

Development of Learning Model Smash Volleyball Based Circuit

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Abstract: This research is to create circuit learning model based training to improve technical capabilities smash volleyball at Faculty of Sport Science, Medan State University. This study referred from developing research which was propounded by Borg and Gall. Based on trial results and was applicated to small and big samples, it concluded that the circuit -based learning model development can be a model in increasing the skill of volley ball smash technique mastery at faculty of Sport Science of Medan Stated University. Circuit based learning model is wearing 7 group and 21 forms of learning. Of the 21 models of learning based training deemed necessary circuit applied in each learning smash volleyball. The results of this study have been answered about the effectiveness of learning with the results of learning each new model of learning assessment indicators is more effective than the old one. The average effectiveness of the SS indicator on older models of learning is 78.33% and 86.67% of new models of learning. The average effectiveness in SW indicator on older models of learning is 73.33% and 80.00% of new models of learning. The average effectiveness of the NT indicator on older models of learning is 71.67% and 85.00% of new models of learning. The average effectiveness of the indicators of SA on the old model of learning is 70.00% and 78.33% of new models of learning. Learning outcomes (average of all indicators) that reach increased from 73.33% to 82.50%. It can be concluded that circuit -based learning model more effective than the old learning model.

Keywords: Model-Based Learning, Smash, Volley Ball

1. Introduction

The higher the user demand for the quality of the graduates, the more every university improves in improving the competence of graduates. The improvement made by universities also refers to the demand of graduate users, so in need of innovation the latest innovation in giving lecture material in order to give effect efficiency and effectiveness in every lecture. Curriculum changes are always done referring to the development of the era so it needs to do sinkronisasi in learning strategies in order to get maximum results.

The low quality of graduates of educational colleges of education workers can be deduced from the many complaints from the community that directly see the shortcomings in the competence of teaching about motion skills are taught. This can be seen from two things: (1) Our educators have a weakness in mimicking motion skills in volleyball games, especially giving reinforcement about the technique of doing smash in the bolavoli lesson. (2) Lack of knowledge in the application of learning models that make

supporters in ease in creating competence goals. To answer those needs it needs to be made deeper changes such as strategy, application of new learning model model, improvement of facilities and infrastructure, can overcome the problems that have been the obstacle to the expected slow performance.

Research focus

Based on the description on the background of the above problem then this research is focused on Development of Circuit-Based Learning Model To Increase the ability of bolavoli smash technique at the Faculty of Sport Sciences, State University of Medan.

Learning Model Concept

Research and development (R & D) is a strategi or research method is quite powerful. The research and development model is "a process used develop and validate educational product". The research and development (R & D) approach in education includes ten steps. The chart of the steps of this study can be shown in the following figure:

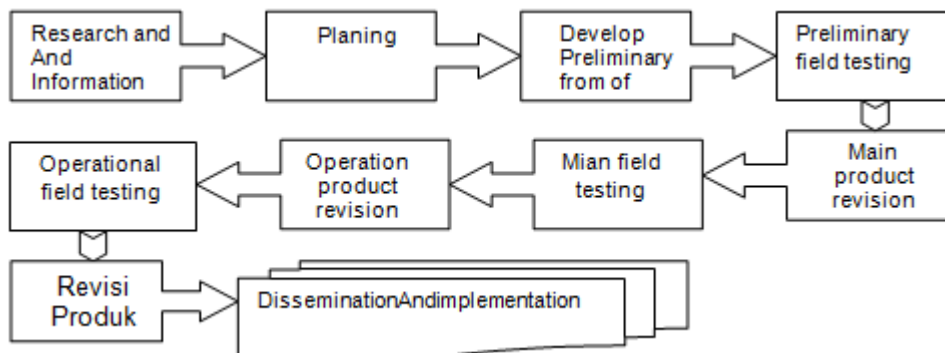


Figure 1: The steps of using Research and Development (R & D) method according to Borg and Gall

2. Model Concepts Developed

1) Purpose and Pupon Learning

Learning according to theoretical view is a process to provide a real experience for students. There are three potentials that must be changed through learning, namely intellectual potential (cognitive), potential personality morale (affective) and mechanical / muscular (psychomotor) skills. Bloom's Taxonomy classifies learning outcomes into three domains: cognitive, affective and psychomotor.

2) Circuit Exercises

Circuit is a learning model consisting of several stations arranged in a circle in order for the muscle groups to work sequentially from station to station. Imran Akhmad in Bompa (2013) states that Circuittraining is a name of the exercise with stations conducted in circles or sequentially back to the original place consisting of 6-9 stations. fox (1992) states that circuit training contains a number of stations where an athlete performs exercises within a certain time. A circuit consists of short circuits) 6 to 9 exercises), medium (9 to 12 exercises), or length (12 to 15 exercises) over time and can be repeated several times depending on the number of exercises involved.

3) The Nature of Smash Skills In Volleyball

The many basic techniques that exist in the game of volleyball one of them is a smash technique, smash is a technique that is always in use to attack and generate numbers and achieve victory. Because the game bolavoli is a fast game then the attacking technique is more dominant than the defense technique. Some other factors that affect the game of volleyball are biological aspects consisting of the basic potential or ability of the body, organ function, posture, body structure and nutrition, and psychological, intellectual or intellectual aspects, motivation, personality, and coordination of muscle work and nerve. While the factors supporting the smash is giving the ball on the smasher in question as well as blok.Beberapa factors that determine the success of someone in the smash is timing / accuracy, including:

- a) Accuracy when doing prefix,
- b) Accuracy when jumping,
- c) Accuracy when hitting the ball,
- d) Accuracy on landing.

4) Stages Smash On Volleyball

- a) First stage: Run up (run over)
- b) Second stage: Take off (take off)
- c) Third stage: Hit (hit while flying in the air)
- d) The fourth stage: Landing (landing).

3. Research Method

This study focuses on developing a model of learning, so that the approach and method used in this research is research and development (R & D) method, with the chosen development design is referring to the development proposed by Borg and Gall. The development of learning model is done through three stages: (1) identification and needs analysis stage, (2) development stage of design and draft model circuit, and (3) testing phase (expert review and trial). A small group trial was conducted on health and recreational students in the 2014 A-B regular class with a

total of 15 people and a large group test was conducted with a total of 56 people. Data were collected using documentation, tests, non-tests, questionnaires, and observations. Data analysis was done descriptively, qualitatively and quantitatively. In the expert test phase and small group test, the validity, practicality, and effectiveness of the model, are analyzed descriptively with the following criteria. In large group trials (field tests) ie at evaluation stage III, the test was done by experimental study, with experimental design.

before-after or one-group –pretest-posttest design.

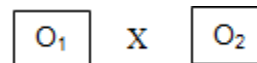


Figure 3: Experiment Design *before-after (one-group – pretest-posttest design)*(Sugiyono, 2008:111)

4. Results

The result of this research is a book of learning model of circuit-based volleyball smash at State University of Medan on physical health education students of second semester of class A and B, which take advanced volleyball course with Number of 56 students. This preliminary research to get information about smash movement volleyball done by students. Development of learning model of circuit-based volleyball smash using Borg and Gall development method, which consists of 10 steps and divided into three global stages: (1) identification and needs analysis stage, (2) development stage design and draft learning model smash volleyball circuit based, (3) test phase (expert review, small group trial, and field test).

Based on the result of research, it is concluded that there is a difference between old model of learning model and new model learning (model of circuit training). Results Effectiveness of the development of learning models learning outcomes old and new models has increased from 73.33% to 82.50%. Questionnaire Assessment of the design of learning has 27 points statement. The results of the questionnaire assessment conducted by students both on learning new models and old models can be seen as follows: that the effectiveness of the old model of learning design is 71.30% and the new model is 82.35%. Questionnaire Assessment Draft Learning model circuit has an effectiveness of 76.5%. Questionnaire Questionnaire Learning circuit model and the effectiveness of questionnaire assessment of learning circuit model has an effectiveness of 89.70%.

Effectiveness of Learning Media Development

a) Learning Outcomes

Learning outcomes of old and new models with the development of learning models can be seen in the following table:

Table 1: Total Learning Model Test Results

Learning	Score Item				
	SS	SW	PB	SA	Total
Last Model	170	141	140	147	598
New Model	211	194	199	192	796

Table 2: Comparison of the Effectiveness of Learning Model

Last Model Learning		Assessment Indicator	New Model Learning	
Result	Effectiveness Percent		Result	Effectiveness Percent
170	75,89%	SS	211	94,20%
141	62,95%	SW	194	86,61%
140	62,50%	PB	199	88,84%
147	65,63%	SA	192	85,71%
598	66,74%	Learning Result	796	88,84%

Based on the above table, each indicator of the new model learning assessment is more effective than the old model learning. Average effectiveness on SS indicator on learning of old model 75,89% and learning new model 94,20%. Average effectiveness on SW indicator on learning of old model 62,95% and learning new model 86,61%. Average effectiveness on PB indicator on old model learning is 62,50% and learning new model 88,84%. Average effectiveness on SA indicator on learning of old model 65,63% and learning new model 85,71%. Learning outcomes (average of all indicators) gained from 66,74% to 88,84%. So it can be concluded the learning of new model is more effective from learning old model.

5. Conclusion

Based on research data that has been researched from expert test result, small group test, field test and product trial, and discussion of research result can be drawn conclusion as follows. (1) Development of volleyball smash circuit training model has met the operational criteria of a learning model, namely: the syntax contained in the social system, prinsive reactions, support systems and accompanist. (2) The result of development of circuit training model has fulfilled the requirement of validity, homogeneity, normality, effectiveness and model of circuit training development has been able to improve student learning outcomes of regular PJKR Faculty of Sport Sciences Universitas Negeri Medan

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