



Development of Basic Movement Pattern Games Phase B Elementary School Level in Karangwidoro Village

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ABSTRACT

Based on the results of observations and interviews at SDN Karangwidoro 1 and SDN Karangwidoro 2, students' basic movement patterns are very lacking. Since 2017, SDN Karangwidoro 2 has not had a sports teacher, so students' gross motor skills are lacking. Meanwhile, at SDN Karangwidoro 1, there is a lack of game innovation. This research aims to develop a phase B basic pattern game that can be used at the elementary school level, especially in Karangwidoro Village. This game is designed to improve students' gross motor skills and support the physical and mental development of children at the elementary school level. The development process was carried out using the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, which includes needs analysis, game design, prototype development, implementation in elementary schools, and evaluation of the game's effectiveness. The UI test subjects used in this research were 42 students in grades 3 and 4 at an elementary school in Karangwidoro village. The results of the game expert validation showed 93%, learning expert validation 97%, media expert validation 95% and field trial results 93%. The results of the research show that the basic movement pattern game in Phase B, which was developed, was able to improve students' movement skills in the aspects of coordination, balance, agility, and physical strength. Thus, it is hoped that this game can be an effective means of supporting basic movement learning in elementary schools in Karangwidoro Village and can be used as a reference for developing a more innovative and interesting physical curriculum.

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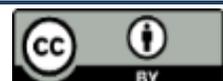
AUTHORS' CONTRIBUTION

- Conception and design of the study;
- Acquisition of data;
- Analysis and interpretation of data;
- Manuscript preparation;
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INTRODUCTION

Education is a deliberate effort to pass down culture from one generation to the next. Through education, the current generation is shaped to become role models, just like the previous generation that served as a source of learning. Up to this day, the definition of education has not been fully and definitively formulated due to its broad and complex scope, which aligns with its main subject, human beings. This complexity is what often leads education to be regarded as a distinct field of study, namely the science of Education (Munandar & Yumriani, 2022).



Education encompasses all types of lifelong learning processes that occur anywhere and under any circumstances, contributing positively to an individual's personal growth and development (Pristiwanti et al., 2022). In the legislation on the education system No. 20 of 2003, education is defined as a conscious and planned effort to create a learning environment that encourages students to actively maximize their potential. The goal is for them to develop spiritual strength in religion, self-control, good character, intelligence, noble morals, and the skills needed for themselves and society. According to the *Kamus Besar Bahasa Indonesia* (KBBI), the term 'pendidikan' (education) is derived from the root word 'didik' (to educate), with the prefix 'pe-' and suffix '-an', implying a process, method, or effort to provide guidance. Broadly, education includes the entire process of acquiring knowledge and learning experiences that occur throughout life, in various places and situations, and which positively impact personal development. Education is a lifelong process (Pristiwanti et al., 2022). Education, in a broader sense, can be understood as an integral part of life itself. This means that education encompasses the entire process of learning and absorbing knowledge that takes place throughout life, in various places and situations, and contributes positively to each individual's development. However, compared to countries in the ASEAN region, the quality of education in Indonesia is still considered low. This is reflected in the Human Development Index (HDI) report of 2003, where Indonesia ranked 112th with a score of 0.682 out of a total of 175 countries. This ranking is still far behind Singapore (28th with a score of 0.888), Brunei Darussalam (31st with a score of 0.872), Malaysia (58th with a score of 0.790), Thailand (74th with a score of 0.768), and the Philippines (85th with a score of 0.751) (Ardika et al., 2017).

Physical education is essentially an inseparable component of the overall structure of education, with the aim of exploring various aspects, including the improvement of physical fitness (Nuari et al., 2014). Physical education is understood as a learning process carried out through physical activities, games, or sports that are selectively chosen to achieve educational goals (Husdarta, 2015). According to Junaedi (2016) in the journal (Akbar & Hariyanto, 2022), physical education is considered one of the main components closely related to the entire education system and plays an important role in supporting the achievement of national education goals. Developing meaningful educational experiences in physical education for lifelong movement involves supporting students in exploring their personal experiences in movement and using them to gain deeper insights into themselves (O'Connor, 2019). This subject is compulsory and is taught from elementary education through secondary to higher or vocational education levels. This indicates that physical education is a crucial element in the overall education system. The main goal of physical education is to provide opportunities for students to engage in various activities that help nurture and develop their potential, covering physical, mental, social, emotional, and moral aspects. In general, the objectives of physical education encompass three main domains: cognitive (knowledge), affective (attitude), and psychomotor (skills), which complement one another as a unified whole. There are three types of learning processes in schools: intracurricular, co-curricular, and extracurricular. According to the National Education Standards Agency (2006:648), the

primary goal is to develop various dimensions such as physical fitness, motor skills, critical thinking abilities, social interaction, logical reasoning, emotional stability, ethical behavior, a healthy lifestyle, and concern for environmental cleanliness. All of these achievements are pursued through physical activities, sports, and health education that are systematically and strategically organized to support the attainment of national education goals. In this process, educators play an important role as mentors and facilitators in assisting students throughout the learning process (Nyoman, 2022).

Learning can be defined as a process in which a connection occurs between students, teachers, and various learning resources within a conducive environment. The goal of learning is the outcome expected by educators in conducting the learning process. This goal also serves as a guide to direct classroom learning activities. In designing a lesson, a teacher aims to achieve these goals optimally. One step toward achieving these goals is that teachers must understand the stages of the learning process. These stages include the opening activity, the main activity, and the closing activity (H. Faizah & Kamal, 2024). One method to achieve the learning objectives of Physical Education, Sport, and Health (PJOK) is by improving the quality of standards, as these standards are crucial elements in the education system that play a significant role in realising national education goals (Pambudi et al., 2019). The motor learning process consists of three stages: the cognitive stage, the associative stage, and the autonomous stage. A PJOK teacher needs to understand these three stages, as each student has different levels of growth, development, and the ability to comprehend various movement concepts. Therefore, the use of diverse learning media is needed to help students better understand movement. The choice of learning methods should also align with the material being taught and the conditions of the school. Additionally, evaluation should focus more on the learning process rather than just the outcome (Mulya, 2021).

Learning is a process or system that is planned and structured to guide students in acquiring knowledge. This process is carried out systematically and accompanied by evaluation to ensure that learning objectives can be achieved optimally, effectively, and efficiently (Komalasari, 2010). In the learning process, there are two interconnected concepts: learning and teaching. Learning is the activity carried out by students, while teaching is the activity conducted by teachers (Mufarrokah, 2009). Learning can be understood from two perspectives. First, it is viewed as a system that includes various integrated components, such as learning objectives, media used, classroom management, evaluation of learning outcomes, and follow-up steps such as remedial programs and enrichment activities (S. N. Faizah, 2017).

Learning modified through games can be one method to increase students' interest in the learning process. Through this approach, students can enjoy learning because the rules are more flexible and activities are carried out without pressure (Prayoga et al., 2022). Games are often used by physical education teachers to address various issues at school, such as improving students' gross motor skills so that these skills are well-trained, and also to increase students' motivation to learn. Therefore, games have many benefits and purposes for students, and from this, it becomes important to further develop existing games to make them more engaging and suitable for today's era. The

types of games developed include walking, running, jumping, hopping, throwing, and catching, all of which fall under athletic elements. Athletics involves movements such as walking, running, throwing, and jumping, which are among the oldest forms of sport in the world. This sport has existed since the earliest humans, making it as old as human existence itself (Paulina Heynoek et al., 2020). Games also serve as a psychological context that poses no harm to children, allowing them to fulfil their desires through fantasy while playing. For example, if a mother forbids her child from eating snacks between meals, the child might pretend to host a party and simulate cooking and eating cake. Playing through imagination or make-believe reflects a child's effort to cope with the limitations they experience in the real world (Iswinarti, 2017).

Participation in sports is considered a powerful means of developing positive character among young people. However, some studies also indicate that sports can trigger negative behaviours if conducted under certain uncontrolled conditions (Mwenda et al., 2023). Students in Phase B are expected to be able to vary and combine fundamental movements and motor skills independently, without simply imitating. In addition, they are expected to understand concepts of fitness, healthy living behaviours, as well as personal and social responsibility. Another distinguishing characteristic of physical education learning (PJOK) is the absence of traditional classroom-based lessons; all activities are carried out through dominant practical activities and do not necessarily follow a thematic system. The challenge lies in how to apply the most effective approach in PJOK learning in order to achieve optimal outcomes (Muhyi et al., 2023). The learning strategy proposed in this study emphasises the unique characteristics of PJOK learning, namely through the implementation of the ACTIVE PJOK approach (Fun, Character-building, Measurable, Innovative, and Fit) in the PJOK learning process for Phase B students at the elementary school level.

After conducting observations in August 2024 at public elementary schools located in Karangwidoro Village, the researcher selected research subjects at SDN Karangwidoro 1 and SDN Karangwidoro 2. This decision was based on initial observation results, which indicated that the students' gross motor skills were still lacking. In the elementary schools in Karangwidoro Village, several issues were identified – for example, at SDN Karangwidoro 1, there is a lack of innovation from teachers in designing games, which causes students to be less enthusiastic about participating in physical activities. Meanwhile, SDN Karangwidoro 2 did not have a physical education teacher from 2017 until 2023. These conditions have contributed to students' underdeveloped gross motor skills. On September 13, 2024, the researcher distributed questionnaires with the following results: (1) Out of 60 students, 71.7% stated they liked physical education lessons; (2) 68.3% of the students did not understand the meaning of gross motor skills. (3) 70% of the students expressed dislike toward activities such as walking, running, jumping, hopping, throwing, and catching. (4) Only 25% responded that the learning activities were game-based. (5) 33.3% stated that teachers rarely provide training models. (6) 53.3% said they find it easier to learn when games are used as a model. (7) 63.3% reported that they find the development of games to be very exciting.

The explanation of the previous research by Ratna Juwita Ayusta Anggren and Nurchasana concludes that children's gross motor development has not yet reached its optimal level, mainly due to the teacher's role that has not been fully maximised. This includes a lack of innovation in creating games and the tendency of teachers to rely on lecture methods in physical education lessons. The presence of games can make students more enthusiastic and engaged in physical education.

SDN Karangwidoro 1 and SDN Karangwidoro 2 are the only public elementary schools located in Karangwidoro Village, Dau District, Malang Regency. In this study, the researcher aims to improve the gross motor skills of students at SDN Karangwidoro 1 and SDN Karangwidoro 2 by using a game-based approach. This game has a significant impact on physical education learning.

METHODS

The research approach applied in this study is Research and Development (R&D). R&D is a systematic process aimed at creating new products or improving existing ones. This study falls into the category of research and development, focusing on innovation and product improvement to achieve better outcomes, as stated by Maydiantoro (2020). The R&D method is used to develop a specific product while also testing its effectiveness. In its implementation, the researcher applies the R&D model developed by Branch (2009), which consists of five stages: (1) Analysis, (2) Product Design, (3) Development, (4) Implementation, and (5) Evaluation.

The stages proposed by Robert Maribe Branch represent a problem-solving approach aimed at ultimately producing a product. This method was chosen because the researcher aims to create a product in the form of a game model that can improve gross motor skills in physical education subjects for Phase B students at public elementary schools in Karangwidoro Village.

This research was conducted at public elementary schools located in Karangwidoro Village, namely SDN Karangwidoro 1 and SDN Karangwidoro 2. The study took place on April 15-16, 2025, with a sample size of 42 students consisting of 15 students from grade 3 and 15 students from grade 4 at SDN Karangwidoro 1, as well as 12 students from the combined grades 3 and 4 at SDN Karangwidoro 2. Before conducting the field trial, the product developed by the researcher was validated by experts in learning, media, and games.

The product trial was conducted as an effort to obtain data that would serve as the basis for assessing the feasibility of the developed model. In the data collection process, a measurement strategy using a Likert scale was employed, aiming to understand individual or group behaviours, views, and perceptions toward a social phenomenon. The Likert scale assessment was arranged on a range from very positive to very negative responses. For quantitative analysis purposes, each response was assigned a value between one and four, according to predetermined criteria. The details of the rating scale are as follows:

Table 1.
Likert Rating Scale

Number	Positive Score	Score
1	Always	4
2	Often	3
3	Sometimes	2
4	Never	1

Sumber: (Sugiyono, 2016)

To determine the feasibility of the product, it can be categorised based on the percentage obtained. The following is the formula used to process the data:

$$\text{Product Feasibility} = \frac{\text{Total score obtained}}{\text{Maximum score total}} \times 100\%$$

Furthermore, to make it easier for the researcher to conclude, the results of the percentage data analysis can be categorised based on the percentage obtained. According to (Sriwiyana, 2011), the classifications are as follows:

Table 2.
Product Quality Criteria

Percentage	Category	Description
75,01-100,00%	Highly Valid	Can be used without revision
50,01-75,00%	Fairly Valid	Can be used with minor revision
25,01-50,00%	Not Valid	Cannot be used
00,00-25,00%	Highly Invalid	Prohibited from use

Sumber: (Sriwiyana, 2011)

RESULTS AND DISCUSSION

Result

The development of basic movement pattern games for Phase B. In the initial stage, a needs analysis was conducted based on observations at SDN Karangwidoro 1 and SDN Karangwidoro 2, which revealed a lack of innovation in games. This game is intended to serve as a learning medium to support the learning process and improve students' gross motor skills.



Image 1.
Learning Media Cover



Image 2.
Basic movement pattern games

The instructional video contains a basic movement pattern game that is presented as a learning video. The video was created to enhance gross motor skills in Phase B students. Data analysis aims to evaluate the feasibility of the game product for 3rd and

4th-grade students at elementary schools located in Karangwidoro Village. This section discusses the analysis results from media experts, instructional experts, and game experts, as well as the outcomes of the field trials that have been conducted.

Game expert

Data processing was carried out based on several elements: Ease, suitability, attractiveness, and clarity.

Table 3.
Data Analysis Results from the Game Expert

No	Percentage	Frequency	Percentage
1	Ease	93%	Highly Valid
2	Suitability	92%	Highly Valid
3	Attractiveness	96%	Highly Valid
4	Clarity	90%	Highly Valid
	Average	93%	Highly Valid

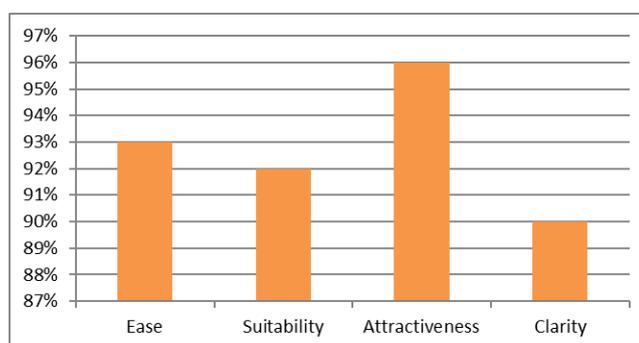


Image 3.

Percentage Diagram of Game Expert Data Analysis Results

Product development was based on the data analysis results from the game expert, which showed a percentage of 93%. This result was obtained from the evaluation of several predetermined aspects and was then converted using the feasibility classification table. Based on these findings, the game designed for Phase B students at the elementary schools in Karangwidoro Village is considered highly valid, suitable for use without revision, and ready to proceed to the trial stage.

Learning Expert

Data processing was carried out based on several elements: Ease, suitability, attractiveness, and clarity.

Table 4.
Data Analysis Results from the Learning Expert

No	Percentage	Frequency	Percentage
1	Ease	100%	Highly Valid
2	Suitability	96%	Highly Valid
3	Attractiveness	95%	Highly Valid
4	Clarity	96%	Highly Valid
	Average	97%	Highly Valid

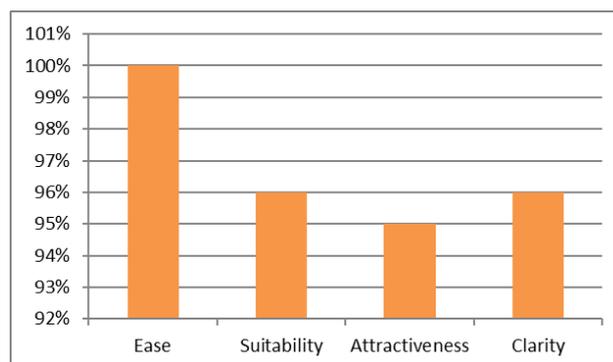


Image 4.

Percentage Diagram of Learning Expert Data Analysis Results

The product development is based on the data analysis results from the Learning Expert, which showed a percentage of 97%. This result was obtained from evaluations of several predetermined aspects, then converted using the feasibility classification table. Based on these findings, the game designed for Phase B students at the elementary schools in Karangwidoro Village is declared highly valid, suitable for use without the need for revision, and ready to proceed to the trial stage.

Media Expert

Data processing was carried out based on several elements: Ease, suitability, attractiveness, and clarity.

Table 5.

Data Analysis Results from the Media Expert

No	Percentage	Frequency	Percentage
1	Ease	92%	Highly Valid
2	Suitability	92%	Highly Valid
3	Attractiveness	100%	Highly Valid
4	Clarity	96%	Highly Valid
Average		95%	Highly Valid

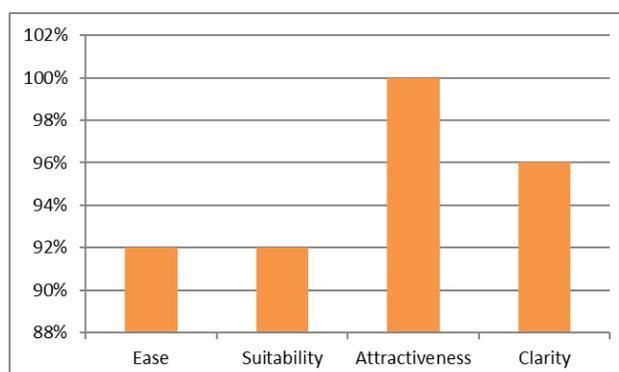


Image 5.

Percentage Diagram of Media Expert Data Analysis Results

The product development was based on the data analysis results from the media expert, which showed a percentage of 95%. This result was obtained from the evaluation of several predetermined aspects, which were then converted using the feasibility classification table. Based on these results, the game designed for Phase B students at

the elementary schools in Karangwidoro Village is considered highly valid, appropriate for use without the need for revision, and ready to proceed to the trial phase.

Field trial

Data processing was carried out based on several elements: Ease, suitability, attractiveness, and clarity.

Table 6.
Field Trial Data Analysis Results

No	Percentage	Frequency	Percentage
1	Ease	93%	Highly Valid
2	Suitability	95%	Highly Valid
3	Attractiveness	94%	Highly Valid
4	Clarity	93%	Highly Valid
	Average	93%	Highly Valid

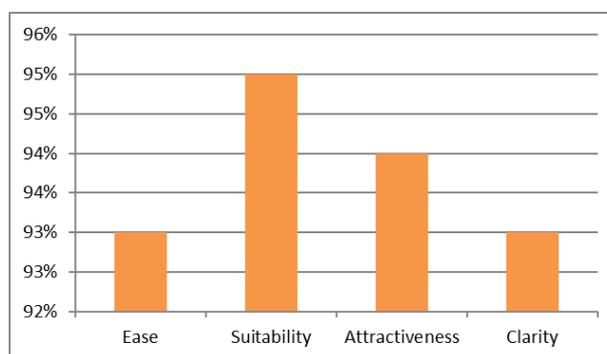


Image 6.

Diagram Persentase Hasil Analisis Data Uji Coba Lapangan

The product development was based on the results of data processing obtained from the field trial involving Phase B students at public elementary schools located in Karangwidoro Village, which showed a percentage of 93%. This result was derived from assessments of several predetermined aspects and then converted using the feasibility classification table. Based on these findings, the game designed for third and fourth-grade students at the elementary schools in Karangwidoro Village is considered highly valid and suitable for use in the learning process.

Discussion

Studies and development related to games applied in the learning process are one of the supports for implementation in teaching. Based on previous research conducted by Ratna Juwita Ayusta Anggren and Nurchasana (Nurchasanah, 2022), the author concludes that children's gross motor development is not yet optimal due to factors related to teachers, who lack innovation in creating games and tend to use lecture methods in physical education teaching. With the presence of games, students will enjoy physical education learning.

From the explanation above, it can be concluded that the use of a game in this development product, specifically the development of basic movement pattern games

for phase B at the elementary school level in Karangwidoro village, has a significant impact on the learning process to improve students' gross motor skills or basic movement patterns. The final form, which is the development of basic movement pattern games for phase B at the elementary school level in Karangwidoro village, is expected to become one of the learning materials for students to be used both during school hours and outside of school.

The validity results of the developed product, viewed from aspects of attractiveness, suitability, accuracy, and clarity, fall into the valid category. During the expert review, some challenges arose: the media expert removed part of the logo displayed on the video and sped up the video to reduce its duration. The learning expert added games covering materials such as walking, running, jumping, hopping, and throwing according to the ATP. The game expert added a catching game using a large ball. To address these issues, the researcher revised the product following the recommendations and feedback from the game expert test, media expert test, and learning expert test.

The advantages of the developed basic movement pattern game product at SDN Karangwidoro 1 and SDN Karangwidoro 2 are: 1) With the basic movement pattern game material, teachers can apply the game product easily. 2) It helps Phase B students better understand the materials of walking, running, jumping, hopping, throwing, and catching through games packaged in video form. 3) The development of this game product makes students feel happy and interested in the PJOK learning process. The drawbacks of the product are: 1) This product is limited only to Phase B students. 2) The product is limited to PJOK learning only. 3) The games presented in video form only include walking, running, jumping, hopping, throwing, and catching materials.

In the opening section, there is a video cover containing the title and the creator's name. The main part features example videos of basic movement pattern games for Phase B students, covering aspects such as walking, running, jumping, hopping, throwing, and catching. Each game is accompanied by explanations of the benefits, objectives, and rules of play to help students quickly understand and follow the games. This product is in the form of a video, which makes it easier for students to access the learning material. Therefore, it can increase students' interest in learning.

The development of basic movement pattern games for Phase B at the elementary school level in Karangwidoro Village is expected to assist the learning process with the goal of improving the basic motor skills of Phase B students. It can also be used as a reference for both students and physical education, health, and sports teachers in the learning process.

CONCLUSION

According to the research and development conducted, this product has been evaluated by three experts: a media expert, a learning expert, and a game expert. Based

on the data analysis, the developed product is declared highly valid and feasible to use. Therefore, it can be concluded that the game media designed to improve basic movements for Phase B students at the Public Elementary School in Karangwidoro Village can enhance students' gross motor skills, help students learn more effectively, and increase their interest in physical education. Additionally, this product can also serve as a relevant reference and resource for both students and physical education, health, and sports teachers in the learning process.

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