Development of Volleyball Course Scoring Instrument for Students

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Abstract: The purpose of this research is to compile the instrument of assessment of the theoretical subjects and practice of volleyball game which is valid, reliable and objective of participants in volleyball game course. The research design used is Research and Development. The test points used include: Lower Passing Test, Upper Passing and Service. The results of the research are as follows: Validity Battery test is obtained from the correlation between standardized test results with judges' assessment of learning outcomes of Technique and Volleyball Practice with correlation with criterion method, and obtained correlation coefficient of = 0, 684 (r0.123) valid. The reliability of the instrument grains used with the test-retest method obtained by each result is as follows: (a) the bottom passing of the wall is obtained by correlation coefficient (r): 0.660, (b) test passing over the wall obtained correlation coefficient (r): 0.490, (c) Service test obtained correlation coefficient (r): 0,545 so it is declared reliable. Objectivity of the lower passing test instrument obtained correlation coefficient (r): 0.787. The result of regression value ( ) is 0.266. This test is easy to do in one place in a short time. The conclusion that this volleyball scoring instrument is valid, reliable and practical is used to assess the ability / skill of the students in the course subjects and volleyball game practice.

1 INTRODUCTION

Education in the present is very important for human life. Education is one way to develop the potential that exists in every human being. Learning comes from the basic word "ajar" which means trying to gain intelligence or knowledge (KBBI). The learning process is a complex process, depending on the learning theory it embraces. There are several opinions about the notion of learning. (Proctor, 2005) learning is a process of change in human beings which is displayed in the form of quality and quantity of behavior such as the improvement of skills, knowledge, attitudes, habits, understanding, skills, thinking power and other abilities So, essentially learning is all process or a conscious, deliberate, active, systematic and integrative effort to create changes in itself toward the perfection of life. In studying, there will be a learning process. Processes that will involve students and learners. According to UU No. 20/2003, Chapter I Article Verse 20, learning is the process of interaction of learners with educators and learning resources in a learning environment. It is concluded that the studying activities can lead to activities called learning.

Learning activities are activities that involve learning and learning elements. Learning activities start from elementary school level, middle, advanced until level of higher education. The college level is the level after the mandatory education recommended by the government. College is a place where one can choose field according to interest owned. This level can also hone one's talent ability not only in the cognitive field but affectively or psychomotor.

Faculty of Sport Science is in charge of several disciplines of science in sport fields which is divided into several majors. The majors of the Faculty of Sport Science include: Physical Education and Health, Sports Coaching Education, and Sport Science. Especially for the Department of Physical Education and Health, it discusses about education and learning in this case through the media of physical activity as the main material. Physical Education is a process of behavioral change that aims to improve human performance through physical activity tailored to its purpose, Bucher and Wuest (1991). Department of Physical Education and Health discusses the nature of physical education in general, theories in learning, learning strategies, teaching strategies and health related to

human life. To fulfil the requirements, the materials are divided into several courses that are based on the field and skill.

Learning which was conducted in one semester period must meet the objectives in accordance with the basic competencies set in each course. Learning objectives can be achieved if the learning indicators can be resolved. Learning indicator is a marker or reference mastery of the given material and as a basis to decide whether the learners are able to receive teaching materials provided by teachers and lecturers. To find it out, it needed a tool to know the achievement of learning outcomes which are implemented. The process of learning outcomes is to use the evaluation of learning outcomes. Evaluation of learning is one stage of the implementation of learning to interpret the results achieved learners. The main function of evaluation in this case is to provide information useful for the decision maker to determine the policy to be taken based on the evaluation that has been done. Evaluation is a systematic activity to determine the value (Verducci, 1980). Evaluation activities can also be interpreted as a process for obtaining information for decision making (Isaac and Michael, 1995). Past research that discusses the development of observational instruments on volleyball skill levels can reflect the level of mastery of techniques and the application of tactics in play (Palao et al 2015). It can be concluded that to achieve the purpose of something that can be measured systematically it can be done by doing evaluation. Understanding of learning evaluation is a process to determine the value of learning that is implemented, through measurement activities and assessment of learning to obtain data information about the learning outcomes experienced by students and cultivate or interpret it into value in the form of qualitative or quantitative data in accordance with certain standards.

Based on the findings made by researchers at the time of volleyball learning activities, it was concluded that there is no test instrument that is sequenced to measure the mastery of basic passing and service techniques as an early indication of mastery skills for students with beginner skill level in playing volleyball. It takes a test instrument that can measure the basic skill mastery of the volleyball so that the student can perform a good volleyball game. In a learning activity of volleyball skill, the appropriate measuring instrument is needed and done almost simultaneously, so that skill mastery can be observed appropriately (Grgantov et al, 2013). With the measuring tool for good skills it will be able to meet the desired learning objectives.

2 METHODS

This research uses development research method because it is suitable with the problem found in the preliminary study, so that it can solve the gap between expectation and reality happened. Development or often referred to as development research is done with the intention of bridging the gap that extends wide enough between research and education practice. This research uses research and development method by adopting conceptual model. In development research does not always develop new products, can by refining existing products that can be accounted for.

Research and development always begins with the needs, problems that require solving by using a particular product. Researches in the field of education, generally not directed to the development of a product, but aimed at finding new knowledge regarding fundamental phenomena, as well as educational practices. Thus research development is a study that examines a theory, concept or model to create a new product or refine an existing product that starts from the existence of a requirement of a problem that can be solved with the product. The procedure for developing the Bolavoli skill test instrument was then developed in accordance with the steps of composing the test instrument described as follows:

a. Determine the purpose of a test
b. Identify the ability to be measured
c. Choose a test item
d. Facilities and equipment
e. Test and revise test items
f. Select the subject to use
g. Determine the validity of the test items
h. Determine the reliability of test items
i. Determining the norm to use
j. Create a test manual

Data obtained in this study by using the subject of students of the course of volleyball, Faculty of Sport Sciences Universitas Negeri Malang includes the test results of volleyball skill test using Battery Test. These data include test Validity of test items, Test of Test item reliability and Test Objectivity.

3 RESULTS AND DISCUSSION

The development of this skill test instrument is preceded by the identification of the criteria of each instrument. The purpose of this study was to determine the validity of a series of bolavoli skills

tests for students. Test validity was analyzed by correlation with criterion method of Pearson (r0.123), Reliability with test-retest and test method by comparing each value of observer or judge. The test items in the series consist of the lower Passing Test, the Upper Passing Test and the Service Test. This tests are chosen based on the frequency of skill that appears in a volleyball game.
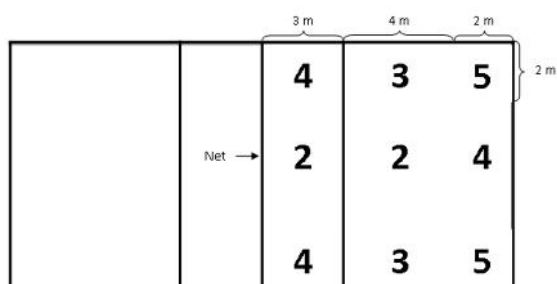

Figure 1: service test instrument.

As shown above, Figure 1 describes an instrument about service test. In this test the participant performed 10 repetitions in 1 set of experiment. Service performed with 2 sets of experiments. Assessment is based on the objective score of service objectives and the observation results of the movement implementation process.
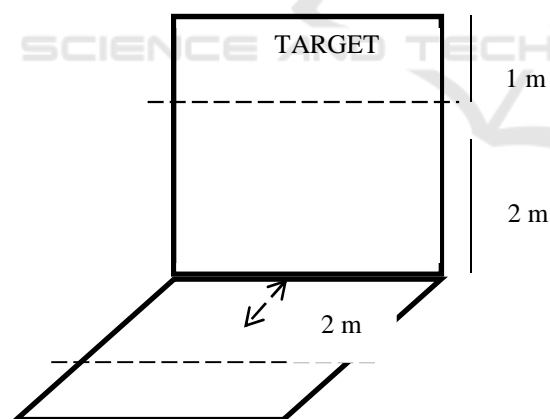

Figure 2: Instrumen Tes Passing atas dan Passing Bawah dari Brady.

Implementation of the test is (as revealed in Figure 2); the student passes the upper or lower passes to the specified target area for one minute at a distance of 2m and the target height is also 2m. Assessment is done based on the score in one minute and the results of observations of the process of implementation of the movement.

The test results of the instrument is done twice so that the results obtained as follows:

Table 1: Test Instrument Criteria.

No	Criteria	X1	X2	X3
1	Validity	0.710	0.602	0.700
2	Reliability	0.914	0.908	0.605
3	Objective	0.989	0.571	0.643

Note:
X1   : Lower *Passing* Test
X2   : Higher *Passing* Test
X3   : Service Test

In the next stage, it is known intercorrelation of each test of skill points to play volleyball so that the results obtained as follows:

Table 2: Intercorrelation of Test Point.

	X1	**X2**	**X3**
X1	1.000	**0.105**	**0.230**
X2	**0.105**	1.000	**0.350**
X3	**0.230**	**0.350**	1.000

Base on the Table 1 and Table 2 it can be concluded that the correlation results between X1 and X2 obtained correlation coefficient 0.105. Result of correlation between X1 and X3 obtained correlation coefficient 0,230. Result of correlation between X2 and X3 obtained correlation coefficient 0,350.

From the result, the regression value ( ) was analyzed so that the correlation coefficient test of r = 0,671 can be concluded that each test item has positive correlation and can be used as battery test for volleyvall playing skills.

4 DISCUSSION

The process of learning activities consists of planning, implementation and evaluation. In the learning activities are required to contain learning objectives tailored to the curriculum. The goal of the volleyball course is "Students have the knowledge and skills in performing basic techniques of volleyball games.". Referring to the objective, a volleyball test skill test instrument consisting of passing down, passing and service. The item is selected based on the basic technique level frequency that appears when the bolavoli game is performed. The test is selected based on the

specifications of the sport. A test should reflect skills related to the actual state of the game.

Research and development results stated that "to further develop the traditional bolavoli skills test, a series of basic bolavoli techniques have been developed, such as service, passing down and passing over which can assist in achieving bolavoli learning objectives (Bartlett ett al 1991)

Appropriately written in the Indonesian National Qualification Framework (KKNI) In the level of the college level at the level of 6 that states that students or learners are able to apply the field of expertise, mastering theoretical concepts of the field of knowledge, take the right decisions and responsible for the work itself in the field of their knowledge . It is used as a basis in determining the purpose of bolavoli lectures conducted in FIK UM and specified mandatory basic techniques that must be mastered is passing down, passing over and service. To identify the learning objectives achieved or not it must be measured and assessed. In sports performance should be measurable. This is consistent with the findings of a study which suggested that a suitable measuring instrument could make the identification of exercise practice well done (Robertson et al, 2017)

The results of the preparation of the instruments performed, each of which has a very good test criteria. Each test item used is required to have the following criteria:

4.1 Validity

A test item should measure what should be measured. A test instrument must be in accordance with the object to be known the level of competence. Validity is very important to determine because a test must be true and in accordance with something that will be of concern to be measured. Previous research mentioned the importance of test instrument validity is the study of the style of the ski jumping exercise, finding an effective system using inertia sensors. The results suggest that the inertia sensors are very valid to measure the exactness of the style on the ski jumping level intermediate (Brock and Ohgi, 2016). Based on the above, it needs a valid measuring tool also in measuring the level of achievement of skill mastery from a sport.

4.2 Reliability

A test instrument must have a consistency level in the results obtained. The results obtained at the time of the data retrieval activity, between the first test results and the subsequent tests did not have significant differences.

4.3 Objectivity

A test is said to be objective if it is independent of the measure, meaning that if the measurement is done by several people, then the results obtained are relatively close to the same. The degree of similarity of results obtained from some people who make these measurements is referred to as the coefficient of objectivity.

The result of intercorrelation of test item got coefficient number not too high. This is because the skill level of each student on each test item is different. Some test subjects are only able to master one basic technique well.

The result of the regression value for the chain test is obtained high correlation coefficient level it can be stated that the criterion of the arranged chain test can be categorized very well. Round tests are strongly recommended to know the level of achievement mastery of basic techniques of playing volleyball from students. This is in line with previous research which says that series tests are very useful in describing the ability to play bolavoli from junior athletes at various levels and can be maximally improved through practice (Gabbett and Georgieff, 2006). With this series of tests it is assumed that if students are able to master these three basic techniques in learning, they will be applicable in a game of volley.

5 CONCLUSION

The results of research developing the test instrument have positive correlational coefficient values so that it can be used by teachers and lecturers to proceed to evaluation in volleyball learning. The test is easy to do in any places in a short time. In addition, the instrument has also been proven to be valid, reliable, and practical to evaluate either theoretical or practical matters in volleyball.

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