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Implementation of Fun Learning Methods to Improve Mathematics Learning Outcomes of Grade III Students

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Abstract

This study was motivated by the low mathematics learning outcomes of third-grade students at State Elementary School 5 Sesean, where 70% of students had not achieved the minimum passing grade. This condition was influenced by the dominance of the lecture method, which made students less active and less motivated. This study aims to describe the improvement in mathematics learning outcomes through the application of the fun learning method. The type of research used is Classroom Action Research (CAR) with two cycles, involving 20 students as research subjects. Data were collected through observation, interviews, documentation, and written tests, then analyzed qualitatively and quantitatively. The indicators of success were determined by the implementation of the method at a minimum of 80% and the completion of learning outcomes by at least 80% of students. The results showed a significant increase in teacher activity, student activity, and learning outcomes. In cycle I, the average student score was 59.16 with a completion rate of 50%, while in cycle II it increased to 82.25 with a completion rate of 100%. Teacher activity reached an average of 88.67% (good category) and student activity 84.25% (good category). These findings indicate that the fun learning method is effective in increasing student motivation, engagement, and academic achievement in mathematics learning. Thus, fun learning can be used as an alternative learning method to improve the quality of learning outcomes in elementary schools.

Keywords: *Fun learning; Learning outcomes; Mathematics*

1. Introduction

Education is a planned process that aims to develop the potential of students, both in spiritual, intellectual, personality, and social skills aspects (Sampelolo et al., 2024). Law Number 20 of 2003 concerning the National Education System emphasizes that education has the function of shaping character and enlightening the life of the nation. This function is now operationalized through contemporary pedagogical principles, such as the student-centered learning emphasized in the 'Kurikulum Merdeka' (Merdeka Curriculum), which demands interactive and engaging teaching methods. Thus, the success of the learning process is not only influenced by teachers, but also by factors such as students, curriculum, methods, and supporting facilities (Kaharuddin et al., 2021). Mathematics is one of the fundamental subjects that plays an important role in everyday life and is the basis for the development of science and technology (Mokhtar et al., 2023). Therefore, mastery of mathematics from the elementary education level is essential (Tulak & Tangkearung, 2021). However, student learning outcomes often show low achievement, especially when the learning process lacks variety and is still teacher-centered (Tulak et al., 2023; Yang & Kaiser, 2022).

The results of preliminary observations at State Elementary School 5 Sesean show that 70% of third-grade students have not yet achieved the minimum competency criteria in mathematics. This issue is not merely a matter of student ability, but is strongly linked to pedagogical practice. This low achievement is influenced by the dominant teaching method, which is lecturing. Analytically, this conventional, teacher-centered approach creates a passive learning environment, failing to stimulate cognitive engagement or intrinsic motivation, thus making students less active. This condition requires the application of teaching methods that can create a more interesting and interactive learning atmosphere. One relevant alternative is the application of fun learning methods (Nurmanov et al., 2024). 'Fun learning' is defined as a pedagogical strategy that integrates elements of enjoyment and psychological comfort into the learning process to enhance student motivation and active participation (Bukit et al., 2023; Fitzgerald & Fitzgerald, 2020). A conducive and comfortable learning design allows students to develop their concentration and motivation optimally (Tiarawati, 2024). Thus, fun learning can be a solution to improve mathematics learning outcomes in elementary schools.

Based on these issues, this study aims to describe the improvement in mathematics learning outcomes of third-grade students at State Elementary School 5 Sesean through the application of the fun learning method.

2. Method

The study used a qualitative approach with classroom action research. The qualitative approach was chosen because this research is descriptive, exploratory, and emphasizes an in-depth understanding of the learning process in the classroom (Sugiyono, 2020). Classroom action research was applied to improve the learning process and outcomes of students through an action cycle that included planning, implementation, observation, and reflection (Helaluddin et al., 2020). The research was conducted collaboratively with third-grade teachers at State Elementary School 5 Sesean, focusing on improving mathematics learning outcomes through the application of the Fun Learning method.

The research subjects consisted of 20 third-grade students (10 boys and 10 girls). The research was conducted in two cycles, with each cycle going through the stages of planning, implementation, observation, and reflection. The results of the first cycle reflection were used as the basis for improvements in the next cycle. Data were

collected through observation, interviews, documentation, and written tests. Observation is used to assess the implementation of learning, interviews are used to explore student responses, documentation is used to reinforce field findings, and written tests are used to measure student learning outcomes.

Data analysis is conducted qualitatively and quantitatively. Qualitative analysis includes reduction, presentation, and drawing conclusions from data obtained from observations, interviews, and documentation. Quantitative analysis is used on written test results by calculating the average score of students.

The indicators of research success are determined by two aspects, namely: (1) student activity in learning with the implementation of the Fun Learning method at a minimum of 80%, and (2) improvement in mathematics learning outcomes, where at least 80% of students achieve a good category.

3. Results and Discussion

3.1. Results

3.1.1. Cycle I

The cycle was carried out in four meetings with the aim of observing the initial application of the fun learning method in the mathematics subject in grade III of SDN 5 Sesean. Data was collected through observation of teacher activities, student activities, and learning outcome tests.

Observations of teacher activity show an increase in consistency in the application of the method. The percentage of activities increased from 45.31% in the first meeting to 71.42% in the fourth meeting, with an average of 57.75% (sufficient category).

Table 1. Result Observation Teacher in Cycle I

Meeting	Score	Category
1	45.31	Insufficient
2	50.00	Less
3	64.28	Sufficient
4	71.42	Good
Average	**57.75**	**Fair**

Student activity also showed an upward trend. The percentage of activity increased from 43.75% in the first meeting to 69.64% in the fourth meeting. The average score reached 56.47% (sufficient category).

Table 2. Result Student Activity in Cycle I

Meeting	Score	Category

1	43.75	Insufficient
2	50.89	Sufficient
3	61.61	Fair
4	69.64	Good
Average	**56.47**	**Fair**

The results of the second cycle tests show that most students are still in the "fair" and "poor" categories. Of the 20 students, only 2 (10%) achieved the "good" category, while the majority (50%) were in the "fair" category. The average class score was 59.16 (fair category).

Table 3. Result Test Student in Cycle I

Category	Score	Number	Percentage
Very good	86-100	0	0%
Good	76-85	2	10%
Enough	60-75	10	50%
Insufficient	55-59	7	35%
Very low	< 55	1	5%
Total	**-**	**20**	**100%**

3.1.2. Reflection Cycle II

In general, the implementation of e-learning has begun to have a positive impact on the activities of teachers and students. However, learning outcomes have not yet reached the predetermined success indicators. There are still many students in the adequate and poor categories, so it is necessary to improve the strategy in cycle II by emphasizing active student involvement through a variety of media and strengthening learning motivation.

3.1.3. Cycle II

Cycle II is implemented as a follow-up to the weaknesses found in Cycle I. The focus of improvement is on increasing student engagement through a variety of media, group activities, and more intensive feedback.

The results of observations of teacher activity in cycle II show a significant increase. From the first meeting to the fourth meeting, the percentage of activity continued to rise, reaching an average of 88.67% (good category).

Table 4. Result Observation Teacher in Cycle II

Meeting	Score	Category
1	78.57	Good
2	82.14	Good
3	92.85	Very good
4	91.12	Very good
Average	**88.67**	**Good**

Student activity also experienced a consistent increase. The percentage of activity reached an average of 84.25% (good category), indicating that most students were actively involved in the learning process using the fun learning method.

Table 5. Result Student Activity in Cycle II

Meeting	Score	Category
1	75.00	Good
2	81.25	Good
3	87.50	Very good
4	93.25	Very good
Average	**84.25**	**Good**

Student learning outcomes in cycle II showed a significant improvement compared to cycle I. Most students achieved a rating of good to very good. The average class score increased to 82.25 (good category).

Table 6. Result Test Student in Cycle II

Category	Score	Number	Percentage
Very good	86-100	8	40%
Good	76-85	9	45%
Enough	60-75	3	15%
Insufficient	55-59	0	0%
Very low	< 55	0	0%
Total	**-**	**20**	**100%**

3.1.4. Reflection Cycle II

Findings in cycle II show that the application of the fun learning method effectively increases teacher activity, student participation, and learning outcomes. Teacher activity was consistently in the good to very good category, while student activity showed more active involvement than in the previous cycle. The average learning outcomes of students increased from 59.16 in cycle I to 82.25 in cycle II. With this achievement, the research success indicators are considered to have been met.

3.2. Discussion
3.2.1. Application of the Fun Learning Method in Mathematics Education

The results of observations at **State Elementary School 5 Sesean** indicate that the low mathematics learning outcomes among third-grade students are primarily due to the persistent use of conventional teaching methods. These traditional approaches, often dominated by rote memorization and teacher-centered instruction, tend to create a monotonous classroom atmosphere that limits students' engagement and motivation to learn.

Students appear passive, rarely ask questions, and show minimal curiosity or interaction during lessons. Consequently, their conceptual understanding of mathematical topics remains weak, and their ability to apply knowledge in problem-solving contexts is very limited.

Recognizing this issue, the present study implemented the **fun learning method** as an alternative pedagogical strategy to foster a more engaging, interactive, and student-centered learning environment. The fun learning method refers to a teaching approach that combines elements of enjoyment, creativity, and psychological comfort, with the ultimate goal of improving students' learning experiences and cognitive development (Bukit et al., 2023). It emphasizes that learning should not be viewed merely as a process of knowledge transfer, but as a meaningful and enjoyable activity that stimulates curiosity, collaboration, and intrinsic motivation.

From the perspective of educational psychology, a fun learning environment directly influences students' affective domains—such as motivation, confidence, and emotional readiness to learn—which are crucial factors for effective cognition. When students feel emotionally comfortable and intellectually stimulated, they are more likely to pay attention, process information deeply, and retain concepts for longer periods. This notion is consistent with the cognitive theory of Bruner, who asserts that learning is more effective when learners actively construct meaning from experiences through exploration and interaction. In this context, fun learning functions as a bridge between abstract mathematical concepts and students' everyday experiences, making mathematics more relatable and less intimidating.

Preliminary interviews with teachers at State Elementary School 5 Sesean also revealed that most students perceive mathematics as a difficult and boring subject. Teachers reported that maintaining students' attention throughout a lesson is challenging, especially when instruction relies solely on lectures and written exercises. Therefore, the teachers expressed strong interest in exploring innovative learning methods that could make mathematics more enjoyable and meaningful. The implementation of the fun learning method in this study responded to this need by integrating games, visual aids, storytelling, and peer collaboration into the mathematics classroom.

According to **Fitzgerald and Fitzgerald (2020)**, the fun learning approach has been empirically proven to enhance students' motivation and academic achievement across various educational contexts.

Their study highlights that when learning is designed to be joyful and emotionally engaging, students tend to exhibit higher persistence, creativity, and problem-solving skills. This finding aligns with the results of the present research, which demonstrates that introducing fun learning strategies in mathematics instruction significantly improves both participation and learning outcomes.

Furthermore, the fun learning method supports the **constructivist learning paradigm**, where students are not passive recipients of information but active participants in constructing their understanding. By incorporating games, puzzles, or interactive group tasks, students experience mathematics as a living subject that connects logic, reasoning, and imagination. Such learning experiences stimulate both cognitive and affective domains simultaneously, thus enhancing not only knowledge acquisition but also attitudes toward mathematics.

In addition, fun learning is particularly relevant for younger learners in elementary school, whose cognitive and emotional development stages require a balance between play and structured learning. Playful learning activities allow them to experiment, make mistakes, and learn through discovery—processes that are essential for developing conceptual understanding. Therefore, the implementation of this approach in mathematics education represents a crucial shift toward more holistic teaching practices that acknowledge the role of enjoyment in cognitive growth.

Overall, the application of the fun learning method in the mathematics classroom at State Elementary School 5 Sesean has created a more positive and engaging atmosphere. Students became more active during learning sessions, willingly participated in discussions, and displayed noticeable enthusiasm when solving problems collaboratively. Teachers also reported a significant reduction in classroom management issues since students were more focused and intrinsically motivated to participate. These outcomes provide strong evidence that the fun learning method is not only a pedagogical alternative but also a necessary innovation to revitalize mathematics learning in early education.

3.2.2. *Improving Learning Outcomes Through Fun Learning Methods*

The research was conducted in two learning cycles, each consisting of planning, implementation, observation, and reflection stages following the classroom action research (CAR)

model. In **Cycle I**, the learning completeness rate reached only 50%, with an average score of **59.16%**. This result indicates that most students were still unable to achieve the expected mastery level. Several factors contributed to this low achievement, including students' unfamiliarity with the new learning approach and the limited integration of fun elements during the initial implementation. Teachers also admitted that they needed more time to adjust to this new method, particularly in designing learning activities that balance fun and conceptual depth.

However, after analyzing the weaknesses of Cycle I and making targeted improvements, **Cycle II** showed remarkable progress. Learning completeness increased to **100%**, with an average score of 82.25 in cycle II, thereby exceeding the success indicator. The significant improvement across cycles demonstrates that when properly implemented, the fun learning method can lead to tangible gains in students' academic performance. Students appeared more confident, attentive, and cooperative during learning activities. Their interactions with teachers and peers became more constructive, indicating the emergence of a supportive learning community within the classroom.

These findings are consistent with the study conducted by **Syahrul (2019)**, who reported that the application of fun learning significantly improved Indonesian language learning outcomes at SMP Negeri 1 Tompobulu—from **54.55%** in Cycle II to **77.73%** in Cycle II. Likewise, **Mufidah et al. (2020)** found that the fun learning method enhanced students' learning outcomes in Islamic Cultural History (SKI) at MTs Al-Hikmah Bandar Lampung from **30.6%** in Cycle I to **86.84%** in Cycle II. The consistent pattern across different subjects and grade levels supports the generalizability of the fun learning approach as an effective pedagogical strategy.

The improvement observed in this research does not only reflect an increase in students' **cognitive achievement**, but also in their **affective and psychomotor engagement**. Students who previously hesitated to participate became more confident in expressing their ideas. They also demonstrated persistence in completing mathematical tasks and took pride in their achievements. Such behavioral changes reflect the broader educational goal of nurturing not only intelligent but also motivated and self-regulated learners.

Moreover, the success of fun learning in improving mathematics achievement can be interpreted

through the **Self-Determination Theory (Deci & Ryan, 2000)**, which posits that intrinsic motivation flourishes when students experience autonomy, competence, and relatedness. Fun learning activities naturally support these three needs: they allow autonomy through choice and creativity, enhance competence through achievable challenges, and promote relatedness through collaboration. Consequently, students' motivation becomes self-sustaining, reducing their dependence on external rewards or teacher direction.

In addition to its motivational benefits, fun learning contributes to **cognitive reinforcement** by presenting mathematical concepts in varied and meaningful contexts. For instance, in this study, arithmetic operations were taught through games involving real-life scenarios such as shopping simulations or interactive number puzzles. These contextualized tasks helped students relate mathematical symbols to tangible experiences, thereby enhancing conceptual understanding. Such integration aligns with Gagné's hierarchy of learning, where meaningful learning occurs when new knowledge is anchored to prior experiences.

The shift from a conventional to a fun learning approach also transformed the teacher's role from being the main source of information to becoming a facilitator and motivator. Teachers guided students in exploring concepts, provided scaffolding when necessary, and encouraged peer discussion to build collective understanding. This transformation fosters a more **collaborative and reflective learning culture**, where students take ownership of their learning process.

The improvement in learning outcomes observed in this research underscores the potential of the fun learning method as a sustainable instructional model in mathematics education. However, it is important to note that successful implementation requires careful planning, teacher training, and contextual adaptation. Fun learning should not merely involve entertaining activities; it must remain aligned with clear learning objectives and assessment standards. Teachers need to design activities that balance playfulness with cognitive challenge, ensuring that students' enjoyment translates into measurable learning gains.

In conclusion, the application of the fun learning method has been proven effective in improving mathematics learning outcomes for third-grade students at State Elementary School 5 Sesean. Beyond improving test scores, this approach fosters active engagement, strengthens motivation, and cultivates a positive attitude toward

mathematics. The findings affirm that learning can be both enjoyable and intellectually rigorous when designed thoughtfully. Future studies are encouraged to explore the long-term effects of fun learning on mathematical reasoning, creativity, and problem-solving skills, as well as its integration with digital and AI-assisted learning tools. By doing so, educators can further expand the potential of fun learning as a transformative force in mathematics education.

4. Conclusion

Based on the research results, the application of the fun learning method in teaching mathematics, specifically arithmetic operations with whole numbers, to third-grade students at SDN 5 Sesean proved to be effective in improving learning outcomes. This was demonstrated by an increase in learning completeness from 50% with an average score of 59.16 in cycle I to 100% with an average score of 82.25 in cycle II. This improvement was also supported by improvements in teacher activities in applying fun learning steps more consistently in cycle II. These findings confirm that the fun learning method can be an alternative learning strategy that encourages student engagement while improving academic achievement.

Author Contributions

Conceptualisation: S.M. and T.T. Methodology: H.T. Data Curation: T.T. Writing – Original Draft: S.M. Writing – Review & Editing: S.M., T.T., and H.T.

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Ethical Statement

This study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of SD 5 Sesean. All participants provided informed consent before participating in the study.

Conflict of Interest Statement

The authors declare no conflict of interest.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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