

# The Influence of Part and Whole Learning Methods on the Long Jump Achievement of 11th Grade Students

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**Keywords:** Part and whole methods, long jump.

**Abstract:** This research is aimed at knowing the influence of part and whole learning methods on the long jump achievement with its standard of achievement. The research method of this research is classroom action research. The instrument used was the long jump test scoring rubric, including the starting, taking off, flying, and landing phases. The indicator of success in this research is 75% of the total students have passed the standard of achievement. The result of the research showed that: (1) there are influences of part learning method on the long jump achievement, (2) there are influences of whole method learning on the long achievement, (3) there are differences in the influence of part learning and the whole learning methods on the achievement of the long jump, i.e. there are 82,76% students who belong to the group of the part learning method passing the standard of achievement, and only 75,86% students who belong to the group of the whole learning method did so.

## 1 INTRODUCTION

Physical Education is an essential part of education in general. Athletics as branches of sports are taught at schools. They include running, throwing, and jumping. One type of jumping taught in Physical Education is long jump. The long jump taught at schools is a practice for the students to leap and reach as far as possible. It is started by sprinting as an initial movement subsequently, taking off on a wooden take-off board, then flying in the air, and finally landing at the farthest point in a sandpit as the landing medium.

Theories state that sports or physical activities in Physical Education are considered as the ways to enhance academic skills (Hollar, et.al, 2010). It is also stated that Physical Education can transform students' life style apart from changing students' personality (Sigfusdottir, 2006). Moreover, Physical Education can contribute in efforts to improve a country's sport achievements if it is well managed (De Bosscher, 2006).

The scope of Physical Education subject at SMK Muhammadiyah 1 Kalirejo includes big and small ball games, gymnastics, and athletics. The athletic branches taught include running, throwing, and jumping. One of the jumping types taught is long jump. It is an exercise for students to do the jumping

motion and reach the farthest distance. It starts by sprinting, taking off on the pedestal board, then floating in the air, and finally landing at the farthest point into the sandpit as a landing medium.

Long jump achievement is determined by a small number of real parameters related to bio-motoric abilities such as running speed, acceleration, jumping strength, coordination of arms with legs and sense of rhythm (Purnomo & Dapan, 2011). Gunther Bernhard in (Iqbal, 2010), states that "the proper long jump needs to pay attention to the elements of the starting, taking off, floating, and landing". To achieve good performance in the long jump, it needs to be supported by good practice through scientific approaches involving various sciences. The students' learning outcomes on the jumping materials have changed dynamically based on the learning activities carried out by students. These changes are in the form of results that have been achieved in the learning process.

Based on conducted observations, the long jump learning materials have not been in line with the objectives as stated in the standard of achievement at SMK Muhammadiyah 1 Kalirejo with a value of 75. The students' learning outcomes are not good enough because more than 50% students still failed to meet the specified standard. This means that the number of students who scored equally or higher

than the standard of achievement was still less than 50% of the whole. In addition, the results of the long jump evaluation process conducted by the teacher toward the students were still unsatisfying. They obtained an average score of 64.38, maximum score of 75, and minimum score of 56.25. The students who have completed the learning process were only 13 out of 30 students or 43.33%. This means that the number of students who have not completed the process was 17 students or 56.67% of the whole. Therefore, there should be an effort to improve the students' ability of long jump.

Another problem is that during the long jump learning process, the speed of the students when sprinting as the starting point has not been optimal yet, resulting in ineffective taking off phase. Finally, this also affects on the students' leaps. In addition, the learning methods provided by the teacher do not pay attention to the determinants to achieve optimal jump results. The teacher's teaching method is less varied; the teacher only provides repeated long jump exercises, causing students to experience boredom while learning.

Consequently, it is important to choose the right teaching method in order to create the smooth learning process. It is one of the very strategic efforts the teacher can do. By using the appropriate method, the prepared materials and the learning process can be done in more interesting and fun ways.

Meanwhile, "Different methods of training organization can lead to high level performance. There are also many means and methods to develop strength for jumpers in that all of them are able to create the prerequisites of elite performance." (Moura & Moura, 2011)

The learning methods which will be used are part method and whole method. Part method and whole method are methods that gradually learn motions after motions and train a series of movement directly and thoroughly (Irianto, 2002). Based on the statements above, the part method and whole method are the approaches to direct the students to practice the movements partially and step by step. After the students master the parts or components of the movement, then they can perform the movement as a whole series.

"The whole practice method can be interpreted as a way of providing trainings or lessons where the players are directed to practice the whole series learned" (Sugiyanto & Sudjarwo, 1996). The whole practice method is a way of training from the initial to the final stage which becomes a unit of a movement series in learning the basic skills of long

jump. The application of the whole practice method in learning is based on Gestalt theory. In essence whole method covers a series of movements which are not interrupted, without sorting out a series of movements or components of motion (Lutan, 2002).

The part practice method is a method of providing training where first the players are directed to make movements part by part of the whole series of motion, and after the parts are mastered the whole movement is continued (Sugiyanto & Sudjarwo, 1996). This part method is a way to present learning materials by dividing one unit of movement materials into several movements in learning the long jump sport. The application of the whole practice method is basically a way of teaching that begins by the smallest unit of skills. The use of part method on Physical Education learning or sports training must be planned systematically and creatively. The material must be arranged based on the stages (from simple to more difficult and complex movements). Then, they are combined to constitute an integrated whole motion.

## 2 RESEARCH METHOD

The method of this research is classroom action research. The classroom action research is a reflective, participative, collaborative, and spiral research through the application of actions and reflections until the expected improvement or result is achieved. (Arikunto, 2015).

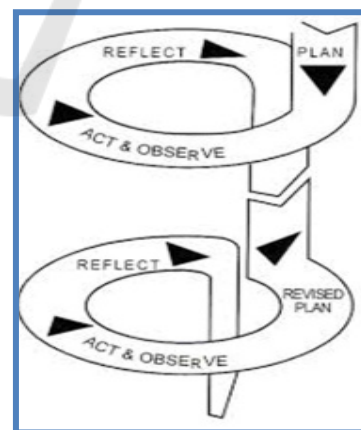


Figure 1: Spiral Action Research.

The commonly used research design is focused on three stages namely: (1) planning, (2) action and observation, and (3) reflection. (Kemmis & Taggart, 1981)

## 2.1 Action Scenario

There are two cycles in one set of action research. The real implementation depends on the achievement of objectives on problems encountered. (Uno, 2011). The first cycle is carried out with allocations of 8 learning periods or 2 meetings with 4 learning periods each meeting.

## 2.2 Research Instruments

The research instruments in this research are provided in table 1:

Table 1: Long Jump Assessment Rubric.

Indicator	Criteria
Starting	1. Running with enough body leaning
	2. Running with sufficient footstep frequency
	3. Running with good coordination between arms and legs
	4. Running straight inside the track
	5. Being able to control the run before taking off
Taking Off	1. Taking off with the strongest feet
	2. Preparing for taking off
	3. Taking off with good coordination
	4. Taking off right at the take-off board
	5. Determining the center of gravity angle when taking off about 18-22 degrees
Flying	1. Maintaining the take off position
	2. Maintaining the center of gravity well
	3. Coordinating the arm and leg movements well
	4. Performing squat style position
	5. Preparing to land
Landing	1. Landing with two legs
	2. Landing according to the jumping track
	3. Maintaining body position when landing
	4. Landing with good balance
	5. Coordinating the body condition upon landing

## 2.3 Data Analysis Technique

Classroom action research is more orientated on the process. The data collected were in the form of qualitative data. Those data were obtained from the results of observations at the action phase.

The analysis used in this research are quantitative and qualitative descriptive. The quantitative data are explained in percentage form, which will be explained in the following formula:

$$NP = \frac{R}{SM} \times 100\% \quad (1)$$

Notes:

NP = Percentage Value

R = Scores obtained by students

SM = Ideal maximum score

100 = Constant (Sugiyono, 2012)

## 2.4 Indicator of Success

The classroom action research is considered successful if it meets the indicators which are determined by standard of achievement. The successful indicator of this research is that  $\geq 75\%$  of the total students can score at least 75 or higher.

## 3 RESEARCH FINDINGS

The result of students' long jump ability on the initial test is presented on table 2

Table 2: Initial Ability Data.

Criteria	Part Method	Whole Method
Pass the standard of achievement	12 students (41.38%)	14 students (48.28%)
Fail the standard of achievement	17 students (58.62%)	15 students (51.72%)

Based on the table above, it can be seen that the long jump ability of Class XI A and Class XI B members failed to meet the standard of achievement. From the pre-action tests, it was found that there were some students finding it difficult to do long jumps properly both from the starting, taking off, flying, and landing. From the data, hence the effect of part method and whole method on the long jump achievement was analyzed whether it could meet the

standard of achievement. Thus, it is expected that the students' long jump scores could pass the standard of achievement, which is 75, while the success criterion is 75%.

The stages of the implemented cycle are: (1) Planning On the planning process, the devices needed at observation and evaluation were prepared. In this case, lesson plan, learning media, learning resources, observation sheets, and evaluation sheets were also prepared. There were some things to do at the planning stage in this first cycle. They were: (a) discussing the learning method with the classroom teacher as the collaborator, (b) compiling a lesson plan with the teacher in order to fit the method and materials discussed, (c) preparing the learning devices, (d) Simulating the learning process, and (e) Preparing the observation sheets, instruments, and documentation device.

(2) Actions and Observation: The action process went as planned in the lesson plan. In this first cycle, the allocated 8 learning periods were divided into 2 meetings; 4 learning periods for each. When the teacher conducted the learning activities completely, the researcher acted as an observer. The researcher used observation sheets, which have been compiled, to observe, record, and document things. Next, the researcher observed and collected the students' data.

In the action process, the teacher used the learning method which has been designed. When the action process took place, the researcher, as an observer, observed and recorded the result of the action mentioned previously. The researcher also prepared instruments to support the observation.

(3) Reflection: At this stage, the researcher, teacher, and observer reflected whether the process of action had been carried out properly or not. The reflection process did not only reflect on the action, but also reviewed the design (lesson plan) and the learning media. The researcher, teacher, and observer analyzed the result of action in the first cycle, whether it has met the successful indicators or not. It is used as a basis to draw up the second cycle if necessary.

The results of the first cycle between the learning groups using part method and whole method are presented in table 3:

Table 3: Ability Data in Cycle I.

Criteria	Part Method	Whole Method
Pass the standard of achievement	24 students (82.76%)	22 students (75.86%)
Fail the standard of achievement	5 students (17.24%)	7 students (24.14%)

The table above shows that part method group obtained the average score of 81.21, with 24 or 82.76% students passing the standard. Meanwhile, the whole method group obtained the average score of 79.31, with 22 or 75.86% students passing the standard.

Based on the research findings, then the research had to be stopped because the students could fulfill the standard of achievement on their long jump performances.

## 4 DISCUSSION

The implementation of action in this research was the application of part method and whole method in Physical Education learning process to improve students' long jump ability. In order to teach Physical Education, particularly in improving long jump ability, teachers can use the part method and whole method depending on the situations and needs.

The part method is an approach where firstly the students are directed to practice part by part of the whole set of movements, and after the movement parts are mastered, the whole movements are practiced (Sugiyanto & Sudjarwo, 1996). Meanwhile, the whole method is a way of approach where students are directed from the beginning to practice the whole series of movements.

The implementation of Physical Education learning in enhancing the ability of the students through the part and whole methods is done repeatedly with the aim that the students are able to understand and master the concept well.

Thorndike (as cited in Eveline Siregar and Hartini Nara, 2011) states that if the response to the stimulus is repeated, it will strengthen the relationship between response and stimulus, whereas if the response is not used, its relationship with the stimulus is getting weaker.

Based on the research, the students' skills and varied concepts can be improved if they are given particular practices and drills intensively. The activities done in Physical Education using part method and whole method are the activities to know the movement concepts, to practice the movement parts, to do the movements by movements repeatedly, and to compile the whole movement steps.

The findings of this research are strengthened by (Yulianto, 2016) who says that there is a difference in the effect of learning between the part method and whole method on football shooting improvement.

The effect of learning by using part method is better than learning through the whole method. In addition, (Subama, 2015) shows that learning by using the part method has more meaningful learning effects than the whole method on increasing mastery of spike skills in volleyball at volleyball extracurricular in MA Plus Al Munir, Sumedang.

The part method really helped the students who have not learned the long jump movement series properly. The movement series were simplified from the starting part, implementation part, to following-through part. Those series were done to help students learn and understand the movements. This method is more effective if the students have understood and mastered a part of movement before learning the other parts, and combine them into a series of movement (Adiesta & Tuasikal, 2017). On the other hand, this method is not effective if the students directly learn the whole movement series (Adiesta & Tuasikal, 2017). Based on the statements above, it can be concluded that the part method is more suitable to teach long jump techniques. It is because there are some movement stages in the long jump techniques which can be taught separately. Thus, the results of the long jump will be maximized when the components or stages are trained continuously and programmatically.

## 5 CONCLUSION

Based on the research findings and discussions, the three following conclusions can be drawn. Those are: (1) There is significant influence of the part learning method on the long jump achievement of grade XI students at SMK Muhammadiyah 1 Kalirejo in Central Lampung.

(2) There is also significant influence of the whole learning method on the long jump achievement of grade XI students at SMK Muhammadiyah 1 Kalirejo in Central Lampung.

(3) There are differences between the influence of part learning method and the whole learning method on the long jump achievement of grade XI students at SMK Muhammadiyah 1 Kalirejo in Central Lampung. 82.76% students who belonged to part method group could pass the standard of achievement. Meanwhile, there were only 75.86% students of the whole method group who could pass the standard of achievement.

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