Physical Activity Development Model Using Traditional Balinese Game in Junior High School

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ABSTRACT

This study aims to develop learning of physical activity using traditional Ballinese in junior high schools, Buleleng Regency. Students can learn physical materials without feeling bored and tired. This study refer to research and development model by Borg and Gall. From the research and development, as well as the proposed procedures, the resulting product is a physical fitness learning model based on traditional Balinese games in junior high schools that consist of 30 traditional Balinese games. Product development begun with expert studies, field tests in small and large test groups and Effectiveness tests. From the large-group test results, the model developed can be applied by students properly. In the effectiveness test, the mean of the control group was 364.08, while the mean of the experimental group was 350.00 that show the difference between the results of the experimental group and the control group. It can be concluded that there is a significant difference between the experimental group given the treatment and the control group. Product development can be improved significantly on the physical activity and attitude or affective student. Based on the results of the research, the product model of learning physical fitness activities based on traditional Balinese games can be recommended and can be effective as a learning model of physical fitness activities in junior high schools.

Keywords: development, learning models, physical activities, bali traditional games

INTRODUCTION

Physical education in sports and health is an integral part of overall education, to develop aspects of physical activity, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral actions, healthy lifestyle, and to introduction of a clean environment through selected physical, sports and health activities that planned systematically in order to achieve national education goals. Popescu, L. & Radu, L., E (2017) explained that physical education as an educational process means for helping children and adolescents in acquiring skills, fitness, knowledge, and attitudes that play an important role for their well-being and development at a different level optimal (Popescu, L. & Radu, L., E, 2017).

Physical education is education through and about physical activity or in the original language is *Physical education is education of and through movement*. There are three key words in the definition, namely 1) education (*education*), which is reflected by the competencies that students want to achieve 2) through and about (*through and of*) as a conjunction that describes the closeness of the relationship expressed by direct and indirect relations and 3) movement (*movement*), is a study material as stated in the physical education curriculum. (Adang Suherman, 2011: 3).

There are several scopes of physical education subjects, sports, and health for junior high school / MTs including "1) Games and sports, 2) development activities, 3) gymnastics activities, 4) rhythmic activities, 5) water activities, 6)

External education class, 7) health. "(BSNP, 2006).

The low level of physical fitness of students from all levels in Indonesia education unit can be used as a general indication that the quality of physical education programs in Indonesia is still low. The survey results from *Sport Development Index* development team stated "that almost 80% of Indonesian people have fitness bad body and then influence on the development of sport that still is very low "(Maksum, 2012). The study of Made Budiawan et al. In 2010 conducted at a junior high school in Singaraja, Buleleng Regency, Bali stated that: 1) physical fitness components, there are speed, strength, and endurance of the arm and shoulder muscles, the explosive power (power) of leg muscles and cardiorespiratory endurance that possessed by students included in the classification of less and less, only components of strength and endurance of the abdominal muscles included in the classification of very good, good and moderate, 2) 91% of students have a level of physical fitness in the classification of the less and less, only 9% students classified as having a level of physical fitness in the medium and good classification (Made Budiawan, 2011). Based on the research results conducted by I Ketut Yoda (2008), that the physical fitness level of class XI and XII students of SMA Negeri 4 Singaraja Buleleng Bali in the academic year 2008/2009, is classified as very poor (64%). Only 2% of students' physical fitness levels are classified as good (I Ketut Yoda, 2008).

The low level of physical fitness can be caused by technology development which affect the physical fitness of each individual especially among children. Physical inactivity and obesity among children and adolescents have become a global public health concern because it negatively impacts the health, well-being and growth of children (Yujun Cai, Xihe Zhu, Xueping Wu, 2017).

In the matter of physical fitness activities in the learning process that took place from the observations of researchers in several State Junior High Schools in the Buleleng Regency this study was less informative in the learning process. Teachers still use conventional models, the lack of learning models application involved more students in the learning process, it causes students to be quiet and less active, so that learning looks monotonous in doing motion activities. Development of learning materials in the form of learning models during the physical fitness learning process according to researchers can improve physical fitness possessed by students by developing learning materials especially physical fitness materials.

Based on the problems faced as stated above, the physical education teacher gives full responsibility for learning to students, so students can learn independently, and increase enthusiasm in learning. Based the problems above the researchers tried to provide alternative solutions to the problem of learning model development activities (physical fitness) based on traditional games.

The existing learning model is the form of a monotonous learning model and lack of innovation and variation in the physical fitness learning process. The learning activity development model (physical fitness) based on traditional Balinese games is the main attraction in this development research to be used as research material to be carried out.

RESEARCH METHODS

This research uses *random sampling techniques* and the subjects are students of State Senior High School in Buleleng Bali. The data type generated in quantitative data and qualitative data. A review of experts advice and input was obtained from qualitative data, then quantitative data using descriptive quantitative analysis techniques with percentages and T Test statistics on product effectiveness tests.

Quantitative data collection using a questionnaire in the form of student responses in the junior high school district of Buleleng regarding physical fitness activities in junior high school students. The instruments used in this developmental research were questionnaires. To collect data from expert evaluations in the form of input and suggestions about products to be made using a qualitative approach. In this study using instruments from the

psychomotor domain using the ACSPFT test and from the affective domain using affective attitude observation guidelines on physical education learning.

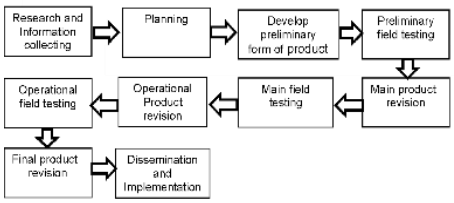

Figure 1. Development-stage model (Borg and Gall, 2005).

In this study the R&D research and development method proposed by Borg and Gall consists of 10 stages, as shown in Figure 1.

RESULTS AND DISCUSSION

From the results of preliminary studies and findings in the field then explained and analyzed so that these results are descriptive and analytical, reference to the purpose of the preliminary study. The following findings will be elaborated on the results of needs analysis and field findings obtained by researchers.

Table 1. Needs analysis and field findings

No.	Question Item	Field Finding
1:	In learning fitness activities, what materials are provided in the learning process?	The teacher teaches learning physical fitness activities are still monotonous, running samba jumping, squat gymnastics and bowing movements.
2	In learning fitness activities are there learning models either individually or in groups?	In learning physical fitness activities there are no learning models or variations in learning physical fitness activities in junior high school.
3	What are the facilities and infrastructure for learning physical fitness activities?	Facilities and infrastructure used are only the field that is used for learning physical fitness activities and there are no tools to support learning physical fitness activities in junior high school.
4	In learning physical fitness activities are students excited during the learning?	Students are very eager to follow the learning of physical fitness activities.
5	What teachers do to make the learning physical fitness activities in junior high school?	The teacher only provides limited learning material, students only to run, squat gymnastics, push ups, the teacher has not provided variations in learning physical fitness activities that can increase the enthusiasm and enthusiasm of students in participating in learning physical fitness activities at school.
6	In the learning process is a physical fitness activity learning model for junior high school age children needed?	In general, teachers and students need learning models of physical fitness activities that are more varied and can be used in learning dynamic physical fitness activities and prioritizing comfort and safety in their implementation.

Based on the description above then what is done is to carry out an expert test aimed at obtaining the feasibility made by direct assessment from the expert. To do the test used a draft model of physical fitness activity based on the traditional Balinese game.

In the assessment of the feasibility of a physical fitness activity model based on the traditional Balinese game the researcher presented 5 experts. Based on expert tests conducted, it can be concluded that variations in the model of physical fitness activities based on traditional Balinese games are feasible and can be used in the learning process of physical fitness activities in junior high school.

Some suggestions and input from expert tests conducted by researchers aimed at perfecting the traditional Balinese game based model of physical activities are as follows:

1. Instructions for implementing learning are clearly made so that they are easy to understand from easy to difficult.
2. The Balinese traditional game based is worth testing to the next stage.
3. Models of physical activities based on traditional Balinese games must use safe equipment.

The next step after the model has been revised by experts, then proceed with a small limited test, the following is concluded based on the evaluation of small group trials conducted by researchers including:

1. In movements there are complex movements and it's hard basically all Balinese traditional game models can be applied and students loved the learning process.
2. Students like to do simple movements.
3. When doing physical fitness models based on traditional Balinese games, children tend to pay less attention to the rules of the game, the teacher must provide guidance so that children make movements correctly and the objectives of learning can be achieved.

After the product development results of the Balinese traditional game-based physical activity model are tested in small groups and have been revised, the next step is to conduct a large group trial. Based on the results of small group trials that have been evaluated by experts, the researchers then revised the initial product and obtained 30 models of traditional Balinese based physical fitness activity models that will be used in large group trials.

The next process after the model underwent a phase II revision from the experts then continued by testing the product trial to a large group using 50 research subjects consisting of 4 junior high schools, 4 junior high schools, 2 Sawan Middle School, 3 Junior High School Singaraja, Middle school 1 Sukasada, Middle school 4 singaraja.

Next steps is operational trials (effectiveness trials) of this test involve a wider audience. The main objective of this step is: how effective are the results of applying the design of the model to the research objectives. Research at this stage uses a quantitative approach, with a pre-experimental research design inform of *thethe one group pretest-posttest design* (Table 2). Following steps taken in this trial include; (1) determine group of research subjects; (2) conducting *pre-test* (O1); (3) try a model that been developed; (4) conducting a *post-test* (O2); (5) looking foraverage scores *pre-test* and *post-test* and comparing them; (6) establishing a control group of research subjects, (7) conducting a *pre-test* (8) not given treatment (9) carrying out a *post-test* (10) looking for an average score of pre-test and post-test and comparing between the two (11) find the difference between the two averages through the statistical method (t-test) to find out whether there is a significant effect of using the Formula model to process the overall data of the test subjects using t-test procedures and using theapplication *SPSS 16* .

Table 2. Research Design in Test Effectiveness Model

Subject	*Pre-Test*	Treatment	*Post-Test*
R	O1	P	O2
R	O_1		O2

Based on the result, it can be seen that Kolmogorov-Smirnov in all data groups is larger than Shapiro-Wilk. Thus obtained

significant value data greater than 0.05, it can be concluded that the data is said to be normal (Table 3).

Table 3. Normality-test results

Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Posstest Experim.	.070	50	.200*	.987	50	.841
Posttest Control	.150	50	.006	.761	50	.100

From the data test using SPSS 16 has significant difference between the control group and the experimental group obtained the mean of control group = 364.08 then the mean of the experimental group = 350.00 get the difference from the results of the experimental group and the control group, the results of t test independent test = 630 df = 98 and p-value = 0.00> 0.05 it can be concluded that there is a significant difference between the experimental group given the treatment and the control group.

Based on these results it can be concluded that the physical activities based on traditional Balinese games model is effective and can improve physical fitness in students. It has significant effectiveness (Table 4).

Table 4. Group test statistics

Group Statistics				
Class	N	Mean	SD	SE
Experiment Posstetst	50	350.0	24,465	3,460
Control Class Posstetst	50	364.1	38,732	5,478

Based on literature, it is consistently reported that the amount of time spent on physical education and sports subjects in schools does not have a detrimental effect on more "academic" subjects and can even increase academic achievement (Mosston & Ashworth, 2008).

Physical education and sports provide opportunities for students to be physically active while in school (Strong, *et al*., 2005). and has many benefits, including developing motor skills, increasing physical fitness and *self-esteem*, and reducing the level of risk factors for heart disease and obesity, as well as maintaining and or increasing students' academic performance. Bevans writes that giving sufficient time in physical education and sports will increase the maximum energy consumption of students, this is a key contributor to maintaining healthy weight and physical fitness (Bevans, *et.al.*, 2010).

This is supported by Silverman who states that the learning design designed by the teacher, it is important to remember that each student requires a different amount of time and practice to acquire good skills and to be able to master the movements on higher skills. Conceptually, the mission of the Physical Education and Sport program is education that is holistic in nature, so that it is seen not only related to efforts to develop physical abilities alone, but broader than that which includes dimensions, intellectual, mental, social and emotional (Silverman, S, 1991) .

Widiastuti's research results explained that playing method approach can help improve student's learning abilities and outcomes, it can also build creativity to create movement, build excitement in the learning atmosphere, build togetherness in groups and build the image that pencak silat can be done with an atmosphere of joy and not hard (Widiastuti, 2004). This is made clear from the results of Ilmah's study that the influence of the learning model uses themethod *teaching games for understanding* can increase learning motivation and in turn increase learning outcomes that are very significant in elementary school students (Nur Khozanah Ilmah, 2012).

Many new, interesting and effective learning models have been developed for use by teachers. These include *direct instruction*, *personalized systems for instructional*, *cooperative learning*, *sports education*, *peer teaching*, *inquiry models*, and *tactical games* (Metzler, 2000: 18). Each of these learning models has its own characteristics in its application. It all depends on the teacher who will provide physical education and sports lessons,

choose and apply which models are effective in achieving maximum learning outcomes for students (Metzler, MW, 2005).

There are four criteria that must be considered by a physical education and sports teacher in making a learning experience for students (Rink, 2010: 9-11), among others; (1) learning experience must have the potential to improve student's mobility; (2) the learning experience must provide maximum activity or time to practice to all students appropriately to the ability of students; (3) the learning experience must be appropriate for the level of experience of all students; and (4) learning experiences must have the potential to integrate educational goals (skills, attitudes, and knowledge) whenever possible (Rink, JE, 2010).

CONCLUSION

From the results and based on the above data it can be obtained the results of field trials and discussion of the results of the study then concluded as follows:

1. Physical Education Teachers need to learning models of physical activities based on traditional Balinese games in junior high school students. Variative learning models are needed by teachers, especially in physical fitness activity material with traditional Balinese based games. From this reason, all of this is because teachers or educators rely solely on standard facilities and curriculum, this causes the learning process to be less innovative and varied and students become bored in the learning process.
2. From the research process phase which in the final stage produces a product in the form of a book model of physical learning activities based on traditional Balinese games in junior high schools, this learning model product as a whole is good and effective applied in junior high schools by physical education teachers in process activity material and physical products. This model product is the right product to be used by teachers for the problems faced by physical education teachers in the process of learning physical fitness activities, this can be seen from the discussion of the results of product trial analysis, that in terms of product existence, the level of urgency, usefulness and practicality and the level of time, energy and cost efficiency.
3. This research is empirically proven that the results of physical activity models based on traditional Balinese games in junior high schools, this data is seen from the results of effectiveness test using the ACSPFT t test. It can be concluded that the learning model of physical fitness activities based on the traditional Balinese games in junior high school is effective for improving physical fitness in junior high school.

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