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Improvement of Mathematics Learning Process and Outcomes Using the Take and Give Model Assisted by Number Glass Media in Grade III Students at SDN 012/II Empelu

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Abstract: This study was conducted because the mathematics learning outcomes of third-grade students at SDN 012/II Empelu were still low, with only 29.4% of students achieving a passing grade. One of the causes is the lack of student activity in learning, such as rarely asking questions or expressing opinions. The purpose of this study was to improve the learning process and outcomes of students through the application of the Take and Give learning model. The method used was Classroom Action Research conducted in two cycles, each through the stages of planning, implementation, observation, and reflection. The research subjects were third-grade students at SD Negeri 012/II Empelu. The results showed a significant improvement, where in cycle I, the students' learning process reached a good category with an average of 52.94%, but did not meet the success criteria. The percentage of student learning mastery in cycle I was 58.82%, which, although it met the mastery criteria in terms of numbers, was not satisfactory. In cycle II, there was a significant improvement, both in terms of the learning process with an average of 82.35% and learning outcomes with a mastery rate of 82.35%, thus meeting the research success criteria. In conclusion, the application of the Take And Give learning model is effective in improving the learning process and outcomes of third-grade students at SDN 012/II Empelu.

Keyword: Process, Mathematics, Learning Outcomes, Take and Give.

INTRODUCTION

Mathematics education in elementary schools plays an important role in shaping students' logical, analytical, and creative thinking skills. As explained by Salsabilla et al. (2025), mastery of basic mathematical concepts is an important foundation for successful learning at the next level. However, in reality, mathematics learning at SDN 012/II Empelu is still less than optimal, with only 29.4% of students achieving the Learning Objective Achievement Criteria (KKTP). This condition is influenced by conventional teaching

methods that are monotonous and uninteresting, resulting in students being less active and having difficulty understanding the material.

Referring to Law Number 20 of 2003 concerning the National Education System and Government Regulation Number 4 of 2022, the curriculum implemented must be dynamic and adaptive to the needs of students and the potential of the region. Currently, the Merdeka Curriculum, which emphasizes freedom of learning and creativity, is a reference for supporting enjoyable and effective learning (Sumarni, 2023). In this context, the Take And Give learning model is an appropriate alternative because it encourages active student involvement in the learning process. According to Riani et al. (2016), this model facilitates the exchange of knowledge between students so that they can correct and adjust information together.

In addition to learning models, the use of appropriate media is very important to support the effectiveness of mathematics learning. Nurpadhilah et al. (2021) stated that innovative and interesting media can help achieve learning objectives more effectively. Number glass media, as interactive instructional game media, can provide concrete and enjoyable learning experiences for students (Umaternate and Mahmud, 2020). According to Karta et al. (2023), this media helps improve children's cognitive abilities in understanding basic number concepts, which are key to success in mastering further mathematics material.

Through a combination of the Take And Give model and number glass media, it is hoped that the mathematics learning process in class III of SDN 012/II Empelu will be more optimal. This model makes it easier for students to master the material gradually through structured information exchange, thereby developing their creativity and critical thinking skills (Kusnaidi and Mutoharoh, 2016). Meanwhile, number cups provide a real and playful learning experience, effectively supporting the understanding of number concepts (Irmayani et al., 2023).

The scientific contribution of this study lies in the application of an innovative and interactive learning approach that can increase student engagement and improve mathematics learning outcomes. With the Take And Give model, students are encouraged to collaborate more actively, increase their motivation to learn, and build confidence in understanding the material (Riani et al., 2016). This innovation is an important alternative in improving the quality of mathematics education, which has so far been teacher-centered and monotonous.

Overall, this learning innovation is in line with the national education goal of educating and shaping students who are faithful, devout, and competitive. By utilizing learning models that suit student characteristics and engaging learning media, the mathematics learning process is expected to not only improve academic outcomes but also foster positive attitudes and a spirit of continuous learning (Budiyono, 2021; Slameto and Ayuningtyas, 2017).

METHOD

This study used the Classroom Action Research (CAR) method, which according to Arikunto (2017) is a learning activity consisting of deliberate actions carried out simultaneously in the classroom with the aim of improving the quality of the learning process of teachers in their own classrooms. CAR has a reflective characteristic where teachers make improvements based on reflections from previous actions through a cycle that includes planning, implementation, observation, and reflection. The research was conducted in class III of SDN 012/II Empelu in the even semester of the 2025/2026 academic year, with 17 students consisting of 12 boys and 5 girls as subjects. The object of the research was to improve the process and results of mathematics learning using the Take And Give model assisted by number glass media. Data collection techniques in this study included observation, learning outcome tests, and documentation. Observations were conducted using

observation sheets that recorded the progress of the learning model implementation as well as student and teacher activities during the teaching and learning process. The learning outcome test consisted of a written test with 10 questions used to measure students' mastery of the material after participating in the learning process. Documentation in the form of written archives, photographs, and electronic documents was also collected to support the research data analysis. According to Arikunto (2017), observation sheets serve as both an observation tool and a guide for obtaining the desired data during the learning process.

The data analysis technique used is qualitative data analysis with an approach that focuses on field findings through direct observation of data sources such as teacher and student observation sheets. This qualitative data is then analyzed to identify changes in behavior and progress in the learning process. The success indicators of this Classroom Action Research are an increase in the learning process of students to at least 70% in the good category, as well as student learning outcomes that reach the Minimum Completion Criteria (KKTP) ≥ 70% of the total number of students (Arikunto, 2017). These results are used as a basis for evaluating the effectiveness of the actions that have been taken and as a reference for improvements in the next cycle.

RESULT AND DISCUSSION

Results

Researchers found that the application of the Take And Give model using number cups in Flat Shape material successfully increased the engagement and understanding of third-grade students at SDN 012/II Empelu gradually. Although in the first meeting of cycle I, student participation was still low, with only 47.06% in the good and very good categories, this model began to show potential for activating students through discussion activities, information exchange, and interactive games. The learning process, which connects new knowledge with students' experiences, encourages them to think critically and boldly express their opinions, meaning that learning becomes more contextual and meaningful. However, improvements are still needed to optimize engagement and learning outcomes. The results of teacher observations on learning using the Take And Give model and number cup media in cycle 1 meeting 1 showed a score of 73.68%. This then increased in cycle 1 meeting 2 with a score of 84.21%. The results of student observations showed that only 8 out of 17 students (47.06%) were categorized as Good and Very Good, which means that they were still below the success indicator of 70%. This shows that learning in the first meeting was not optimal, as seen from the lack of student participation, some chatting, not singing while playing, and still being shy to ask questions. In cycle 1 meeting 2, there was an improvement, with 10 out of 17 students (58.82%) falling into the Good and Very Good categories, although this still did not reach the target of 70%. Students showed enthusiasm in participating in the learning process and began to show enthusiasm for the use of number cups, although some were still afraid to ask questions or answer.

Based on the observation sheet, in cycle 2 meeting 1, learning with the Take And Give model and number glass media obtained a score of 94.73%, with 13 out of 17 students (76.47%) falling into the good and very good categories. In cycle 2 meeting 2, the teacher's observation results achieved a perfect score of 100%, while 10 students (58.82%) were categorized as excellent and 5 students (29.41%) were categorized as good, so that a total of 15 out of 17 students (88.23%) had achieved a good or higher category, showing a significant improvement in the learning process and student engagement. These improvements can be seen in the table below:

Table 1. Teacher Observation Results per Cycle

Cycle	Percentage
Cycle I Meeting 1	73,68%
Cycle I Meeting 2	84,21%
Cycle II Meeting 1	94,73%
Cycle II Meeting 2	100%

Table 2. Student Observation Results per Cycle

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Cycle I Meeting 1	47,06%
Cycle I Meeting 2	58,82%
Cycle II Meeting 1	76,47%
Cycle II Meeting 2	88,23%

Based on the recapitulation results, in cycle I meeting II, out of 17 students who took the multiple-choice test, the average score was 67.06 with 10 students (58.82%) achieving a score of ≥ 70, while 7 students did not. Although it did not meet the target score of 70%, the number of students who achieved the score increased from the pre-intervention, which was only 41.18%. In cycle II meeting II, the test consisted of 10 multiple-choice questions and essays, showing a significant increase with 14 students (82.35%) achieving mastery and 3 students not yet achieving mastery. The number of students who achieved scores above the KKTP increased from 7 (41.18%) in the pre-intervention to 10 (58.82%) in cycle I and 14 (82.35%) in cycle II, indicating the success of mathematics learning improvement in class III of SDN 012/II Empelu. The recapitulation results show that in cycle I meeting II, out of 17 students who took the multiple-choice test on flat shapes, the average score was 67.06 with 10 students (58.82%) achieving a minimum score of 70, while 7 students did not pass. Although it did not reach the target of 70%, there was an increase from the pre-intervention condition, where only 7 students (41.18%) achieved mastery. In cycle II meeting II, with multiple-choice and essay tests, 14 students (82.35%) achieved mastery, a significant increase compared to the previous cycle, while 3 students did not achieve mastery. The increase in the percentage of students who met the Minimum Mastery Criteria shows the effectiveness of applying the Take And Give model with number glass media in improving the mathematics learning outcomes of grade III students at SDN 012/II Empelu. The improvement in learning outcomes can be seen in the following table:

Table 3. Learning Outcomes per Cycle

Status	Completed	Percentage(%)	Not Completed	Percentage (%)
Pre-action	7	41,18%	10	58,82%
Cycle I	10	58,82%	7	41,18%
Cycle II	14	82,35%	3	17,65%

Discussion

This classroom action research was conducted in two cycles with a learning process that included initial, core, and final stages. In the core stage, the Take And Give learning model was applied to improve the mathematics learning process and outcomes in class III of SDN 012/II Empelu. Teacher observations showed an increase in scores from 73.68% in cycle I meeting I to 84.21% in meeting II, then increased again in cycle II to 94.73% in meeting I and reached 100% in meeting II. This shows an improvement in the teacher's learning process, which had an impact on increasing student activity, which also increased from 47.06% and 58.82% in cycle I to 76.47% and 88.23% in cycle II. Cycle 1 meeting 1 was analyzed to improve the categories of adequate and inadequate as material for reflection for cycle II, while the evaluation in cycle 1 meeting 2 became the basis for reflection to plan

further improvements. In cycle 2 meeting 1, analysis and reflection were carried out again to refine the learning process in the next cycle. Student learning outcomes also showed a significant improvement from cycle I to cycle II, with the percentage of student mastery increasing from 58.82% (10 students) in cycle I to 82.35% (14 students) in cycle II, while the number of students who did not master the material decreased from 7 to 3 students. This improvement indicates the success of mathematics learning using the Take And Give model, which is in line with the opinion of experts that learning outcomes reflect the success of students in understanding the material (Hakiki et al., 2022), is an achievement based on curriculum standards (Somayana, 2020), and shows positive changes in the cognitive, affective, and conative aspects of students (Apdoludin et al., 2022).

CONCLUSION

The implementation of the Take And Give learning model in class III of SDN 012/II Empelu showed a significant improvement in the learning process, with teacher observation scores increasing from 73.68% and 84.21% in cycle I to 94.73% and 100% in cycle II, as well as an increase in student observation scores from 47.06% and 58.82% in cycle I to 76.47% and 88.23% in cycle II, which were assessed directly by observers. Based on the results of this study, teachers are advised to apply the Take And Give model, especially at the beginning of the new school year, to be effective in improving learning outcomes and providing more opportunities for students to be active and confident during learning. Schools are expected to provide diverse learning resources and adequate facilities so that the learning process becomes more varied and interesting. For future researchers, this study is expected to be a reference in developing effective learning methods such as Take And Give to maximize the learning process of students.

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