

## CONSTRUCTION OF THE TRIP JUMP TEST IN ATHLETIC STUDENT

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### Abstract

*The purpose of this research is to make improvements in the triple jump test. The component that is repaired is only in the process of executing the jump starting from the prefix, jump, step, jump and landing. Usually the triple jump test is only by making the farthest jump and then measuring how far the jump is made. To find out the quality of the jumps of Riau Islamic University athletic students, of course there must be test instruments and test norms for these athletes. This research method uses research and development methods or research and development. The validation of research and development instruments used content validation which was carried out by several experts (expert judgment) who made one test and measurement expert and two experts in the field of athletics. Based on the results of the expert test evaluation analysis, the triple jump instrument is declared valid and reliable, so that it can be used as research material for athletic students.*

### Keywords: Construction; Test; Triple Jump

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## INTRODUCTION

Athletics is a branch that is contested or contested which consists of numbers, namely: walking, running, jumping and throwing (Henjilito, 2017). In the number jump category, one of the contested is the triple jump athletics branch. In this case, the triple jump is also an athletic number taught at the university level with basic technical elements consisting of starting, pedestals, flying in the air and landing. The triple jump is a series of running movements, jumping with a fast movement from predetermined jumps or pedestals, namely two times on the same leg and one other leg with an uninterrupted movement. Furthermore, the triple jump is also often referred to as the triple jump, in English it is also called the triple jump.

Then in the implementation of the triple jump there is a sequence of techniques that must be done, namely hop, step, and jump. To be able to perform well in triple jump, there are several aspects of motor skills that must be considered, namely, strength, explosive power, flexibility, coordination, speed, balance, agility, flexibility, etc. All the motor skills that support the triple jump skills above can only be achieved by a process of learning and practice. Furthermore, to support the assessment process in triple jump, it is necessary to develop a test instrument, to make it easier to collect data or jump results. The test instrument for triple jump athletics should be supported by the utilization of science and technology that can be applied to the triple jump athletics.

The success of implementing the triple jump technique can be seen from the five phases, namely at the start, jump, step, jump and landing. So to know the triple jump ability, standard test instruments are also needed. The existing triple jump test instrument is to carry out triple jump tests starting from the start, jump, step, jump and landing using the basic triple jump technique to jump into the tub of the jump. The measurement is taken, namely the distance of the jump from the tub of the jump to the position of the feet landing in the tub of the jump. The value of the test is that the teste makes 3 jumps, the farthest or best result of the 3 jumps is taken which is the data. Value is measured in units of meters.

The triple jump movement is the same as the movement in the long jump, the whole triple jump motion can be divided into several parts, namely the prefix, jump, step, jump, and landing (Megtra, 2020; Merta et al., 2013; Sugarwanto & Okilanda, 2020). Triple jumps can also be defined as a series of running movements, jumping with a fast movement from predetermined jumps or pedestals, namely two times the same leg and one other leg with an uninterrupted movement (Mochamad, 2004). So that the triple jump skill is a series of movements that begin with running at full speed, which consists of a predetermined jump or pedestal with two hops with the same foot, one step using the other foot and lands on a jump tub with dexterity, prowess, systematic and coordinated (Kresnapati, 2019; Podung, 2015; Turi & Wulandari, 2021).

Triple jump in English is also called Triple jump. The triple jump is often called the triple jump because it has 3 basic jumping techniques (Smeeton et al., 2013; Wilson, 2009). And in triple jump there are 4 phases of movement, namely (Douglas, 2009): triple jump has a heavy burden on the body because triple jump has 4 phases, namely the prefix phase, jump phase, step phase and jump phase.

To achieve maximum results, of course, students must master the basic techniques of triple jump. The basic triple jump technique and the overall triple jump motion can be divided into four phases, namely: approach, hop, step, jump (Pardilla, 2017; Rohmat, 2010). The basic technique of triple jump is as follows:

#### **Basic Techniques of Approach**

The prefix aims to obtain maximum speed, and prepares for an effective first takeoff from the takeoff board. The prefix has 3 stages viz. 1) prefix length is more than 20 steps. 2), the jumper must develop a relatively high speed that can be obtained by running acceleration speed. 3) the third stage in the prefix relates to the preparation for refusing, with the legs being active with downward and backward movements, and the longer strides the running speed should not decrease.

#### **Basic Jumping Technique (Hop)**

The hopping consists of bouncing, hovering, and landing. Rejecting must be done quickly while bringing the body forward. The soles of the feet refuse to start from the flat part rolling to the end. Rejecting strength is assisted by swinging legs and arms. Swinging thighs form a horizontal line and flexing knees form an angle. Flexibility of the knee keeps the limp leg short, allowing for a rapid forward swing. During the flight, the two jumping limbs make a step in such a way that the starting leg is ready to make an effective landing and repulsion at the time of the step. Landing is done with the soles of the feet flat so that the body pressure rests on a rather wide surface.

#### **Basic Technique Steps (Step)**

The overall motion of the steps is basically the same as the overall motion of the lift. At this stage, the knee of the leg is pulled up as high as possible. Both arms swing in the opposite direction of movement of the legs to maintain balance.

The legs are bent and swung straight forward ready to become the active leg at the end of the step and students take a wide stride position (Carr, 2003).

### **Basic Jump and Landing Techniques (jump)**

At this jump stage, the jumper will lose more horizontal speed than during the jump and step stages done before. All styles in the triple jump can be applied at this stage of the jump. What needs to be considered in the jump stage is to avoid excessive loss of horizontal speed through fast and strong repulsion, maintaining balance when flying, and preparing for landing.

Landing must be carried out in a manner that does not cause an adverse landing. For this reason, when the feet touch the sand, the head is lowered and the arms are swung forward close to the center of gravity so that it does not make a landing that is detrimental to the jumper. Use a counter motion of the arms into overextension and then pull the arms forward and up while pushing back, on landing both legs stretch forward in a relaxed manner ready to land (Gray, 2003).

In the triple jump, what must be considered is the hop, at this jump stage it causes students to lose strength and horizontal speed, that speed and the strength of the repulsion will result in the distance and length of the jump, speed and strength are the most important components (Young, 2004). In the jump that must be achieved is the height. When flying and landing is the same as a long jump, try to maintain good balance and lift your legs up until the last second (Fred, 2008).

### **The Nature of Tests, Measurement and Evaluation**

#### **Definition of Test**

The test is a form of evaluation tool to measure how far the teaching objectives have been achieved (Kadir, 2010). Tests as data collection are a series of questions/exercise that are used to measure knowledge, intelligence, abilities, or talents possessed by individuals (Zhannisa & Sugiyanto, 2015). Based on the above opinion, it can be concluded that the meaning of the test is as a measuring tool that has various meanings, one of which is the test is a measuring tool to measure someone's ability. Likewise in this study, in making the test instrument what is meant is measuring psychomotor abilities, especially measuring psychomotor abilities in triple jump skills which are slightly modified. A good test

must meet several requirements, namely; must be efficient, must be standard, have norms, objective, valid (valid), and reliable (reliable) (Kadir, 2010).

### **Definition of Measurement**

Measurement is a collection of information, usually this activity is carried out by comparing something with a certain size and is quantitative (Susilawati, 2018). Measurement is the process of collecting data or information that is carried out objectively. Thus it can be said that measurement can be carried out if an instrument has been carried out then given scores with raw scores. Measurements must be carried out in accordance with program objectives and carried out in the context of developing or perfecting objectives (Fenanlampir, A., & Faruq, 2015).

### **Definition of Evaluation**

Evaluation is always carried out with reference to the objectives to be achieved in an activity. Evaluation is a process or activity of selecting, collecting, analyzing and presenting information that can be used as a basis for decision making and preparation of subsequent programs (Eko Putro Widoyo, 2012).

Evaluation is the process of giving consideration or meaning regarding the value and meaning of something being considered. Something that is considered can be in the form of people, objects, activities or a particular unit (Fenanlampir, A., & Faruq, 2015).

The purpose of evaluation is to obtain accurate and objective information about a program (Junaidi et al., 2018). This information can be in the form of the program implementation process, the impact/results achieved, efficiency, as well as the utilization of the evaluation results which are focused on the program itself, namely to make a decision whether to continue, improve or discontinue it.

### **METHOD**

This research method uses research and development methods or research and development. According to (Sugiyono, 2010) research and development methods are research methods used to produce certain products and test the effectiveness of these products. In this study the aim was to develop or modify the shape of the existing triple jump instrument and then make a few improvements regarding the process of executing the jump starting from the start, pedestal,

hovering and landing. There are many development research models that can be used, but in this study using development with the Borg and Gall model (Haryati, 2012: 18). The Borg and Gall version of the development research model includes ten activities, namely: (1) research and information collecting, (2) planning, (3) developing preliminary form of product, (4) preliminary field testing, (5) main product revision, (6) main field testing, (7) operational product revision, operational field testing, (9) final product revision, (10) dissemination and implementation. The flow of this research is taken from the development of the Borg and Gall model.

The targets achieved in this study were athletic students. This research is located in Marpoyan Pekanbaru City and will be carried out after the research proposal is received. The population in this study amounted to 40 students of Penjaskesrek Islamic University of Riau and a sample of 40 people using a purposive sampling technique.

Data analysis techniques in this study are as follows: (a) validity test using content validity and construct validity. The construct validity test was carried out by analyzing the triple jump test results data. The data obtained from the tests were tested for validity using the SPSS computer program. (b) reliability test to describe the consistency of measurement results with the help of the SPSS computer program.

## **RESULT AND DISCUSSION**

The triple jump test is a measuring device used to determine and measure the ability to jump well in a jump competition, especially in triple jump numbers. Based on the results of observations, the jumping ability of athletic students can be said to be good. But when doing jumps, especially during triple jumps, namely prancing, stepping and jumping, students are still unsure about making a decision which leg to step first and also the process of jumping accompanied by arm swings when making jumps is very important. Therefore, it is deemed necessary to make a triple jump test instrument, which focuses more on the process of the jump starting at the start, fulcrum, takeoff and landing. So it will be more accurate



when doing triple jump tests.

The triple jump only focuses on the farthest distance to make a jump which is measured by the distance measured by the meter, the repair component in the triple jump test is only in the process of executing the jump starting from the prefix (Hop, Step, Jump) to the pedestal, hovering and landing which is made by the test instrument. The triple jump test produced in the small group trial is the first step before conducting research in the large group trial, for that the resulting data is a validation from one test and measurement expert and two athletic sports experts. Based on tests and measurements of triple jump ability in small-scale trials of 20 athletic students. The test is carried out based on the criteria for the item, Score 0 (zero) if the sample fails to do all the movement points, Score 1 (one) if the sample does 1 (one) point of the movement that is done correctly, Score 2 (two) if the sample does 2 (two) points of movement that are carried out correctly, Score 3 (three) if the sample does all the points of movement that are carried out correctly. The method of calculation is that each point of the test item is searched for validity first, after all the test items are valid, then the reliability is sought using SPSS. If the value of  $r$  reliability is more than the value of  $r$  table, then the test item data is reliable.

The results of the validity of the small group trial using the SPSS application with the results obtained 0.61 are included in the moderate category. the results of the known validity are then compared with the price of the  $r$  table according to the number of samples used in the study. if the calculated  $r$  value is greater than the  $r$  table price, the instrument test results are valid and can be used to retrieve data in research.

Calculation of the reliability of small group trials was carried out using the SPSS application with a result of 0.69 which is in the medium category. The known reliability results were then compared with the  $r$  table prices according to the number of samples used in the study. if the calculated  $r$  value is greater than the  $r$  table price, the instrument test results are reliable and can be used to retrieve data in research.

Based on the above data, the triple jump test instrument developed is correlated with a total score having a validity of 0.61 and 0.61 greater than r table (0.396). While the reliability results are 0.69 greater than r table (0.396). This means that expert judgment and triple jump test measurements are valid and reliable, so they can be used as research.

The results of the validity of the large group trial using the SPSS application obtained 0.70, including the moderate category. the results of the known validity are then compared with the price of the r table according to the number of samples used in the study. The measurement results of the triple jump test in the large group trial developed had a reliability value of 0.74. Based on data analysis, the lowest triple jump skills with a score of 75 and the highest triple jump skills with a score of 95.

**Table 1.** Frequency Distribution of Triple Jump Tests

Interval	Catagory	Frequensy	Percent
75 – 78	Not Good	4	10.00
79 – 82	Pretty Good	6	15.00
83 – 86	Passably Good	10	25.00
87 – 91	Good	13	32.50
91 – 95	Very Good	7	17.50
Total		40	100

The results of the study (Pardilla, 2017; Rian Rudhie Prasetya, 2013) yielded a direct effect and an indirect effect between leg muscle explosive power, fat thickness and self-confidence on triple jump results in Pekanbaru Riau Pelatda Athletes. Thus the distance of the triple jump can be increased by increasing the explosive power of the leg muscles, fat thickness and self-confidence.

Based on the development research steps to produce the product that has been carried out, the final product is obtained in the form of a triple jump instrument. After making this triple jump test instrument, students will no longer have difficulty finding test instruments that are appropriate and in accordance with the latest PASI regulations.

## CONCLUSION

Based on the results of the analysis of the evaluation of three experts, namely one test and measurement expert and two athletic sports experts,



especially in the number of outbreaks, the validity was 0.70 and the reliability was 0.74, including the high category. This means that expert judgment and triple jump test measurements are valid and reliable, so they can be used as research for athletic students.

### Thank You

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