

Improving Gross Motor Abilities Of 4-5 Year Old Children Through The Game Of Throwing And Catching A Ball At Ra Syifa'unnufus

Saofiya¹, Musafir², Fitriani Rahayu³

¹²Program Studi Pendidikan Guru Pendidikan Anak Usia Dini, STKIP Hamzar

³Program Studi Pendidikan Guru Sekolah Dasar, STKIP Hamzar

Article Info

Article history:

Accepted: 25 July 2026

Published: 17 September 2026

Keywords:

Gross Motor Skills;
Early Childhood;
Ball Throwing and Catching;
CAR.

Abstract

This research is motivated by the low gross motor skills of children aged 4–5 years in Class B of RA Syifa'unnufus, Bayan District, North Lombok Regency, particularly in the ability to throw and catch a ball. Gross motor skills need to be developed from an early age because they play an important role in movement coordination, balance, and children's physical development. This study aims to improve children's gross motor skills through ball throwing and catching activities. The method used is Classroom Action Research (CAR) conducted in two cycles, including the stages of planning, implementation, observation, and reflection. The research subjects were 17 children in Class B of RA Syifa'unnufus for the 2025/2026 academic year. Data collection techniques used were observation and documentation, analyzed descriptively quantitatively. The results showed an increase in classical completeness from the pre-cycle condition of 17.65% (3 children), increasing in Cycle I to 58.82% (10 children), and in Cycle II reaching 88.24% (15 children). In conclusion, descriptively, the application of ball throwing and catching games is able to improve the gross motor skills of children aged 4–5 years at RA Syifa'unnufus. Because this study is descriptive in nature and does not use inferential statistical testing, this improvement is not interpreted as a statistically proven causal effect.

This is an open access article under the [Creative Commons Attribution-ShareAlike 4.0 International License](#)



Corresponding Author:

Saofiya

STKIP HAMZAR, Indonesia

Email Correspondent: saofiyakim@gmail.com

1. INTRODUCTION

Early Childhood Education (PAUD) is a crucial early stage of education, with the age range of 0 to 6 years known as the golden age. During this period, children experience rapid physical, cognitive, language, and socio-emotional growth and development (Utami, 2022). According to Khadijah & Amelia (2021), all aspects of child development require appropriate stimulation from their environment, both family and educational institutions, to achieve optimal maturity and progress to the next level of education.

One crucial aspect that requires serious attention in early childhood is physical motor development, particularly gross motor skills. Gross motor skills relate to a child's ability to move the large muscles of the body, such as the coordination of the arms, legs, and trunk (Hasanah, 2021). This ability underpins a child's freedom of movement, which impacts independence and self-confidence (Nursalam, 2021). Through mature gross motor skills, children can carry out daily activities independently, develop spatial orientation, and actively explore their surroundings

(Hartanto, 2021; Suryana, 2021). Gross motor activity is also believed to provide direct stimulation to the brain's central nervous system, accelerating neural connections (Sari & Wijaya, 2022).

Based on pre-cycle observations conducted on 4–5-year-old children in Class B RA Syifa'unnufus, Bayan District, North Lombok Regency, problems related to low gross motor development were found. Of the 17 students, the percentage of classical completion of gross motor skills only reached 17.65% (3 children completed). Most children still experienced significant difficulties when faced with activities that require eye-hand coordination, especially throwing and catching a ball. Some children appeared unable to direct the ball to the target; their throwing power was less measurable, and they were slow in responding to the ball's arrival, resulting in frequent falls. In addition, children often appeared to lack balance and appeared to lack confidence when involved in physical activities.

This problem must be addressed immediately because, if left untreated, children could potentially experience developmental delays in later stages, difficulty participating socially during play, and be at risk of irregular sleep patterns and metabolism due to a lack of physical energy movement (Rahayu & Prasetyo, 2021). Therefore, an engaging, enjoyable, and effective educational approach or intervention is needed.

Research by Candra et al. (2023) and Hanum & Rohita (2021) demonstrated that physical education activities modified into games are highly effective in improving children's gross motor skills and motor coordination. One alternative game that can be implemented is throwing and catching a ball. According to Setyawan & Hadi (2021), manipulative movements such as throwing and catching stimulate visual focus and motor speed in a synchronized manner. Through this activity, children's arm and shoulder muscles are repeatedly trained in a fun environment without them realizing they are learning (Dianti, 2024).

However, a critical review of these studies also reveals a gap that has not been fully addressed. Candra et al. (2023) and Hanum & Rohita (2021) measured gross motor skills in general terms through a variety of modified physical activities, so that the specific contribution of throwing and catching a ball as a single intervention cannot be identified. Setyawan & Hadi (2021) and Dianti (2024) have discussed manipulative movements, but have not explained in detail the modifications of the action, such as the regulation of throwing distance and the management of turn-taking, that are required when the activity is carried out in a class with limited play equipment. In addition, most of these studies were conducted in urban early childhood institutions with relatively adequate facilities, so that their findings cannot be directly generalised to Raudhatul Athfal (RA) in rural areas whose learning resources are limited. This gap, namely the absence of a structured and contextual study of the ball throwing and catching game that is measured through specific observation indicators in a rural RA setting, is the main reason for conducting this research.

Considering the urgency above, this study aims to investigate the implementation of a structured and measurable ball throwing game to improve gross motor skills in 4-5 year old children in class B of RA Syifa'unnufus in the 2025/2026 academic year. The results of this study are expected to provide a reference for PAUD practitioners in varying methods of developing children's physical motor skills.

2. METHOD

This research uses qualitative and quantitative approaches within the framework of Classroom Action Research (CAR). The CAR design used refers to the spiral cycle model by Kemmis and McTaggart, which consists of four main stages in each cycle: (1) Planning, (2) Acting, (3) Observing, and (4) Reflecting (Arikunto, 2021; Sugiyono, 2021).

The research was conducted at RA Syifa'unnufus, located in Sambik Elen Village, Bayan District, North Lombok Regency, during the even semester of the 2025/2026 academic year. The subjects were 17 Grade B students aged 4 to 5 years. This selection was based on the needs of the

class, where most children still have gross motor skills below developmental expectations for their age.

The data collection techniques applied include direct observation (using a structured participatory observation sheet) and documentation (taking photos and videos of children's activities and Daily Learning Implementation Plan/RPPH documents). The observation instrument assesses five main indicators, namely: (1) Accuracy of throwing direction, (2) Ability to catch the ball, (3) Eye and hand coordination, (4) Body balance when throwing/catching, and (5) Enthusiasm/Involvement. Each aspect is assessed using a development scale: Not Yet Developed (BB), Starting to Develop (MB), Developing as Expected (BSH), and Developing Very Well (BSB).

The five indicators of the observation instrument were not formulated arbitrarily. These indicators were derived from the Standards of Child Development Achievement (STPPA) for the 4–5 year age group in the physical-motor aspect, particularly the ability to perform coordinated eye, hand, and foot movements and to throw and catch objects in a directed manner, and were further elaborated from theoretical studies of manipulative movements in early childhood (Setyawan & Hadi, 2021; Hasanah, 2021). Each indicator was equipped with behavioural descriptors for the four levels of the scale (BB, MB, BSH, BSB) so that all observers referred to the same criteria. The content validity of the instrument was obtained through expert judgment involving the supervising lecturer in early childhood education as an academic validator and the Class B teacher as a practitioner; the validators' suggestions were used to revise the wording of the descriptors before the instrument was applied in the field. To maintain consistency of scoring, observations were conducted by two observers, namely the researcher and the class teacher, on the same children, and any differences in scoring were discussed to reach an agreement before the data were tabulated.

The data analysis technique used was quantitative descriptive statistics to calculate individual and classical mastery. The criteria for success of the action or Performance Indicator (PI) were determined classically, namely if at least 80% (approximately 14 children) of the total students in the class achieved a mastery score in the category of Developing According to Expectations (BSH) or Developing Very Well (BSB) (Sudjana, 2022). The formula for classical mastery is:

$$\text{Classical Completion} = (\text{Number of Students Completed} / \text{Total Students}) \times 100\%$$

3. RESULTS AND DISCUSSION

3.1 Research Results

The implementation of this classroom action research was divided into pre-cycle, cycle I, and cycle II stages. Based on pre-cycle observations, the data obtained showed that children's gross motor skills in throwing and catching balls were still very low. The data showed that only 3 of 17 children (17.65%) achieved the Minimum Completion Criteria (KKM). The other 14 children fell into the Beginning to Develop (MB) and Not Yet Developing (BB) categories. This indicates the urgent need for structured, concrete actions in the classroom.

In Cycle I, the researcher implemented the Daily Learning Implementation Plan (RPPH) with a ball-throwing and catching activity on the Animals theme (Cats and Birds Subtheme). Children were given guidance on correct body position, how to open their palms, and how to swing their arms. However, observations from Cycle I showed several obstacles. Children did not appear to be fully focused; some fought over the ball, and visual-motor coordination was not yet in sync. The assessment results in Cycle I showed that the number of children who completed the activity increased to 10 children (58.82%), but this figure did not reach the targeted success performance indicator of 80%.

Through reflection on Cycle I, the researcher designed improvements for Cycle II. The improvements implemented were the use of turn cards to train queue discipline, the addition of star stickers as rewards for cooperative children who successfully catch the ball, and shortening the throwing distance in the initial stage before gradually widening it (motor scaffolding). In the

implementation of Cycle II with the theme of Pets (Ornamental Fish and Rabbits), the children appeared very enthusiastic, orderly, and showed noticeable improvements in controlling the direction of the throw and reflexes in catching the ball.

The results of Cycle II observations demonstrated the effectiveness of these corrective actions. The number of children achieving the completion level (BSH) increased to 15 (88.24%), leaving 2 (11.76%) still in the Beginning to Develop (MB) stage. Given that the results exceeded the 80% success indicator, the cycle was terminated at Cycle II.

Table 1. Comparison of Children's Gross Motor Learning Completion

Information	Pre-Cycle	Cycle I	Cycle II
Number of Children Completed	3	10	15
Number of Children Not Yet Completed	14	7	2
Classical Completion Percentage	17,65%	58,82%	88,24%

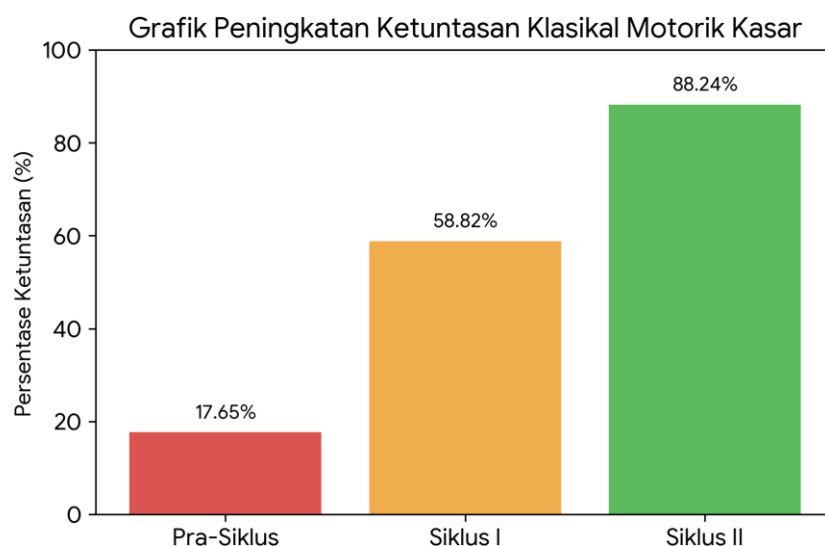


Figure 1. Graph of Improvement in Children's Ball Throwing Game Ability

3.2 Discussion

Based on the graphs and presentation of research data, it is clear that the implementation of the ball throwing and catching game method has a positive, tiered impact on the gross motor development of class B children at RA Syifa'unnufus. The jump in completion from the pre-action condition of 17.65% to 88.24% at the end of Cycle II tends to be in line with the learning theory that emphasizes active and contextual learning in early childhood.

According to Mariyana (2021) and Kusuma (2022), structured physical activity combined with play-based learning not only trains children's skeletal muscle strength but also creates social-emotional stimuli that increase children's motivation. When children play ball in groups or pairs, they are practicing sensory synchronization: the eyes see the direction the ball is coming from, while the brain processes the speed and instructs the hands to catch it quickly and swiftly. This is in line with the findings of Nurmalia et al. (2023), who emphasized that manipulative movements in throwing a ball are the main foundation in uniting children's kinesthetic and visual intelligence.

The success of the surge in achievement in Cycle II was inseparable from the improvement strategies added by the researchers, such as the implementation of visual rewards (star stickers), visualized turn-taking rules with cards, and distance modification (scaffolding).

According to Widiyanti & Sari (2021), spacing and gradually increasing movement challenges (incremental challenges) are crucial in building the self-confidence of children who are initially afraid or reluctant to participate due to fear of failure. These habits are then internalized, so that children not only become adept at throwing the ball but also stabilize their dynamic body balance. This finding is consistent with research by Dianti (2024), which states that group physical play in children can stimulate physical independence while reducing social anxiety in early childhood.

Nevertheless, these findings need to be positioned critically and not merely as a confirmation of previous studies. First, the increase in classical completeness in this study appears larger than that reported by Candra et al. (2023) and Hanum & Rohita (2021); however, this difference cannot be read as the superiority of the method, because the number of subjects, the duration of the action, the observation indicators, and the mastery criteria used are not identical, so the results are not directly comparable. Second, unlike Nurmalia et al. (2023), who examined the relationship between body movement activity and gross motor skills through statistical testing, the present study is descriptive in design, involves a single class, and has no control group, so the improvement obtained cannot be attributed causally and exclusively to the ball throwing and catching game. Natural maturation during the period of action, the children's increasing familiarity with the observed tasks due to repeated measurement, and the position of the researcher who also acted as an observer remain rival explanations that have not been ruled out. Third, the argument of Widiyanti & Sari (2021) regarding incremental challenges is only partially supported by these data: two children (11.76%) remained in the Beginning to Develop category until the end of Cycle II even though they received the same scaffolding treatment. This indicates that motor scaffolding is not a single solution that works uniformly, and that individual factors such as initial muscle strength, temperament, and attendance rate, which have rarely been examined in the studies above, need to be taken into account in subsequent research.

4. CONCLUSION

Based on the analysis of the results of Classroom Action Research (CAR) conducted for two cycles, it can be concluded that the application of the ball throwing and catching game method is able to consistently improve the gross motor skills of children aged 4–5 years in class B RA Syifa'unnufus, Bayan District, North Lombok Regency in the 2025/2026 Academic Year. This increase is described quantitatively and descriptively through the percentage of classical completeness, which moves from 17.65% in the pre-cycle stage, increases to 58.82% at the end of Cycle I, and successfully jumps to reach 88.24% at the end of Cycle II, exceeding the targeted 80% success indicator.

In addition to improvements in throwing and catching skills, this study also confirmed positive side effects in the form of improved social skills such as patience in queues, teamwork, communication, and increased enthusiasm for learning. Therefore, it is recommended that early childhood education teachers regularly integrate physical activities with manipulative play tools such as balls into the curriculum, accompanied by the use of rewards and adaptive modification of movement challenges.

This study also has limitations that need to be stated. The design used is descriptive classroom action research in one class with 17 subjects, without a comparison group and without inferential statistical testing, so the conclusions above apply within the context of RA Syifa'unnufus and should not be generalised broadly or interpreted as a statistically tested causal relationship. Further studies with a larger number of subjects, a comparison group, and inferential analysis are needed to test the consistency of these findings.

5. BIBLIOGRAPHY

Arikunto, S. (2021). *Penelitian Tindakan Kelas: Edisi Revisi Terbaru*. Jakarta: Bumi Aksara.

- Candra, M., Putra, B., & Setiawan, R. (2023). Peran Pendidikan Jasmani dalam Mengembangkan Motorik Kasar Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(1), 112-120.
- Dianti, A. (2024). Peningkatan Kemampuan Motorik Kasar Melalui Kegiatan Gerak dan Lagu Berbasis Bermain. *Jurnal Pendidikan Anak*, 10(2), 45-56.
- Hanum, R., & Rohita, Y. (2021). Sastra dan Aktivitas Tubuh dalam Peningkatan Motorik Kasar Anak. *Jurnal Pendidikan Anak Usia Dini Nusantara*, 5(3), 200-210.
- Hartanto, R. (2021). Eksplorasi Dunia Anak Melalui Perkembangan Motorik Kasar. *Jurnal Ilmiah Tumbuh Kembang*, 4(1), 32-41.
- Hasanah, U. (2021). Perkembangan Fisik Motorik Anak Usia Dini: Teori dan Praktik. *Jurnal PAUD Terpadu*, 5(2), 77-85.
- Khadijah, K., & Amelia, R. (2021). Perkembangan Fisik Motorik Anak Usia Dini. Jakarta: Kencana Prenada Media.
- Kusuma, D. (2022). Identitas dan Minat Anak Melalui Aktivitas Fisik di Lingkungan Sekolah. *Jurnal Psikologi Pendidikan Usia Dini*, 6(1), 18-29.
- Mariyana, R. (2021). Pengaruh Interaksi Sosial Terhadap Perkembangan Motorik dalam Permainan Kelompok. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 5(2), 101-115.
- Nurmalia, S., Nurlinda, H., & Azzahra, F. (2023). Hubungan Aktivitas Gerak Tubuh dengan Motorik Kasar Anak Usia Dini. *Jurnal Edukasi Anak Usia Dini*, 8(3), 255-263.
- Nursalam, M. (2021). Kemandirian Anak Usia Dini Melalui Stimulasi Motorik Kasar Terprogram. *Jurnal Ilmiah Pendidikan dan Pembelajaran*, 7(4), 110-119.
- Rahayu, P., & Prasetyo, B. (2021). Pola Tidur, Nutrisi, dan Aktivitas Motorik Kasar pada Anak Pra-Sekolah. *Jurnal Kesehatan Anak Terpadu*, 3(2), 55-63.
- Sari, D. P., & Wijaya, K. (2022). Stimulasi Sistem Saraf Pusat Melalui Motorik Kasar Anak Usia Dini. *Jurnal Neurologi Edukasi*, 4(1), 22-34.
- Setyawan, Y., & Hadi, P. (2021). Permainan Manipulatif dalam Mengoptimalkan Pembelajaran PAUD. *Jurnal Pendidikan Olahraga dan Kesehatan*, 9(1), 40-52.
- Sudjana, N. (2022). Penilaian Hasil Proses Belajar Mengajar: Edisi Revisi. Bandung: PT Remaja Rosdakarya.
- Sugiyono. (2021). Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, Kombinasi, R&D, dan Penelitian Pendidikan). Bandung: Alfabeta.
- Sujiono, Y. N. (2022). Konsep Dasar Pendidikan Anak Usia Dini (Edisi Keempat). Jakarta: PT Indeks.
- Suryana, D. (2021). Pendidikan Anak Usia Dini: Teori dan Praktik Pembelajaran Inovatif. Jakarta: Kencana.
- Utami, S. (2022). Dimensi Perkembangan Kognitif dan Motorik Anak PAUD Era Modern. *Jurnal Edukasi PAUD Nasional*, 2(1), 11-20.
- Widiyanti, R., & Sari, M. (2021). Gerakan Statis dan Dinamis serta Keseimbangan Postural