

# Basic Athletic Motion of 40 Meters Running Based on the Traditional Lahat Game at the Elementary School Level

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**Abstract** The purpose of this study was to create and test the effectiveness of basic athletic motion of 40 meters running based on the traditional Lahat game at the elementary school level. This research uses research and development (R&D) methods. This research has been carried out at the primary school level in Lahat Regency, South Sumatera, with the subject of small group trials totaling 20 elementary school students and large group trials of 60 elementary school students by applying 30 basic motion learning models of 40-meter athletic running based on games traditional Lahat. Based on the results of the effectiveness test with 40 elementary school students as the test subjects, the N-gain score was obtained an the average value for the experimental class was 85.04% and it can be said to be "effective". Meanwhile, the average N-gain score for the control class is 46.53% and it can be said to be "ineffective", so the products that have been developed have been proven to be feasible and effective in improving the basic movement skills of elementary school students.

**Keywords** Traditional Games, Basic Motion, Running, Running Skills, Elementary School Students

## 1. Introduction

Learning the basic movements of running 40 meters is part of the physical education subject in elementary school. The lessons include a lot of physical activity, which is of course very beneficial for life. Physical education learning given to students must be designed in such a way that it is easily absorbed by students and must be adjusted to students' characteristics so that learning objectives can be achieved optimally and on target. Because there are factors that influence the success of the physical education teaching and learning process, namely internal and external. Internal factors include physiological, psychological, intelligence, and maturity conditions. Meanwhile, external factors include the natural and social environment, such as

family, community, and school [1].

The results of observations that have been made at the Lahat elementary school in South Sumatra Province, that learning the basic motion of running at school has been going quite well but the discovery of several obstacles in the learning process including the lack of variation in learning so that there are still many students who are less motivated and feel bored in participating in motion learning basic 40 meters running, lack of understanding in learning the basic motion of running so that students make many motion errors and the low learning outcomes of students in athletic learning on 40 meters running material.

Based on the results of observations that have been made at the Lahat elementary school, South Sumatra Province, that learning the basic motion of running at school has gone quite well but the discovery of several obstacles in the learning process including the lack of variation in learning so that there are still many students who are less motivated and feel bored in following learning the basic motion of 40 meter running, lack of understanding in learning the basic motion of running so that students make many motion errors and the low learning outcomes of students in athletic learning on 40 meter running material.

Based on these problems, there needs to be a renewal in the learning process so that the objectives of the learning are achieved. Efforts to answer the solution to the above problems are by providing knowledge about learning the basic motion of 40 meters running, providing a fun learning model of 40 meters running basic motion, and adapted to the characteristics of elementary school students. Teachers need to understand the characteristics of elementary school students who have a characteristic attitude which they express through playing. These characteristics must be appointed to bridge the desires of teachers and students. Aypay [2] explains that "play can provide a context wherein children achieve deep learning through the integration of intellectual, physical, moral, and spiritual values and can allow them to commit themselves to learn, development, and growth". For the message to be conveyed, the teacher can use a learning model that is following the development of elementary school-age students. That is, it is necessary to make a learning model that is following the characteristics of students at the primary school level.

Referring to the elementary school syllabus, games suitable for elementary school students are traditional games. Traditional games are a legacy of ancestors and cultural traditions. Almost every region in Indonesia has the characteristics of traditional game sports. Traditional games are activities/activities with game rules which are inherited from previous generations carried out to get joy. According to Mulyani [3], traditional games have several benefits including developing emotional intelligence among children, developing children's logical intelligence, developing children's kinesthetic intelligence, developing

children's natural intelligence, developing children's musical intelligence. Learning the basic motion of 40-meter running will be more fun through traditional games.

In the implementation of learning the basic motions of running 40 meters, it can be done by using simple tools that can be found in the school environment. With simple equipment that can be provided in the school environment and the teacher can teach the basic movements of 40 meters running in an atmosphere that is more attractive to students. Teacher creativity is indispensable to generate motion ideas that are easily implemented by students, which is very important from all of it is the joy factor for students arising from athletic activities, so that students will remain interested and start to like 40 meter running athletics. To create a joyful atmosphere, it is necessary to develop a 40-meter athletic learning model with game nuances. According to Yien [4] explains "games have been recognized as being a good tool to promote learners to actively participate in learning activities". It is known that games have been considered as a good tool to encourage students to actively participate in learning activities, for example, using traditional games in Lahat Regency, South Sumatra Province. Given that this game is a legacy from the ancestors of students in the area. Such as gameplay that contains elements of speed, fortress game that contains elements of training stimulus and response, and other types of games. Also, based on research results from Romadlon & Nurharsono [5] explained that "in the game, there are various aspects of education, namely affective, cognitive and psychomotor. This means that through play, not only psychomotor aspects can be developed but also knowledge, mentality, attitudes, and behavior so that games can form human beings who are healthy, intelligent, sporty and moral".

Long with the development of increasingly sophisticated times, this traditional game sport may become extinct if it is not preserved by the nation's successors. Apart from that, other influencing factors are the inclusion of TV sets, the Internet in rural areas, as well as the limited space to play for teenagers who prefer to go to work in cities, so that there are not many children performing traditional games anymore. This traditional game provides a game that is no less exciting than modern games, because this game can also train imagination, thinking, and movement which unconsciously requires good energy or fitness and good basic movement activities as well. So that traditional game-based learning can be used to foster students' interest in learning basic athletic movements, especially in 40 meters running material, or can take advantage of traditional games that are native to each region. Therefore, the researcher will develop a basic motion model of 40-meter running athletics based on the traditional games of Lahat Regency at the elementary level to improve the basic motor skills of elementary school students.

## 2. Materials and Methods

### 2.1. Research Approaches and Methods

The research method used in this research is development research (R&D) which refers to the development steps of Borg and Gall which have 10 stages of development, including the following; (1) Field Needs Analysis, (2) Research planning, (3) Making initial products, (4) Small group trials, (5) Product revision after small group trials, (6) Large group trials, (7) Product Revisions after large group trials, (8) Product effectiveness testing, (9) Final Product Revisions, and (10) Dissemination and Implementation [6].

### 2.2. Place and Research Subject

This research has been carried out in 3 elementary schools in Lahat Regency, South Sumatra Province, with the subject of small group trials totaling 20 elementary school students and large group trials of 50 elementary school students by applying 30 basic motion learning models of athletic running 40 meters based traditional game. While the model effectiveness test with subjects totaling 40 elementary school students.

### 2.3. Type of Data

The data in this study were obtained by experiencing, doing, asking, and observing, and testing. Data can be primary data and secondary data. Primary data obtained through observation. Secondary data were obtained through analysis of various types of documents. Sources of data based on data collection techniques, among others, are obtained from respondents, circumstances of certain things or events, environment or research sites, photos, and relevant documents. The data used in this research are quantitative and qualitative.

### 2.4. Data Collection Instruments

The data collection instrument in this study was to use an instrument in the form of a product development feasibility questionnaire (the Learning Expert Validation Instrument, the Running Athletic Expert Validation Instrument, and the skills test instrument (psychomotor) basic motion of running athletics, to obtain the feasibility level of product development models and to measure the effectiveness level of product development models in improving basic athletic running skills of elementary school students. The following are the basic motion instruments for running athletics, as shown in table 1 below:

**Table 1.** Basic Athletic Running Instruments

No	Component	Indicator	Score			
			4	3	2	1
1.	<b>Begin</b>	1	The distance of the forefoot as comfortable as possible from the starting line. The knees of the hind legs touch the ground in the most comfortable position possible			
		2	Hands-on the ground slightly wider than your shoulders, fingers straight and tight in an inverted V and slightly behind the line.			
		3	The back is slightly bent. The body is relaxed and not stiff.			
		4	Flathead with back, eyes looking straight down.			
2	<b>Ready</b>	1	Knees raised to shoulder level			
		2	Both arms support body weight in, straight arm position.			
		3	The runner raises the pelvis so that the position of the pelvis is higher than the shoulders, shoulders slightly forward from both hands.			
		4	Head relaxed. Future view			
3	<b>On Cue</b>	1	The front footrests on the starting block, the hind leg swings forward quickly.			
		2	Raise both hands off the ground, swing your hands forward alternately			
		3	Body as if about to fall forward, posture leaning forward.			
		4	The head follows the body position, the view follows the position of the head			
4	<b>Running</b>	1	Step foot as long as possible and then balance the body still quickly run using the toes			
		2	Swing the arms alternately, the fingers relaxed and straight tight.			
		3	The weight is slightly leaning forward. Relaxed posture.			
		4	Head straight ahead, eyes focus forward.			
5	<b>Finish</b>	1	Run as fast as possible without changing your running stance, stable and long footsteps.			
		2	Both hands are swung backward at high speed, hands relaxed.			
		3	The chest is leaned forward, the chest is rotated with a swing of the arms forward so that the other shoulder is moving forward with a high speed and a straight forward view			
		4	The position of the head follows the rotation of the chest, the view follows the head.			

**2.5. Data Analysis Techniques**

The data analysis technique used in this study is a qualitative descriptive statistical analysis technique. Descriptive statistics are used to analyze data by describing or describing the collected data as it is. Apart from qualitative data, the data analysis technique used in this study was also quantitative data. Quantitative data is data obtained using an instrument in the form of an attitude scale (scale Likert) and the results of the pretest and posttest and compared between the two. Djaali & Muljono [7] explained that "the Likert scale is a scale that can be used to measure the attitude of opinion and the perception of a person or group of people about a symptom or educational phenomenon".

Meanwhile, the data were analyzed using the t-test to determine whether there was a significant effect of using the developed model. The t-test formula is as shown in figure 1 below:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}$$

(Source: (Sugiyono, 2016))

**Figure 1.** The formula for the t-test

Furthermore, to determine the effectiveness of the use of the product was analyzed using the N-Gain Score test. The N-gain score test is done by calculating the difference between the pretest (test before the application of a particular treatment method.) By calculating the difference between the pretest and posttest or the gain score, we will be able to find out whether the use or application of a particular method can be said to be effective or not. Figure 2 below is the N-gain score formula to calculate the level of product effectiveness.

$$N\ Gain = \frac{Skor\ Posttest - Skor\ Pretest}{Skor\ Ideal - Skor\ Pretest}$$

(Source: Hake in (Sundayana, 2016))

**Figure 2.** N-Gain Score Test Formula

The category of the N-gain score can be determined based on the N-gain value or from the N-gain value in terms of percent (%). The distribution of categories for the acquisition of the N-gain value can be seen in table 2 below:

**Table 2.** Category of Acquisition Value N-gain Score

N-Gain score	Category
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Moderate
$g < 0,3$	Low

(Source (Meltzer, 2002))

Meanwhile, the division of the N-gain category in the form of a percent (%) can refer to table 3 below:

**Table 3.** Categories of N-Gain Effectiveness Interpretation

Nilai N-gain	Tafsiran
< 40	Ineffective
40 – 55	Less effective
56 – 75	Effective enough
> 76	Effective

(Source: Hake in (Sundayana, 2016))

**3. Results and Discussion**

**3.1. Research and Information Collection**

The research stage and information gathering begin with a preliminary study by conducting a needs analysis, in which a needs analysis is the first step in development research. The results of the needs analysis and field findings can refer to table 4 below:

**Table 4.** Results of needs analysis and field findings

No	Question Items	Findings
1	What kind of running learning taught by the teacher?	Types of running learning provided by teachers at the elementary school level include; short distance running, medium distance running, long-distance running or marathon, and continuous or relay running.
2	Is running learning material provided during the learning process?	Learning material has been given, however, the problems that arise are students often seem less motivated and students easily feel bored to participate in the running learning.
3	Are there any media/tools used by the teacher to deliver learning run?	Based on the findings of researchers in the field, until now the media used in running learning does not exist.
4	What efforts have been made to make students interested and enthusiastic in participating in learning to run?	The efforts made by the teacher are only limited to words of motivation and emphasis, and the teacher only provides variations in the learning experience that the teacher has.
5	Is there a need for amore varied running learning model?	In general, teachers need various kinds of running learning models that are varied, interesting, and fun so that students can be more motivated to follow the learning given.

Based on the results of the needs analysis and field findings, thus the basic athletic motion of 40 meters running based on traditional elementary school level games is deemed necessary to be developed with notes that it must

be adapted to the characteristics of students and local culture.

### 3.2. Planning

This stage is to determine the objectives to be achieved. In this study, the goal to be achieved is to develop and test the effectiveness of the product. Then identify the parties involved in the model development process, such as experts in related fields (material experts, traditional game experts, and learning experts).

### 3.3. Develop Preliminary Form of Product

At this stage, the steps taken are compiling the initial form/draft of the product. The initial product drafts that have been compiled are 40 models, then the model is validated by experts in the relevant fields, including material experts, learning experts, and traditional game experts. Here are the results of model validation from experts:

#### 3.3.1 The Results of the Material Expert Validation

Based on the results of the data from the athletic expert validation of the model items that have been prepared, overall it is concluded that the model product is suitable to be continued in small group trials and large group trials, but athletic experts still provide suggestions and input to improve the learning model, the suggestions and input include; 1) use safe tools and following learning needs, 2) implementation instructions must be made clearly and in detail so that they are easy to understand, and 3) the pictures on the model are made even clearer.

#### 3.3.2. Learning Expert Validation Results

The results of validation by learning experts on the initial product were obtained; (1) on the material indicators presented by the basic theory of athletics (running), a value of 75% was obtained with good criteria, (2) on the objective indicators for learning and training a score of 75% was obtained in the good category, (3) on the material indicators presented can already be used to introduce the basic motion of running, a value of 75% is obtained with a good category, 4) in the presentation image indicator of the learning model presented is clear and easy to understand, a value of 75% is obtained, and 5) in the language indicator used, the value 75% in the good category. Based on the data above, an average percentage of 75% is obtained with a good category, which means that the model product that has been developed is feasible to be tested at a later stage. As for suggestions and input from learning experts, among others; (1) The model developed is made according to the curriculum and syllabus of elementary school students, (2) The model developed must be following the characteristics of students, (3) The model developed must be adapted to the principles of learning from simple to complex.

#### 3.3.3. Traditional Game Expert validation results

Traditional game experts assess that of the 40 models that have been developed 7 learning models are not feasible to continue because the learning model is less effective to be applied to elementary school students. Traditional gamers also provide advice on the learning models that have been developed; 1) The model that is made must be adjusted to the characteristics of elementary school children, 2) The model made must provide an active atmosphere for all students so that all students are actively moving, 3) Add variations of the media or tools needed according to the objectives of traditional games.

### 3.4. Preliminary Field Testing

This development product has been evaluated and validated by experts, then revised according to the experts' notes, after the initial product draft was revised then tested in small groups involving N = 20 research subjects, namely from SD Negeri 13 Kikim Timur. This small-scale test shows that the product of the development of the basic motion learning model of athletic running 40 meters based on traditional Lahat games as a whole students can easily carry out the learning model items that have been developed besides that students are very enthusiastic and motivated in participating in the learning.

### 3.5. Main Product Revision

The next stage after conducting the initial field test is the revision of the initial field test results, some that must be considered and improved include: 1) The infrastructure in the form of a field during learning needs to be considered for its safety level because when learning the basic motion of 40 meter running students will run quickly so that the implementation of classroom management is more effective. 2) It is necessary to pay attention to proper heating before the implementation of the lesson begins, to avoid the risk of injury. 3) It is necessary to pay attention to class conditions so that it is conducive during implementation so that students can understand the rules of the game when learning. 4) In general, the product of the development of the 40 meters running basic motion learning model can be applied in learning in elementary schools, because it greatly helps students in improving the learning process, learning interaction, learning motivation, and better understanding the goals to be achieved in learning.

Based on field notes and findings from the initial field trials above, the product development needs to be revised. This stage 2 revision leads to a revision of use rather than a revision of the content and substance of the development product. The target of testing product development at this stage is the extent to which product development can be implemented / can be applied in learning on a small scale, notes, suggestions, and findings are more directed to

suggestions for implementation or suggestions for use. After going through stage 2 (two) revisions, then the development product is declared feasible to be tested in the main product field test (large group trial).

### 3.6. Main Field Testing

Development products that have been tested in small groups and revised then tested in large groups. With research subjects in this large group test involving N = 60 elementary school students consisting of 2 schools, namely SD Negeri 13 Kikim Timur and SD Negeri 2 Kikim Timur. From the results of large group trials, the results obtained that overall students can use all the products that have been developed.

### 3.7. Operational Product Revision

The results of large group trials that have been carried out, which has resulted in several field notes to be used as material for correction and evaluation, especially in the implementation of product models in learning running athletics. The following are some of the notes that have been compiled including; 1) Several learning models must be considered when implementing learning, namely the level of student safety, 2) When students do the learning model it will require a large area because the model is carried out changing places. For this reason, in every implementation, attention must be paid to the location where the distance of the students is not too close together to create conducive learning, 3) Repetition of each movement also needs to be considered so that students can quickly remember each lesson, 4) The safety factor is also very important to be considered in every process ongoing learning, 5) Orderliness, discipline must always be considered, so that what is not desired occurs.

Thus it can be concluded that all the model products tested are feasible so that they can be used and applied to learning athletics in elementary school running. Therefore, the product can continue to be used in the effectiveness test to find out how effective the model product developed is in achieving the goal of improving the basic motor skills of elementary school students.

### 3.8. Operational Field Testing

At this stage, the researcher uses the basic movement (psychomotor) skills instrument for running. In this effectiveness test using subjects as many as N = 40 students of SD Negeri 5 Kikim Timur. Furthermore, a t-test was carried out in the control group and the experimental group.

Based on the results of the Independent Samples Test, the price of  $t = 21,561$  and the number sig. (2 tailed) or  $p\text{-value} = 0.00 > 0.005$ , then  $H_0$  is rejected. Thus, the proposed hypothesis is tested by the data, so that the basic movement skills of students who are treated by applying a product model that has been developed are higher than students who are treated with the application of conventional learning. Furthermore, to determine the effectiveness of the use of the product was analyzed using the N-Gain Score test.

Based on the results of the N-gain score for the experimental class, an average value of 85.04% is included in the "effective" category. Meanwhile, the average N-gain score for the control class (conventional learning) is 46.53%, including in the "ineffective" category. So it can be concluded that the application of a feasible and effective product can improve the basic movement skills of elementary school students.

### 3.9. Final Product Revision

After the effectiveness test and after going through the final stage of revision (if there is a revision) then a final product or final product is obtained, namely 30 learning models packaged in book form. Table 5 is the names of the 40-meter running athletic learning models based on the traditional games of Lahat Regency and Figure 3 is the final product in the form of a book.

Table 5. Model Names

No	Model Name	No	Model Name
1	Bintang nyago	16	Pager Kance
2	Nyuruk Lingkaran	17	Buntut Ulo
3	Tangkap Tebak	18	Lempar Jeme
4	Dodok Nangkep	19	Samo warno
5	Bebalek nangkep	20	Ngambek Bola Petir
6	Sikap Aba-Aba Bersedia Tos Kance	21	Elang dan anak ayam
7	Ndekati Lawan	22	Berebut Kain
8	Nangkepi Jeme Karut	23	Kebalekan
9	Lari besamo	24	Ngindari Api
10	Njalo iwak	25	Semut Itam Nga Abang
11	Bintang nyampak	26	Bola Bahaye
12	Lari Narok Pereng	27	Bola Belamburan
13	Orek'an	28	Nyakah Harte Karun
14	Pindah Umah	29	Bola Luncat
15	Balapan Jeme	30	Gardu Ronda

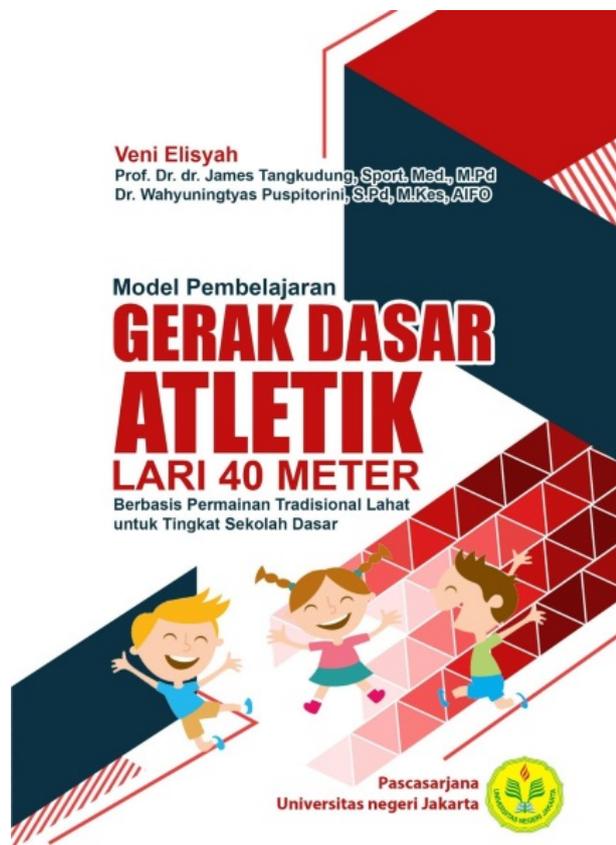


Figure 3. The final product is in the form of a book

### 3.10. Dissemination and Implementation

Implementing and disseminating products through international seminars. Cooperate with publishers for product socialization and publishing.

## 4. Conclusions

This research has produced a product in the form of 30 basic motion models of 40-meter running athletics based on the traditional games of the District of Lahat at the elementary school level which have been proven suitable for use in learning athletics at the elementary school level because they have gone through the expert validation stages and small group and large group trials.

Based on the results of the effectiveness test, it was found that the N-gain score means value for the experimental class was 85.04%, which can be said to be "effective". Meanwhile, the average N-gain score for the control class is 46.53% and it can be said to be "ineffective". Thus the products that have been developed have been proven effective and can improve the basic movement

skills of elementary school students.

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