International Journal of Education, Vocational and Social Science
https://e-journal.citakonsultindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

Improving First-Grade Students' Learning Outcomes In Basic Locomotor Running Skills Through The 3 Dara Game Approach At Gedanganak 02 Public Elementary School

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Abstract

This study aimed to improve students' learning outcomes in basic locomotor running skills through the 3 Dara game approach among first-grade students at Gedanganak 02 Public

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Elementary School, Semarang Regency. The study was motivated by students' limited ability to perform basic running movements effectively and consistently, as only 5 of 28 students (18%) demonstrated adequate performance. This classroom action research was conducted in two cycles, each consisting of planning, action implementation, observation, and reflection. The participants were 28 first-grade students. Data were collected through observations, field notes, documentation, and learning outcome assessments. The intervention involved implementing a modified 3 Dara game tailored to the characteristics and abilities of first-grade students. The findings indicated an improvement in students' learning outcomes following the implementation of the 3 Dara game approach. In Cycle I, the class average score was 77.36, with 20 students (71.43%) achieving the minimum mastery criterion (75). Following instructional improvements in Cycle II, the average score increased to 82.86, and all 28 students (100%) achieved the criterion. These findings suggest that the 3 Dara game approach can improve learning outcomes in basic locomotor running skills while providing students with opportunities to engage in physical activities in a more active and enjoyable learning environment.

Keywords: locomotor skills, running, 3 Dara game, learning outcomes, elementary school students.

INTRODUCTION

Physical Education, Sports, and Health (PJOK) plays a fundamental role in establishing the foundational motor capabilities of elementary school students. The physical education curriculum is structured to provide structured learning experiences through diverse movement activities, games, sports, and health education tailored to children's developmental stages. Fun and student-centered physical learning environments are expected to enhance learning motivation and build lifelong physical activity habits from an early age (Faisal et al., 2024) .

To realize these ideal learning conditions, Jerome Bruner highlighted that discovery learning allows students to discover underlying concepts by actively participating directly in the learning process (Harja et al., 2023) , which in physical education manifests through direct movement execution. Furthermore, (Alaska et al., 2024) demonstrated that applying a play-based approach significantly improves learning outcomes in locomotor, non-locomotor, and manipulative basic movements. Structuring physical learning through playful activities

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encourages students to become more active, motivated, and enthusiastic, thereby positively affecting their fundamental motor skills.

However, field observations conducted in the first-grade class during teaching practice revealed a discrepancy between ideal expectations and classroom reality. Diagnostic evaluations and teaching experiences at SD N Gedanganak 02 indicated low mastery of running fundamental locomotor movements. Specifically, only 5 out of 28 students (18%) executed running movements correctly and consistently, whereas the remaining 23 students (82%) required substantial improvement to reach the Minimum Mastery Criterion (KKM = 75).

This sub-optimal mastery was driven by several underlying factors, primarily low student engagement during learning activities. Additionally, conventional and unvaried teaching methods resulted in decreased learning motivation. Consequently, students easily experienced boredom and lacked enthusiasm, leading to poor attention and non-compliance with instructional guidelines. This reduced overall instructional effectiveness and hampered students' acquisition of running motor skills.

To address these pedagogical challenges, an intervention was implemented using the "3 Dara" (Tic Tac Toe) game approach. This approach was selected as an innovative learning strategy to enhance the mastery of basic running locomotor movements in Grade 1. The "3 Dara" game is engineered to stimulate students to execute running movements dynamically as a requirement to complete game tasks. By embedding learning within an enjoyable play structure, students remain engaged, highly motivated, and physically active throughout the session. Therefore, the application of the 3 Dara game approach aims to create an engaging learning atmosphere, elevate student participation, and uniformly optimize fundamental running motor skill outcomes. The primary research question is: How can the application of the 3 Dara game approach improve running fundamental locomotor skill outcomes among first-grade elementary school students?

METHOD

This study employed a Classroom Action Research (CAR) design based on the action research framework proposed by McNiff & Whitehead (2002, 2011). This model operates on an evolutionary-spiral pathway driven by continuous reflective inquiry across six dynamic stages within each cycle: Review, Identify, Imagine, Implement, Evaluate, and Modify (Figure 1). The study was conducted at SD N Gedanganak 02, Semarang Regency, Central Java, during the even

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semester of the 2025/2026 academic year over a three-week period in May 2026. The research subjects comprised all 28 first-grade students (Class I).

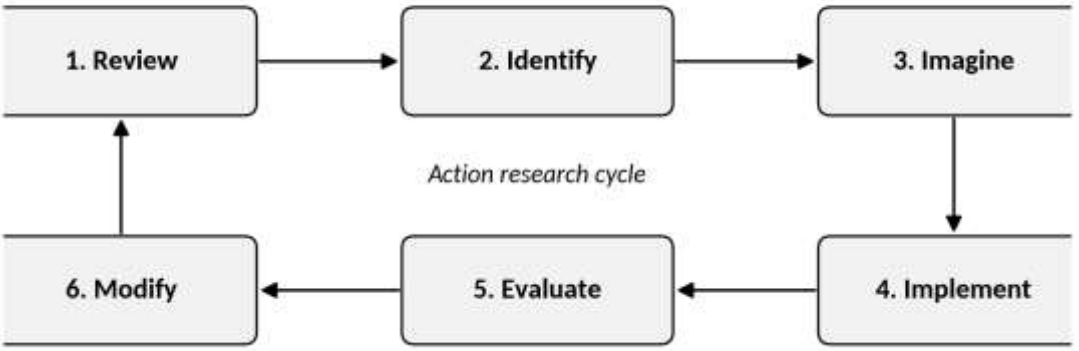


Figure 1. Six-stage action research cycle

In the **Review** stage, critical reflection was conducted on existing physical education practices, revealing repetitive and unexciting instructional methods that yielded poor running skill performances. In the **Identify** stage, the primary problem was operationally defined as low student achievement in fundamental running locomotor skills. During the **Imagine** stage, an instructional hypothesis was formulated, proposing that applying the 3 Dara game approach would increase student active engagement and motor achievement; this was operationalized into teaching modules and student worksheets.

In the **Implement** stage, teaching scenarios utilizing the 3 Dara game rules were executed in Class I, featuring randomized group assignments and structured play activities. During the **Evaluate** stage, quantitative and qualitative data were gathered simultaneously in collaboration with the mentor teacher using observation sheets, field notes, and skill performance assessments. Finally, in the **Modify** stage, operational shortcomings identified in Cycle I (such as congested movement lanes and long waiting times) were analyzed to adapt the teaching module and add extra running lanes for Cycle II.

Data collection techniques included:

1. **Observation:** Group physical activity observation sheets filled by the mentor teacher as an observer.

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2. **Field Notes:** Unstructured qualitative records used to capture technical challenges, unique behavioral changes, and emotional reactions.
3. **Documentation:** Photographs and video recordings documenting student game participation and task execution.

Qualitative data were analyzed using interactive analysis (data reduction, data display, and conclusion drawing). Quantitative active engagement percentages were calculated using Equation (1):

$$P = (f / N) \times 100\% \quad (1)$$

where P represents classical active participation percentage, f represents the number of active or highly active students, and N represents total student population (N = 28). The action intervention was benchmarked for success when at least 75% of the class (21 out of 28 students) achieved score mastery (≥ 75) and fell into the "Active" or "Very Active" categories.

RESULT

This Classroom Action Research (CAR) was conducted with 28 first-grade students at SD Negeri Gedanganak 02, Semarang Regency. The study took place during the even semester of the 2025/2026 academic year, spanning approximately three weeks in May 2026. It was carried out over two cycles, employing the "3 Dara" game approach to teach the fundamental locomotor movement of running.

The study aimed to improve student learning outcomes through learning activities that were more engaging, active, and enjoyable. Each cycle consisted of four stages: planning, action implementation, observation, and reflection.

Prior to the intervention, diagnostic evaluation results revealed that the students' proficiency in the fundamental locomotor movement of running was low. Out of the 28 students, only five (approximately 18%) were able to perform the running movement correctly and consistently. Meanwhile, 23 students (approximately 82%) required improvement to meet the established mastery criteria.

These findings prompted the researcher to implement the "3 Dara" game approach. This game served as a means to provide students with more opportunities to practice running movements while simultaneously boosting their engagement and motivation during the lesson. The individual skill scores obtained in Cycle I are presented in Table 1.

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Table 1. Student Learning Outcome Scores in Cycle I

Student No.	Score	Student No.	Score
1	74	15	74
2	74	16	74
3	84	17	78
4	84	18	84
5	72	19	84
6	76	20	78
7	80	21	74
8	74	22	74
9	76	23	80
10	76	24	74
11	80	25	82
12	84	26	82
13	84	27	74
14	76	28	72

Data analysis of Cycle I revealed a class average score of 77.36, ranging from a minimum of 72 to a maximum of 84. A total of 20 students (71.43%) achieved the KKM (≥ 75), while 8 students (28.57%) remained unmastered. Although this reflected marked progress over baseline data, classical mastery remained below the targeted 75% threshold, necessitating Cycle II.

Reflections from Cycle I guided instructional refinements for Cycle II. Modifications included restructuring groups, expanding game lanes to decrease queueing time, simplifying teacher demonstrations, and providing real-time movement feedback. The individual skill scores in Cycle II are summarized in Table 2.

Table 2. Student Learning Outcome Scores in Cycle II

Student No.	Score	Student No.	Score
1	76	15	82
2	80	16	76
3	88	17	88
4	86	18	88

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Student No.	Score	Student No.	Score
5	80	19	88
6	82	20	84
7	82	21	80
8	80	22	80
9	82	23	84
10	84	24	82
11	84	25	84
12	88	26	84
13	86	27	84
14	82	28	76

In Cycle II, the class average score rose to 82.86 (an increase of 5.50 points). The minimum score increased from 72 to 76, while the maximum score rose from 84 to 88. Most notably, all 28 students (100%) achieved mastery status (≥ 75). A comparative summary across Cycle I and Cycle II is detailed in Table 3.

Table 3. Comparison of Learning Outcome Indicators Between Cycle I and Cycle II

Indicator	Cycle I	Cycle II	Improvement
Total Students	28	28	-
Lowest Score	72	76	+4.00
Highest Score	84	88	+4.00
Mean Score	77.36	82.86	+5.50
Mastered Students (n)	20	28	+8 students
Classical Mastery (%)	71.43%	100.00%	+28.57%
Unmastered Students (n)	8	0	-8 students

The longitudinal progression from baseline conditions to Cycle II is outlined in Table 4.

Table 4. Mastery Progression Across Research Phases

Phase	Mastery Count (n)	Classical Mastery (%)
Baseline	5 of 28 students	18.00%

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Phase	Mastery Count (n)	Classical Mastery (%)
Cycle I	20 of 28 students	71.43%
Cycle II	28 of 28 students	100.00%

The results of the study indicate that the application of the 3 Dara game approach successfully improves student learning outcomes in fundamental running locomotor skills. This improvement is evident in the progressive development of learning achievement from the baseline condition through Cycle I to Cycle II. Under baseline conditions, students' ability to execute fundamental running locomotor movements was low. Out of 28 students, only 5 students (approximately 18%) performed running movements accurately and consistently. These baseline findings highlight that the majority of students required instructional interventions that provided expanded opportunities for direct physical practice. In Cycle I, the researcher introduced the 3 Dara game approach. Game-based instruction significantly increased student interest and allowed students to engage directly in physical activity. Students did not merely listen to teacher explanations; rather, they learned through practice and direct experience throughout the game.

The results of Cycle I yielded a class mean score of 77.36. A total of 20 out of 28 students (71.43%) achieved the Minimum Mastery Criterion (KKM = 75). Although these results demonstrated progress compared to baseline data, the classical mastery percentage had not yet fulfilled the research success benchmark of 75%. In addition to learning outcomes, the instructional process in Cycle I provided key insights regarding implementation constraints. Several students experienced extended waiting periods for their turns, resulting in unequal opportunities for active physical engagement. These operational limitations served as the basis for instructional reflection and refinements in Cycle II. In Cycle II, the researcher modified the management of the game. Group organization, running lanes, and turn rotation were restructured to maximize movement opportunities for each student. Furthermore, the teacher provided simplified instructions and demonstrations, accompanied by targeted guidance and continuous encouragement throughout the activity.

The results of Cycle II demonstrated an increase in the class mean score to 82.86, an increase of 5.50 points over Cycle I. The minimum score rose from 72 in Cycle I to 76 in Cycle II, and the maximum score rose from 84 to 88. The most notable improvement occurred in the classical mastery percentage, which increased from 71.43% to 100%. This progression indicates that the instructional modifications implemented in Cycle II yielded superior outcomes. All

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students successfully achieved the minimum passing score of 75, thereby meeting the research success criteria.

These empirical findings align with the literature on game-based learning, which posits that games foster more active, engaging, and meaningful Physical Education (PE) learning environments. Through games, students gain extensive opportunities to participate directly in various movement tasks. Furthermore, a game-based approach accommodates the developmental characteristics of elementary school students, who generally require instructional activities centered on direct physical participation. In mastering fundamental running locomotor skills, young learners need repeated practice opportunities to conceptualize and master movement patterns.

The 3 Dara game provided these practice opportunities within a captivating format. Students executed running movements not merely as repetitive technical drills, but as integral components of game play. Consequently, the learning process proceeded in an enjoyable manner while remaining strictly aligned with instructional goals. The progression of learning outcomes from Cycle I to Cycle II emphasizes the critical role of reflection in Classroom Action Research (CAR). Operational obstacles identified in Cycle I were systematically analyzed to inform instructional refinements in Cycle II. These targeted modifications ultimately contributed to enhanced student performance and full class mastery.

Based on the overall findings, it can be concluded that applying the 3 Dara game approach provides positive changes in learning fundamental running locomotor skills among first-grade students at SD Negeri Gedanganak 02, Semarang Regency. This improvement is reflected in the elevated mean score, the increased proportion of students achieving mastery, and the elimination of unmastered student cases. Accordingly, the 3 Dara game approach serves as an effective pedagogical alternative in Physical Education, Health, and Recreation (PJOK) instruction, particularly for fundamental running locomotor skills among lower-grade elementary school students. Game-based learning creates an active, attractive, and engaging atmosphere while offering students optimal opportunities for direct physical practice.

DISCUSSION

The theoretical underpinning of fundamental locomotor skill movement highlights that locomotor actions form part of Fundamental Movement Skills (FMS), allowing individuals to navigate their bodies through space. Motor development literature indicates that locomotor

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patterns—including walking, running, hopping, jumping, galloping, and changing directions—serve as essential building blocks for complex physical tasks (Liu et al., 2024) . In physical education, locomotor skills promote lifelong activity and sport participation (Sauqi Sawa Bikalawan et al., 2024) .(Yang et al., 2025) categorized FMS into locomotor skills (running, jumping), manipulative skills (throwing, catching), and stability skills (balance maintenance). Developing basic running skills during early elementary school provides the prerequisite foundation for advanced athletic performance.

Game-oriented instructional approaches enhance active, engaging, and meaningful movement experiences. Rather than focusing solely on repetitive technique drills, game interventions promote decision-making, problem-solving, social communication, and peer collaboration (Silva et al., 2021) .(Yan et al., 2023) emphasized that game-based learning in elementary physical education drives physical activity volume while advancing movement skill development, providing a dynamic alternative to traditional drill-oriented pedagogy. These findings align with (Dese et al., 2025) , who found that game-based learning boosts student motivation and fundamental motor skills by offering broad movement opportunities within a supportive, enjoyable environment. Beyond motor proficiency, game strategies positively influence physical fitness components, including endurance, speed, agility, and strength (Yuliawan et al., 2025).

From a cognitive-developmental perspective, (Bruner, 1961) proposed three modes of representation: enactive (action-based learning), iconic (image-based), and symbolic (language-based). The enactive stage is paramount in motor skill acquisition, as young learners internalize movement concepts through direct bodily execution rather than passive verbal explanations. (Bruner, 1961) emphasized that effective instruction enables students to discover motor concepts through trial, experience, and self-correction. Prior empirical evidence supports these theoretical claims: Puspitasari, Hartati, and Nasikin (2023) confirmed that play approaches improve motor learning outcomes in early childhood; (Febriani & Prabowo, 2023) demonstrated that play methods expand active motor practice opportunities in third-grade students; and (Gery & Aspar, 2021) showed that game interventions significantly elevate learning performance in basic walking, running, and jumping skills.

The empirical findings of this study corroborate these theoretical framework perspectives. The shift from a low baseline mastery (18%) to complete classical mastery (100%) in Cycle II underscores the efficacy of the 3 Dara game. By integrating the Tic Tac Toe mechanic

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into a running relay format, running was transformed from an isolated physical drill into an engaging tactical game. The reflective iterations between Cycle I and Cycle II demonstrate the importance of action research in identifying movement bottlenecks (e.g., lane congestion) and adjusting parameters to optimize physical active learning time for all students.

CONCLUSION

Based on the results of the Classroom Action Research conducted over two cycles, implementing the "3 Dara" (Tic Tac Toe) game approach effectively improves the learning outcomes of basic running locomotor skills among first-grade students at SD Negeri Gedanganak 02. Student performance improved progressively across instructional phases. Baseline mastery was limited to 18% (5 students). In Cycle I, the class average reached 77.36 with a classical mastery rate of 71.43% (20 students). Following targeted pedagogical refinements in Cycle II—focusing on optimized lane setups and group management—the class average increased to 82.86, and classical mastery achieved 100% (28 students), with the lowest score rising to 76 and the highest score to 88. Game-based learning provided an active, enjoyable, and developmentally appropriate medium that maximized direct movement practice for young learners.

REFERENCES

Alaska, A., Wahyudi, A., Dinata, V., & Sndiko. (2024). MENINGKATKAN HASIL BELAJAR GERAK DASAR LOKOMOTOR, NONLOKOMOTOR DAN MANIPULATIF MELALUI PENERAPAN PENDEKATAN BERMAIN. Jurnal Review Pendidikan Dan Pengajaran.

Bruner, J. (1961). Bruner, J. S. (1961). The Act of Discovery. Harvard Educational Review, vol. 31. pp. 21-32.

Dese, D., Wibowo, C., Widyanintyas, R., & Nopiyanto, Y. (2025). Edu Sportivo Indonesian Journal of Physical Education Game-based learning to enhance motivation and fundamental motor skills in elementary physical education: a quasi-experimental study. https://doi.org/10.25299/es:ijope.2025.vol6(3).25032

Faisal, M., Arismunandar, Suardi, & Mas'ud, M. (2024). M. FaiKurikulum Pendidikan Jasmani Olahraga dan Kesehatan (PJOK) di Sekolah Dasarsal 2024. Journal.

Febriani, H., & Prabowo, A. (2023). Implementasi Pembelajaran Dengan Metode Bermain Dalam Meningkatkan Kemampuan Gerak Dasar Lokomotor Siswa Kelas III Sd Negeri 38 Kota Bengkulu Implementation Of Learning With The Play Method In Improving The Basic

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Locomotor Movement Ability Of Grade III students of SD Negeri 38 Bengkulu City. 4(2), 201–215. https://doi.org/10.33369/gymnastics

Gery, M. I., & Aspar, M. (2021). Upaya Meningkatkan Hasil Belajar Gerak Dasar (Jalan, Lari dan Lompat) Melalui Model Pendekatan Bermain. In Jurnal Kepelatihan Olahraga SMART SPORT (Vol. 18).

Harja, A. A., Rahmat, A., & Mutiara Banten, S. (2023). Pengaruh Metode Pembelajaran Project Based Learning Dan Metode Pembelajaran Discovery Learning Terhadap Hasil Belajar Keterampilan Chest Pass Dalam Permainan Bola basket. JURNAL PENDIDIKAN MUTIARA.

Liu, D., Huang, Z., Liu, Y., & Zhou, Y. (2024). The role of fundamental movement skills on children's physical activity during different segments of the school day. BMC Public Health, 24(1). https://doi.org/10.1186/s12889-024-18769-3

Sauqi Sawa Bikalawan, Muchamad Arif Al Ardha, Nanik Indahwati, & Andhega Wijaya. (2024). Profile Basic Locomotor Movement Skills in Students Elementary School Age 9-10 Years. International Journal of Educational Development, 1(3), 36–44. https://doi.org/10.61132/ijed.v1i3.53

Silva, R., Farias, C., Ramos, A., & Mesquita, I. (2021). Implementation of Game-Centered Approaches in Physical Education: A Systematic Review. Journal of Physical Education and Sport, 21, 3246–3259. https://doi.org/10.7752/jpes.2021.s6443

Yan, J., Jones, B., Smith, J. J., Morgan, P., & Eather, N. (2023). A Systematic Review Investigating the Effects of Implementing Game-Based Approaches in School-Based Physical Education Among Primary School Children. Journal of Teaching in Physical Education, 42(3), 573–586. https://doi.org/10.1123/jtpe.2021-0279

Yang, Y., Mao, X., Li, W., Wang, B., & Fan, L. (2025). A meta-analysis of the effect of physical activity programs on fundamental movement skills in 3–7-year-old children. Frontiers in Public Health, 12. https://doi.org/10.3389/fpubh.2024.1489141

Yuliawan, E., Kartika, L., Yuliani, D., Sihombing, D., & Febrianto, R. (2025). KAJIAN LITERATUR MENGENAI HUBUNGAN PENDIDIKAN JASMANI DENGAN KESEHATAN MENTAL PESERTA DIDIK. Pendas : Jurnal Ilmiah Pendidikan Dasar.

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