

**EFFORTS TO IMPROVE MOVEMENT CREATIVITY IN CHILDREN WITH SPECIAL NEEDS THROUGH THE IMPLEMENTATION OF SIMPLE GAME MODELS BASED ON GAME-BASED LEARNING IN PHYSICAL EDUCATION SUBJECTS FOR CLASS I-A STATE ELEMENTARY SCHOOL 2 LOKTABAT SELATAN**

Irmayanti<sup>1</sup>, Rahmadi<sup>2</sup>, Fakhruddin<sup>3</sup>, Sujarwoko<sup>4</sup>, Fani Arifin<sup>5</sup>

<sup>1,2,3,4,5</sup> Program Studi Pendidikan Profesi Guru FKIP Lambung Mangkurat

[irmayanti200403@gmail.com](mailto:irmayanti200403@gmail.com), [rahmadi@ulm.ac.id](mailto:rahmadi@ulm.ac.id), [fakhruddin3031@gmail.com](mailto:fakhruddin3031@gmail.com),  
[sujarwoko33@guru.sd.belajar.id](mailto:sujarwoko33@guru.sd.belajar.id), [faniarifin22@gmail.com](mailto:faniarifin22@gmail.com)

**ABSTRACT**

*This study aims to describe the implementation of a simple game model based on Game-Based Learning (GBL) and to improve the movement creativity of students with special needs (SEN) in the PJOK subject for grade I-A at SDN 2 Loktabat Selatan. This study uses a Classroom Action Research (CAR) approach with the Kemmis and McTaggart spiral model, conducted in two cycles. The research subjects are 4 SEN students with characteristics of slow learners and mild concentration disorders. Data collection was carried out through observation of student activity and tests of creative movement skills. The sampling technique used purposive sampling based on the results of the initial identification. Data analysis used a comparative descriptive approach between pre-cycle, cycle I, and cycle II. The research results showed a significant increase in each cycle. The average score of creative movement skills tests increased from 53.13 (pre-cycle) to 67.97 (cycle I) and 76.56 (cycle II), with classical completeness increasing from 0% to 50% and 75%. Learning activeness increased from 40.00 (Less Active) to 58.75 (Quite Active) and 72.50 (Active). It was concluded that the simple game model based on GBL effectively improves movement creativity and learning activeness of students with special needs in PJOK learning.*

*Keywords: Movement Creativity, Children with Special Needs, Game-Based Learning, Physical Education, Classroom Action Research*

**ABSTRAK**

Penelitian ini bertujuan mendeskripsikan penerapan model permainan sederhana berbasis Game-Based Learning (GBL) dan meningkatkan kreativitas gerak siswa berkebutuhan khusus (ABK) pada mata pelajaran PJOK kelas I-A SDN 2 Loktabat Selatan. Penelitian ini menggunakan pendekatan Penelitian Tindakan Kelas (PTK) dengan model spiral Kemmis dan McTaggart yang dilaksanakan dalam dua siklus. Subjek penelitian adalah 4 siswa ABK dengan karakteristik slow learner dan gangguan konsentrasi ringan. Pengumpulan data dilakukan melalui observasi keaktifan siswa dan tes keterampilan gerak kreatif. Teknik pengambilan sampel menggunakan purposive sampling berdasarkan hasil identifikasi awal. Analisis data menggunakan pendekatan deskriptif komparatif antarpada-siklus, siklus I, dan siklus II. Hasil penelitian menunjukkan peningkatan signifikan pada setiap siklus. Nilai rata-rata tes keterampilan gerak kreatif meningkat dari 53,13 (pra-siklus) menjadi 67,97 (siklus I) dan 76,56 (siklus II), dengan ketuntasan klasikal dari 0% menjadi 50% dan 75%. Keaktifan belajar meningkat dari 40,00 (Kurang Aktif)

menjadi 58,75 (Cukup Aktif) dan 72,50 (Aktif). Disimpulkan bahwa model permainan sederhana berbasis GBL secara efektif meningkatkan kreativitas gerak dan keaktifan belajar siswa ABK pada pembelajaran PJOK.

Kata Kunci: Kreativitas Gerak, Anak Berkebutuhan Khusus, Game-Based Learning, PJOK, Penelitian Tindakan Kelas

## **A. Introduction**

PJOK aims to improve physical fitness through various planned and systematic physical activities, such as games, sports, and fitness exercises (Mashud, 2019). In addition, physical education not only focuses on physical abilities, but also encompasses a social dimension, where students learn to work together, uphold sportsmanship, discipline, and responsibility in every learning activity (Aisyah et al., 2025). Physical Education, Sports, and Health (PJOK) plays an important role in developing students' potential holistically, covering physical, cognitive, affective, and social aspects. In the implementation of the Merdeka Curriculum, PJOK learning is directed to create a fun, active, and inclusive learning environment for all students, including children with special needs (ABK). This curriculum emphasizes that every student has the right to equal opportunities to participate in learning activities so that they can express their motor

skills while developing creativity through various meaningful physical activities (Permendikbudriset, 2022).

The field conditions encountered during the implementation of the Field Experience Program (PPL) in class I-A of SDN 2 Loktabat Selatan showed a reality different from the curriculum expectations. Based on initial observations in April 2026, it was found that most students, including 4 students identified as children with special needs (ABK) with characteristics of slow learners and mild concentration disorders, were not yet confident in expressing movements freely and creatively. When given movement tasks in games, almost all ABK students tended to imitate their friends' movements exactly without showing initiative or new variations of movement. The results of the initial test (pre-cycle) showed that the class average score only reached 53.13 with a classical completeness of 0%, indicating that all ABK students who were the research subjects had not

yet reached the Minimum Completeness Criteria (KKM) of 75.

The gap between the ideal conditions desired by the curriculum and the reality in the field needs to be addressed immediately. According to Widiyanto & Putra, (2021), Movement creativity in children with special needs is greatly influenced by the learning environment stimuli and the teaching model used by the teacher. Monotonous and less varied learning causes children with special needs to be unmotivated to experiment with new movements. If this condition is allowed to continue, the potential development of motor skills and creativity in children with special needs will continue to be hindered.

Various previous studies have proven the effectiveness of Game-Based Learning (GBL) in increasing students' creativity and active participation. Unorizqo, et al., (2026) found that GBL innovation in physical education learning in elementary schools significantly increases students' motor creativity and active participation, including students with special needs. Fadillah et al., (2025) In its evaluation of PJOK learning in inclusive schools, it emphasized that students with disabilities need a more

adaptive, innovative, and enjoyable learning model in order to participate actively. Andini et al., (2025) also found that GBL-based games designed with the principle of inclusivity are able to increase the emotional and social engagement of students with special needs.

The novelty of this research lies in the application of a simple game model based on Game Based Learning (GBL) designed in a gradual, adaptive, and inclusive manner specifically for Children with Special Needs (ABK) in the first grade of elementary school in physical education learning. The game model used not only emphasizes physical activity alone but is also arranged by considering the characteristics of motor, social, emotional development, and learning abilities of ABK students at the early elementary school age. Each stage of the game is designed to be simple, easy to understand, and provides opportunities for all students to actively participate according to their abilities, thereby creating a learning atmosphere that is enjoyable, safe, and non-discriminatory.

In addition, this research has uniqueness in its implementation

context, namely in elementary schools in the South Kalimantan region, which have social, cultural, and learning facility conditions that are different from other areas. Until now, research on the application of Game Based Learning in PE learning has mostly been conducted on regular students and it is still rare for studies to specifically focus on students with special needs in lower elementary school grades. Therefore, this study provides a new contribution in the form of the development of a PJOK learning strategy that is more friendly to the needs of inclusive students through a simple game-based approach that can enhance student participation, motivation, and basic motor skills. Thus, the results of this study are expected to serve as a reference for PJOK teachers in developing innovative, effective learning that meets the needs of students with special needs in inclusive schools.

Based on these problems, this study aims to: (1) describe the implementation of a simple game-based model based on Game-Based Learning in the Physical Education and Health learning process in class I-A of SDN 2 Loktabat Selatan, and

(2) improve the movement creativity of students with special needs through a simple game-based model based on GBL. The contribution of this study is to provide empirical evidence of the effectiveness of GBL in the context of inclusive Physical Education and Health learning at the elementary school level, as well as to provide an alternative learning model that can be adapted by Physical Education teachers in addressing the diverse needs of students in an inclusive classroom.

## **B. Research Method**

This research is a Classroom Action Research (PTK) that is collaborative and participatory. The PTK model used refers to the Kemmis and McTaggart spiral model, which consists of four repeating stages, namely: planning, acting, observing, and reflecting (Arikunto, 2021). The research was conducted in class I-A of SDN 2 Loktabat Selatan, Banjarbaru Regency, South Kalimantan, from April to May 2026.

The research subjects were 4 students with special needs in class I-A of SDN 2 Loktabat Selatan during the Even Semester of the 2025/2026 Academic Year, consisting of

students with characteristics of slow learners and mild concentration disorders. The sampling technique used was purposive sampling, which is the selection of subjects based on certain considerations according to the research objectives. The selection of these four students was based on the results of the initial identification which indicated that they required special attention in developing motor creativity and had not reached the Minimum Competency Criteria (KKM) at the initial condition. The researcher acted as both the teacher and the main researcher, assisted by one observer (mentor teacher).

Data collection was carried out in two ways. First, systematic observation using a student activity observation sheet that includes five aspects: physical/motoric, verbal, mental, emotional, and social activity with a rating scale of 1-4. The final score is calculated using the formula:

$$\text{Score} = (\text{Total Score} / 20) \times 100$$

**Table 1 Student Activity Level Categories**

| Category     | Interval |
|--------------|----------|
| Very Active  | >85      |
| Active       | 70-80    |
| Quite Active | 55-59    |
| Less Active  | <55      |

Second, a creative movement skills test that measures four

dimensions of movement creativity: fluency, flexibility, originality, and elaboration. Each dimension is measured through two test items, making a total of 8 items with a 1-4 scale rubric. The final score is calculated using the formula:

$$\text{Final Score} = (\text{Total Score} / 32) \times 100, \text{ with a Minimum Competency Criteria of 75.}$$

Data analysis techniques use a comparative descriptive approach, namely by comparing the learning outcomes and student activity data between the pre-cycle, Cycle I, and Cycle II to observe the pattern of improvement that occurs. The analysis is conducted through simple quantitative calculations by calculating the average scores, the percentage of classical completeness, and the changes in activity categories in each cycle. Success indicators are established if: (1) the average score of creative movement skills tests reaches  $\geq 75$ , (2) classical completeness reaches  $\geq 70\%$ , (3) the average activity reaches at least the Active category (score  $\geq 70$ ), and (4) all students with special needs show an improvement in creative movement of at least 1 category from the previous cycle.

## C. Research Results and Discussion

### Pre-Cycle

Before the action was taken, the researcher conducted an initial measurement of movement creativity and learning activity of all research subjects. The pre-cycle activities were carried out in April 2026 through direct observation and a creative movement skills test in a regular learning session without any special treatment. The results of the pre-cycle measurements are presented in the following table.

**Table 2 Results of Pre-Cycle Creative Movement Skills Test**

| Description          | Result            |
|----------------------|-------------------|
| Number Completed     | 0 students (0%)   |
| Number Not Completed | 4 students (100%) |
| Average Score        | 53,13             |

Based on the research results obtained, it was found that no students have achieved complete learning mastery. Out of a total of 4 students, all are in the incomplete category with a percentage of 100%, while the number of students who have completed is 0 students or 0%. In addition, the average score obtained by the students only reached 53.13, which is still below the established completeness criteria. These results indicate that the students' ability to participate in

learning is still low and improvements are needed through the application of more interesting, active, and student-characteristic-appropriate learning strategies or models so that learning outcomes can improve in the next cycle.

**Table 3 Results of Student Activity Observations Pre-Cycle**

| Student Name  | Score | Category    |
|---------------|-------|-------------|
| Nabil         | 35    | Less Active |
| Alvaro        | 40    | Less Active |
| Haris         | 35    | Less Active |
| Zezen         | 50    | Less Active |
| Average Score | 40,00 | Less Active |

Based on the results of the observation, all students are still in the less active category in participating in learning. Nabil scored 35, Alvaro 40, Haris 35, and Zenzen 50. Overall, the average score of student activeness is 40.00 with the less active category, so improvements in learning are needed to increase student participation.

### Cycle I

**Table 4 Results of Creative Movement Skills Test Cycle I**

| Description          | Result          |
|----------------------|-----------------|
| Number Completed     | 2 Student (50%) |
| Number Not Completed | 2 Studen (50%)  |
| Average Score        | 67,97           |

The average score increased to 67.97 with a classical completeness of 50% (2 out of 4 students completed: Alvaro with a score of 75.00 and Zezen with a

score of 78.13). Nabil and Haris have still not reached the KKM. The results of cycle I did not meet the established success indicators, so it continued to cycle II.

**Table 5 Results of Student Activeness  
Observation Cycle I**

| Student Name  | Score | Category     |
|---------------|-------|--------------|
| Nabil         | 50    | Quite Active |
| Alvaro        | 55    | Quite Active |
| Haris         | 60    | Quite Active |
| Zezen         | 70    | Active       |
| Average Score | 58,75 | Quite Active |

Student activity increased with three students in the Quite Active category and one student (Zezen) reaching the Active category. The results of the cycle I creative movement skills test are presented in Table 5.

### Cycle II

**Table 6 Results of Creative Movement  
Skills Test Cycle II**

| Description          | Result          |
|----------------------|-----------------|
| Number Completed     | 3 Student (75%) |
| Number Not Completed | 1 Studen (25%)  |
| Average Score        | 76,56           |

The average score increased to 76.56 with a classical completeness of 75% (3 out of 4 students completed). Nabil has not reached the Minimum Mastery Criteria (71.88) but showed a significant improvement compared to his initial score from 40.63 to 71.88, equivalent to an increase of 31.25 points throughout the study.

**Table 7 Results of Student  
Activeness Observation Cycle II**

| Student Name  | Score | Category      |
|---------------|-------|---------------|
| Nabil         | 65    | Fairly Active |
| Alvaro        | 75    | Active        |
| Haris         | 70    | Fairly Active |
| Zezen         | 80    | Active        |
| Average Score | 72,50 | Active        |

The average activity level increased to 72.50 and has reached the Active category according to the success indicators. Two students (Alvaro and Zezen) are in the Active category, while Nabil and Haris are in the Quite Active category. The results of the cycle II creative movement skills test are presented in Table 7.

### Discussion

The research results show a progressive and significant increase in movement creativity at each stage of implementation. The gradual increase from an average of 53.13 (pre-cycle) to 67.97 (cycle I) and 76.56 (cycle II) proves that interventions carried out in cycles and continuously are able to have a real impact on the development of movement creativity in students with special needs. These findings are in line with the statement Juniasih, (2015) that movement creativity can be measured and developed through four main dimensions, namely fluency, flexibility, originality, and elaboration.

The dimension of fluency and flexibility experienced an earlier improvement since cycle I, along with the implementation of group games that provided structured movement repetition, such as Hand Fence Game and Walking Jumping Chain. Meanwhile, the dimensions of originality and elaboration developed more significantly in cycle II when the games were designed to demand more individual movement initiative, such as in the Image-Movement Categorization Game and Counting Jump. This gradual development pattern proves that motor creativity is plastic and highly dependent on the quality of learning stimuli, as stated Mustafa & Masgumelar (2022) that movement creativity in elementary school children is very responsive to learning environment stimuli.

The success of the GBL model in enhancing movement creativity is also reinforced by the findings of Unorrizqo, et al., (2026), who concluded that GBL in Physical Education learning provides a safe and enjoyable space for movement exploration. Plass et al., (2015) explained that key elements of GBL such as structured challenges, immediate feedback, and a free

atmosphere without fear of failure create an ideal psychological condition for students to dare to experiment with new movement patterns. It is this safe psychological condition that becomes the main factor why students with special needs are able to show significant development in movement creativity. This is also confirmed by Camacho-Sánchez et al., (2023) that effective GBL combines structured challenges with the freedom of exploration.

Viewed from individual development, Nabil, who has the characteristics of a slow learner, experienced an increase in scores from 40.63 in the pre-cycle to 71.88 in cycle II, equivalent to a rise of 31.25 points. Although it has not yet exceeded the minimum mastery criterion of 75, this increase is a pedagogically meaningful achievement. Widiyanto & Putra, (2021) emphasizing that success for students with special needs is not solely measured by achieving certain grades, but also by the extent of individual progress achieved. The individual scaffolding strategy provided in cycle II, in the form of more intensive verbal reinforcement and more explicit movement

examples, proved effective in promoting Nabil's development in accordance with the principles of Adaptive Physical Education.

In terms of learning activeness, the consistent increase from 40.00 (Less Active) to 58.75 (Moderately Active) and 72.50 (Active) reflects a real transformation in the engagement patterns of students with disabilities, from a passive attitude and full dependence on the teacher to becoming more proactive and enthusiastic. Nuraini & Ratnawati,(2022) classifying learning activity into five categories, including physical/motor, visual, verbal, mental, and emotional activity. The GBL model in this study was proven to activate all of these categories simultaneously because the designed games involve dynamic physical movements, comprehension of instructions, verbal interactions among students, as well as spontaneous engagement that reflects emotional and social activity. Solanus Dopo, et al., (2026) emphasizing that active learning is an indicator of the quality of the learning process that directly contributes to the depth of students' understanding.

Research data also shows a consistent correlation pattern between learning activity and movement creativity. Zezen, who had the highest activity score throughout the study, also obtained the highest movement creativity score in cycle II (81.25), while Nabil, who had the lowest activity score, also had the lowest movement creativity score. This pattern indicates that the level of students' active involvement in GBL-based learning is directly proportional to the development of their movement creativity. Thus, GBL not only acts as a direct stimulus for movement creativity but also works indirectly through increasing learning activity as a prerequisite for the growth of movement creativity in students with disabilities.

The limitations of this study lie in the small number of subjects (4 students with special needs), so the generalization of the findings should be done with caution. In addition, the study was only conducted in 2 cycles with a limited duration, so further research with a longer duration is needed to observe the sustainability of the GBL intervention's impact. The main contribution of this study is providing empirical evidence that a

simple GBL-based game model designed inclusively and gradually can be an effective solution for enhancing movement creativity and learning activity of students with special needs in the context of physical education at elementary schools.

#### **D. Conclusion**

Based on the research results and discussions that have been outlined, it can be concluded that the implementation of a simple game model based on Game-Based Learning effectively enhances motor creativity and learning activeness of students with special needs in the Physical Education, Sports, and Health (PJOK) subject for class I-A at SDN 2 Loktabat Selatan. Motor creativity increased from an average of 53.13 with 0% classical completeness in the pre-cycle condition, to 67.97 with 50% completeness in cycle I, and reached 76.56 with 75% completeness in cycle II, surpassing the set target. Learning activeness consistently improved from the Less Active category to Active. This improvement was achieved through a gradual, inclusive game design that provides

safe motor exploration space, along with individual scaffolding strategies for students who need extra attention.

Based on these findings, it is recommended for PJOK teachers to adopt the Game-Based Learning model as one of the main approaches in designing inclusive learning, especially for classes with students with special needs, by paying attention to the importance of a gradual game design, rich in movement stimulus variations, and providing a safe space for each student to explore. For future researchers, it is recommended to study the GBL model with a larger number of subjects, more diverse characteristics of students with special needs, as well as to measure the long-term impact of GBL interventions on the development of movement creativity in students with special needs.

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