

# The Development of the Luyung Gymnastics Model in Rhythmic Gymnastics Learning Activities for Elementary School Students in Karangnongko District

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## Abstract

The scope of physical education in independent curriculum includes games and sports, developmental activities, gymnastics activities, rhythmic activities, aquatic activities, extracurricular education, health, and others. Physical education in elementary school consists of three stages, namely Stage A consists of grades 1 and 2, Stage B consists of grades 3 and 4, and finally Stage C consists of grades 5 and 6. This research aims to develop gymnastics movements in rhythmic movement learning at the elementary school level. The development model used in this research is Research and Development (R&D) which is a research method used to produce products, and test the effectiveness of products. This research approach involves need analysis, model design, and evaluation. This research stage starts from initial observation with interview technique then continued with planning, product development, trial, revision to dissemination. The results of large-scale trials showed that the cognitive aspects of students obtained 82.91% which were included in the Very Good category. In the affective aspect, students obtained a presentation of 82.01% which was included in the Very Good category. And in the psychomotor aspect, students obtained a presentation rate of 82.21% which was included in the Very Good category. The result of this research is in the form of a "Luyung" gymnastics development product designed to increase students' interest in learning and become a reference for sports teachers to design rhythmic gymnastics movements that are more creative and efficient in improving the quality of learning.

**Keywords:** development model; learning; physical education; rhythmic dance

## 1. Introduction

Learning is an educational system that involves teachers/educators, students, materials, objectives, and tools through the process of knowledge transfer. Learning can also be defined as an activity that involves individuals or groups in acquiring knowledge, skills, and attitudes by utilizing various objects in their environment (Paling et al., 2024). Through teacher-student interaction, information and knowledge about learning can be transferred and developed (Saleh et al., 2023).

As an educator, a teacher plays an important role in implementing education to achieve educational goals (Arifin, 2017). Teachers have a crucial role in the teaching and learning process so that the knowledge being taught can be effectively delivered and understood by students (Yestiani & Zahwa, 2020). A teacher has many responsibilities according to their field, including administrative and pedagogical duties (Sanjani, 2020).

Based on the characteristics of elementary school children who enjoy playing, moving, and learning through direct practice, one of the challenges in physical education is that teachers must be able to provide engaging and easy-to-understand learning materials during practice sessions. The goal is to make students more interested and able to participate effectively in learning activities (Flannery, B.~P. Teukolsky et al., 2004).

Physical education is an educational process that encompasses psychomotor, cognitive, and affective domains. The objectives are comprehensive students are guided to learn according to their growth and development so that behavioral changes cover physical, emotional, intellectual, and social aspects (Farida & Supriyono, 2024). Physical education has a unique characteristic of involving physical activities, often conducted outdoors (Rosyada & Darmawan, 2025). Good physical condition must be supported by regular and proper exercise, as it affects health. Physical fitness is the ability of an individual to perform tasks or physical activities optimally without feeling fatigued and still having energy reserves (Rachma et al., 2025).

Rhythmic movement activities are a series of movements that follow the tempo and rhythm of a song, expressed through bodily motion that matches the music (Yudho et al., 2020). Rhythmic activities foster creativity among students, encouraging them to move more actively and express themselves according to their abilities and imagination in creating movement patterns that align with the rhythm of the music (Ikbal, n.d.). Aerobic gymnastics is one type of modern gymnastics that enhances complex motor actions and helps develop more structured movement skills (Kokarev et al., 2023).

Based on observations conducted at SD Negeri Karangnongko and MI Roudlotul Qur'an Karangnongko, common problems were found in physical education learning, particularly in rhythmic activities. From interviews and field observations, it was concluded that teachers rarely provided rhythmic movement or aerobic exercise materials. This was due to the teachers' limited mastery and understanding of aerobic movements, and the exercises given were repetitive and monotonous, showing little variety or creativity.

Luyung Gymnastics is a creative form of gymnastics developed from aerobic movements combined with humorous movements inspired by animals and agricultural activities. The characteristics of aerobic gymnastics, which improve the function of the nervous system, make it suitable for elementary school students (Li & Zeng, 2022). The development of Luyung Gymnastics aims to enhance children's physical, cognitive, and social abilities.

## 2. Method

The research method used in this study is research and development (R&D). This approach involves needs analysis, model design, and evaluation. The research began with an initial observation or preliminary study to identify existing problems. It was then followed by the planning stage, which included preparing research instruments and determining the product design. After that, an initial product draft was created and validated by experts, followed by product testing.

The data collection techniques used in this research included observation, interviews, tests, and questionnaires. The R&D method is used to produce a product and to test its effectiveness (Nurhasanah, 2021). The subjects in this study consisted of three classes with a total of 68 students.

### 3. Result and Discussion

Luyung Gymnastics is a form of exercise created by combining several regional songs with movements derived from aerobic gymnastics. The name Luyung Gymnastics itself is taken from the identity of Klaten Regency, which is well-known for its regional potential, particularly its umbrella and lurik (traditional woven fabric) industries.

Luyung Gymnastics also incorporates children's songs and regional music suitable for the elementary school level. The exercise consists of five songs:

- (1) Music Aerobic Rhythm by Lodi Lontoh Vol. 9,
- (2) Lir Ilir,
- (3) Gundul-Gundul Pacul,
- (4) Padhang Wulan, and
- (5) Suwe Ora Jamu.

These songs were selected to make the students more interested and to help them follow the movements easily during the learning process. In Luyung Gymnastics, the main movements use basic techniques combining two to four types of motions, while the warm-up and cool-down phases consist of stretching movements synchronized with the Luyung Gymnastics music. The facilities and equipment used for Luyung Gymnastics activities include a field or an open area such as a hall, a sound system or loudspeakers, Luyung Gymnastics music, and a music player. Before the initial version of the Luyung Gymnastics model was tested on a small scale, the proposed product underwent an expert validation test to determine its effectiveness and to identify any weaknesses based on expert feedback.

This validation stage involved one gymnastics expert, Dr. Ipang Setiawan, M.Pd., and two learning experts: Mr. Agus Haryanta, A.Ma., a physical education teacher at SD Negeri Karangnongko, and Mr. Ajib Wibowo, S.Pd., a physical education teacher at MI Roudlotul Qur'an Karangnongko.

**Table 1. Expert validation**

No.	Expert Name	Percentage	Description
1.	Dr. Ipang Setiawan, S.Pd., M.Pd. ( <i>Gymnastics Expert</i> )	95.3%	Very Good
2.	Agus Haryanta, A.Ma. ( <i>Learning Expert</i> )	97.34%	Very Good
3.	Ajib Wibowo, S.Pd. ( <i>Learning Expert</i> )	98.2%	Very Good
<b>Average</b>		<b>96.94%</b>	<b>Very Good</b>

Based on the questionnaire results completed by the gymnastics and learning experts, an average score of 96.94% was obtained, which falls under the "Very Good" category. It can therefore be concluded that the rhythmic gymnastics learning activity can proceed to the next stage, namely small-scale testing.

Luyung Gymnastics was tested on a small scale on July 24, 2024, using a sample of Grade 5 students from SD Negeri Karangnongko, with a total of 24 participants. The purpose of this small-scale trial was to identify and determine the issues encountered with the Luyung Gymnastics product during the learning process, such as its weaknesses, strengths, effectiveness, and limitations.

Based on the data from the Level I and Level II small-scale trials conducted at SD Negeri Karangnongko, the final data consisted of student assessments across three aspects: affective, cognitive, and psychomotor. These aspects were measured using questionnaires filled out by the students. The results are as follows:

<b>Table 2. Small-scale test results</b>		
<b>No.</b>	<b>Aspect</b>	<b>Percentage</b>
1.	Cognitive	80.25%
2.	Affective	78.91%
3.	Psychomotor	77.44%
<b>Average</b>		<b>78.86%</b>

The figures in the table indicate that in the small-scale trial, the cognitive aspect showed a percentage response of 80.25%, which falls under the “Good” category. Several students understood and successfully performed the Luyung Gymnastics movements. However, due to the large number of movements that had to be practiced, some students found it difficult to remember the sequences quickly, which caused delays in starting their practice. In this case, the affective aspect achieved a response rate of 78.91%, which can also be classified as “Good.” Through this, students were able to demonstrate attitudes such as cooperation, honesty, responsibility, and sportsmanship.

The psychomotor aspect reached 77.44%, which also falls within the “Good” standard. In this regard, students demonstrated very good motor skills and successfully acquired the movements of Luyung Gymnastics. Overall, the students’ average response to the development of Luyung Gymnastics was 78.86%, categorized as “Good,” indicating that the Luyung Gymnastics model is feasible for use among Grade 5 students at SD Negeri Karangnongko.

Based on the small-scale trial conducted at SD Negeri Karangnongko, Karangnongko District, involving Grade 5 students, the next step carried out was a large-scale data collection following revisions made from the small-scale trial. The large-scale trial aimed to determine how effective Luyung Gymnastics was in the implementation of physical education learning in elementary schools. This trial was conducted in two schools: SD Negeri Karangnongko (Grade 6 students) and MI Roudlotul Qur’an Karangnongko.

In the large-scale trial conducted at SD Negeri Karangnongko with 18 Grade 6 students, data were collected in two stages (Stage I and Stage II) and included assessments across three aspects: affective, cognitive, and psychomotor as presented below:

<b>Table 3. Large-scale test results SD Negeri Karangnongko</b>				
<b>No</b>	<b>Stage</b>	<b>Cognitive</b>	<b>Affective</b>	<b>Psychomotor</b>
1.	I	77.23%	79.6%	77.72%

2.	II	83.67%	87.2%	80.58%
<b>Average</b>		<b>80.45%</b>	<b>83.4%</b>	<b>79.15%</b>

Based on the table above, the results of the large-scale trial in stages I and II show that in the cognitive aspect, students achieved 80.45%, categorized as Very Good. In the affective aspect, students scored 83.4%, which is also classified as Very Good. In the psychomotor aspect, students achieved 79.15%, which falls into the Good category. From these three aspects, the overall average score obtained by students was 81%, classified as Very Good.

In the large-scale trial conducted at MI Roudlotul Qur'an Karangnongko involving 26 sixth-grade students, data were collected in two stages (Stage I and Stage II). The final data included students' evaluations across three aspects affective, cognitive, and psychomotor as shown below:

**Table 4. Large-scale test results MI Roudlotul Qur'an Karangnongko**

No	Stage	Cognitive	Affective	Psychomotor
1.	I	81.03%	78.49%	80.29%
2.	II	84.8%	85.53%	84.13%
<b>Average</b>		<b>82.91%</b>	<b>82.01%</b>	<b>82.21%</b>
<b>Total Average</b>		<b>82.37%</b>		

Based on the table above, the results of the large-scale trials (Stage I and Stage II) show that in the cognitive aspect, students achieved 82.91%, categorized as Very Good. In the affective aspect, students scored 82.01%, also classified as Very Good. In the psychomotor aspect, students obtained 82.21%, which falls into the Good category. From these three aspects, the overall average score obtained by students was 82.37%, classified as Very Good.

From both sets of data, the overall average score obtained by students was 81.69%, which falls into the Very Good category. Thus, it can be concluded that the development of Luyung Gymnastics was well received and understood by the students, and it can be effectively used for students at SD Negeri Karangnongko and MI Roudlotul Qur'an Karangnongko.

#### 4. Conclusion and Recommendation

The final result of this development research is the creation of a product called Luyung Gymnastics, which is a developed form of rhythmic gymnastics. Based on the analysis of the research results, the Luyung Gymnastics product is ready to be practiced. According to the established criteria, the product achieved a Very Good category, with a small-scale trial score of 81% and a large-scale trial score of 82.37%. Therefore, Luyung Gymnastics is considered feasible and effective for implementation in physical education learning (Penjasorkes) at the elementary school level.

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