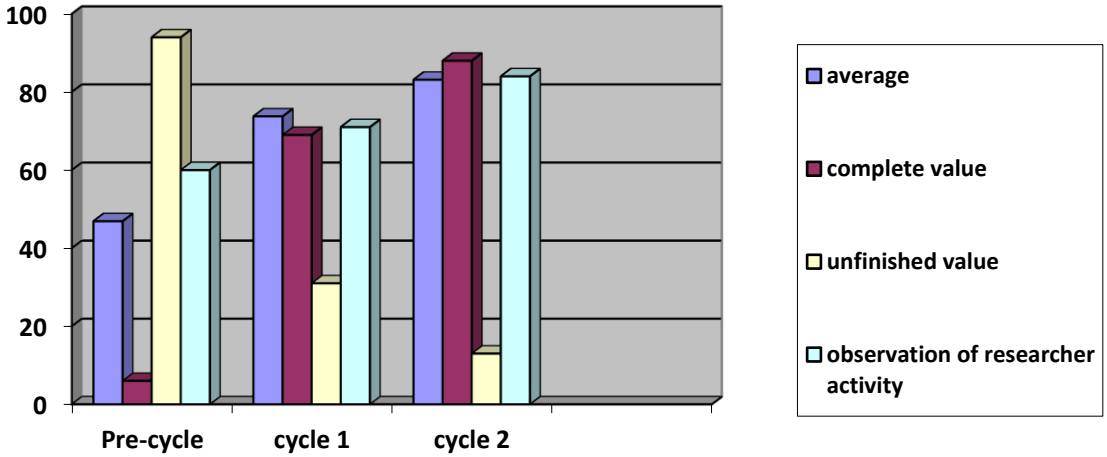

Fig 2. Recapitulation of Research Results

As can be seen in the table and diagram above, student learning outcomes increased from the pre-cycle which showed lower scores than the cycle 1 post-test, then the second cycle post-test which had a high level of learning completeness. In the pretest cycle, there were only 2 students whose scores were complete, while 30 students had not met the KKM. There were 22 students who completed cycle 1 and 10 students who did not complete, while 28 students completed cycle 2 and 4 students did not complete.

The percentage of complete learning outcomes in the pre-cycle was 63%, the first cycle was 69%, and the second cycle was 88%. There was an increase of 19% between pre-cycle and cycle I, and an increase of 19% between cycles 1 and 2. This is in line with the objectives expected by the researcher. As a result, role playing learning can provide benefits to students of class VI MI Mu'awanah Muslimin Muslimat from learning completeness increases from pre-cycle to cycle 2.

CONCLUSION AND SUGGESTION

Judging from the final results of the learning exercises for two cycles as well as the interview and examination activities, the following conclusions can be drawn: Teaching with the Role Playing method has a positive impact on student achievement, as evidenced by an increase in student learning completeness. in each pre-cycle cycle (6%), cycle I (69%), and cycle II (88%). The general reaction of some of the students towards the meeting showed that they were interested in the role-playing learning method so that they were encouraged to learn. This shows that the *Role Playing* learning approach can increase student motivation.

This study has a number of shortcomings, including a lack of in-depth analysis in some parts. The weaknesses of this study can serve as a springboard for future research. Therefore, suggestions and constructive criticism for further research improvement are highly expected.

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