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Development of Model for Introducing Basic Sepaktakraw Techniques for Advanced-Grade Primary School Students

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ABSTRACT
This research aims to produce a model for introducing basic techniques of the sport sepak takraw for advanced-grade primary school students through a play-based approach. This research was done by adapting the 8 steps of Borg & Gall's research method, those steps being (1) research and collection of information, (2) analysis of obtained information, (3) development of a preliminary form of product, (4) expert validation and revision, (5) small-scale product testing and revision, (6) large-scale product testing and revision, (7) development of final product, and (8) evaluation of product. The small-scale test was conducted on 22 advanced-grade primary school students (SDN Sukorejo 01), while the large-scale test was conducted on 82 students (SDN Bendogerit 02, SDN Gedog 02 and SDN Sentul 01). Instruments used in the collection of data are observation guides, interviews, field notes, score scales, effectivity evaluation forms, and learning result evaluation. The result of this research is in the form of a model for introducing basic sepaktakraw techniques through a play-based approach, containing 6 game models based on sepaktakraw techniques that is silapung, lajin, sadek, halo, lasun, six on six and compiled into a playbook. From the evaluation results of experts and practitioner, it can be concluded that the model is well-designed, effective, and worth applying.
Keywords: *techniques, sepaktakraw, primary school students*

1. INTRODUCTION

According to the 2003 Constitution on National Education System no. 20, Chapter IV, articles 13 and 14, education in Indonesia is comprised of several pathways: formal, non-formal, and informal. Formal education progresses from primary, secondary, and higher education. Primary education is the foundation or groundwork to ascend to the next level of education. Forms of primary education are Primary School and Madrasah Ibtidaiyah. Physical education (PE) is a highly important subject taught during primary school. It is integral to education as a whole and plays a large role in building physical growth, psychological development, motoric skills, knowledge and appreciation of values, and encourages healthy living. The profile of growth and development patterns in children of age 10-12 years can be based upon 5 aspects, which are 1) physical growth and features, 2) motoric development, 3) perceptual-cognitive development, 4) development in language and speaking skills, and 5) persona-social development [1].

Perry stated that the characteristics of playing are as follows [2]: (a) free from pressure/having a sense of freedom, (b) intrinsically motivated, (c) controlled by those involved, (d) free of external rules, (e) not serious, as in there are no consequences that rise from the act of playing, (f) is fun (g) socially connected, and (h) phony in nature. Sepaktakraw is a game that fall into the category of net games. The game of sepaktakraw is a simple game that require substantial skills. These skills can be obtained if one is willing to learn and play sepaktakraw. It is also an interesting subject to be taught in primary school. However, the reality we have in the field is that the game of sepaktakraw is very rarely; if never, taught to students in primary school. This is evident from the results of observations and interviews done in several primary schools, namely SD Negeri Sukorejo 01 Ngaglik, SD Negeri Bendogerit 2, SD Negeri Gedog 2 and SD Negeri Sentul 1. Based on these results, there are 4 problems concerning teaching sepaktakraw to primary school students, which are as follows.

First, for small-ball games, PE teachers usually opt for rounders and badminton as subjects for advanced-grade primary school students. *Second*, the means and infrastructures needed to play sepaktakraw aren't available at schools. Observed schools only have soccer fields, badminton courts, volleyball courts, and plots of land that aren't very spacious at all. *Third*, some PE teachers still perceive sepaktakraw as a difficult game to teach to primary school students. Some teachers reason that the techniques or skills required to master the ball in sepaktakraw are highly advanced and require finesse. *Fourth*, the lack of sepaktakraw playbooks as reference inhibits the PE teachers themselves in mastering the subject. They do not possess playbooks of the game and mostly rely on textbooks on PE curriculum as reference.

What can be deduced from the problems above is that it is necessary to make developments by modifying the game to suit the stage of growth and development of advanced-grade primary school students. The model development of introducing the basic techniques of sepaktakraw is done via a play-based approach. The essence of modifications to the

game is to make it easier for children to master the basic techniques and obtain a sense of accomplishment without having to experience hardships, boredom, and fatigue while playing the game.
Modifications to the game is expected to provide equal opportunities for all children, so that the game would not be monopolized by a select few capable children. Based on the elaboration above, it is necessary to develop a model for introducing basic techniques of sepaktakraw for advanced-grade primary school students.

2. METHOD

This research is categorized under Research and Development with a goal of producing an educational product. "Research and Development (R and D) is an industry-based development model in which the findings of research are used to design new products and procedures [3], which then are systematically field-tested, evaluated, and refined until they meet specified criteria of effectiveness, quality, or similar standards". Research and Development is a research method that is aimed to produce a specific product and put its effectivity to the test [4]. Research and Development is a process and/or steps required in developing a new product or perfecting a previously existing product, and can be accounted for [5].
Based on the few opinions and definitions described above, it can be concluded that Research and Development program is a method of research for designing novel products or develop existing products, and systematically aims to search, find, formulate, revise (evaluate), develop, and test the effectivity of a finished product so that said product comes out superior, effective, and meaningful. The main step in development research is explained in Figure 1 below:

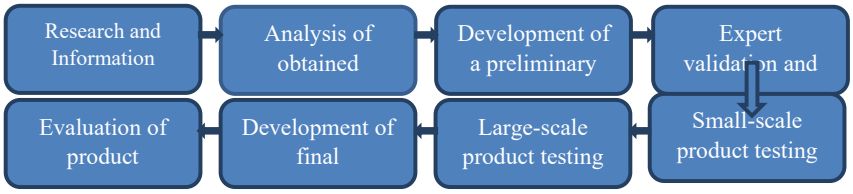

Figure 1 The main step in development research

Data processing in this research and development model utilized qualitative and quantitative analyses. Qualitative data during preliminary study were results from (1) interviewing primary school PE teachers, and (2) list of drawbacks and commentary from experts concerning the game model, which can be used to identify existing problems. On the other hand, descriptive quantitative analysis analyses the following data: (1) the scoring scale filled out by experts concerning the preliminary form of product prior to field testing, (2) observation results notes from experts concerning the model itself, (3) the experts' observatory data on model effectiveness, and (4) student questionnaire data.
The early draft version of the model for introducing basic sepak takraw techniques through a play-based approach will be considered worth testing in a small-scale if the experts have given validation and declare that all items classified under the scoring scale to be "fit" by ticking on the corresponding boxes. There are 2 kinds of scores: the result "Yes" is worth 1 point and the result "No" is worth 0 points. If an expert deems an item to be unfit (0 points given), a review will be done on the early draft version of the model, which then may be followed by a revision.
For the data on the results of observation on the model for introduction of basic sepaktakraw techniques and a scoring on effectivity based on the Likert scale, there would be 3 kinds of score given, which are (1) Good/Effective. (2) Moderately Effective, and (3) Not Very Effective. The scoring results on observation items were then added up, and the total scores were converted to determine which categories they belong to. Conversion of points is done by adhering to standards of Benchmark Reference Assessment (Penilaian Acuan Patokan, PAP). When interpreting crude scoring result into values through a Benchmark Reference Assessment approach [6], a set of criteria and boundaries must be set, as would be elaborated on Table 1.

Table 1 Score conversion guide

Formula	Category
$X < (\mu\text{-}1{,}0\sigma)$	Less/Not Very Effective
$(\mu\text{-}1{,}0\sigma) \leq X < (\mu+1{,}0\sigma)$	Adequate/Quite Effective
$(\mu+1{,}0\sigma) \leq X$	Good/Effective

3. RESULTS AND DISCUSSION

In this research, there are 6 models developed based on the basic techniques of sepaktakraw, which are: (1) a dribbling technique (sepaksila) with a game name of *silapung*, (2) a passing kick technique (sepakkura) with a game name of *lajin,* (3) a high-kicking technique (sepakbadek) with a game name of *sadek,* (4) dribbling using the thighs (memaha) with a game name of *halo*, (5) a heading technique with a game name of *lasun*, and (6) a game of six-on-six. The following are the results of evaluation by experts and practitioners in the model of introduction to basic techniques of sepak takraw for primary school students.

3.1. SepakSila (silapung) Game Model

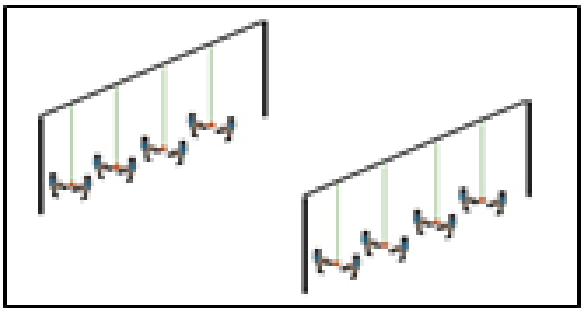

Figure 2 silapung game model

Table 2 Pre-test and post-test results of the game of silapung

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	47.58	71.19	0.46	Moderate
Affective Average	52.46	70.69	0.49	Moderate
Psycho-motoric Average	52.42	69.81	0.40	Moderate

3.2. Lajin Game Model

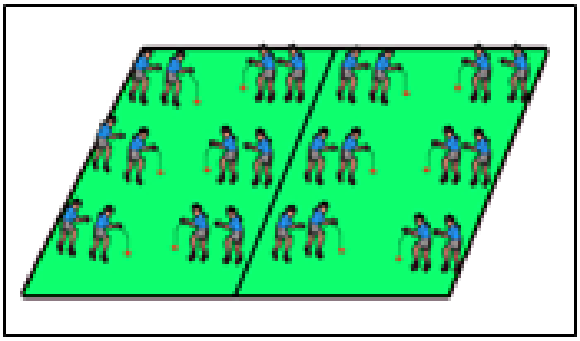

Figure 3 lajin game model

Table 3 Pre-test and post-test results for the game of lajin

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	46.65	71.62	0.47	Moderate
Affective Average	45.73	67.81	0.43	Moderate
Psycho-Motoric Average	46.15	67.88	0.43	Moderate

3.3. Sadek Game Model

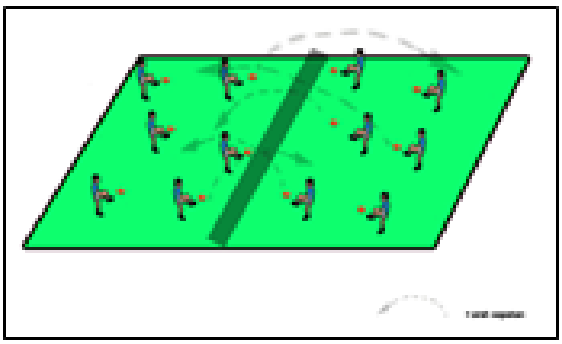

Figure 4 sadek game model

Table 4 Pre-test and Post-test Results for the Game of Sadek

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	47.12	70.27	0.50	Moderate
Affective Average	51.96	70.19	0.45	Moderate
Psycho-motoric Average	51.42	68.88	0.40	Moderate

3.4. Hallo Game Model

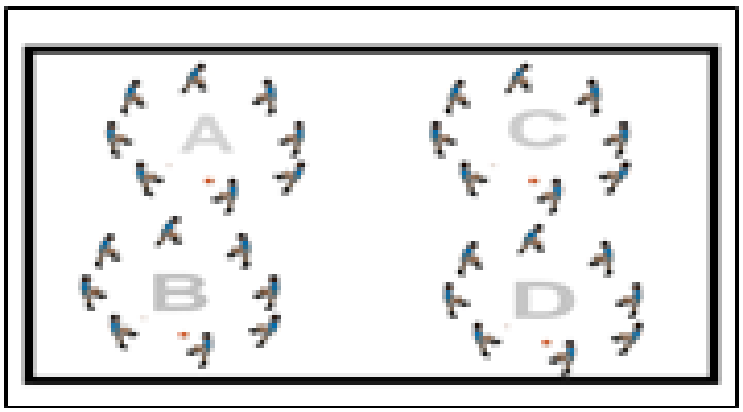

Figure 5 hallo game model

Table 5 Pre-test and post-test results for the game of halo

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	51.50	71.69	0.51	Moderate
Affective Average	45.54	69.27	0.49	Moderate
Psycho-motoric Average	45.58	69.12	0.45	Moderate

3.5. Lasun Game Model

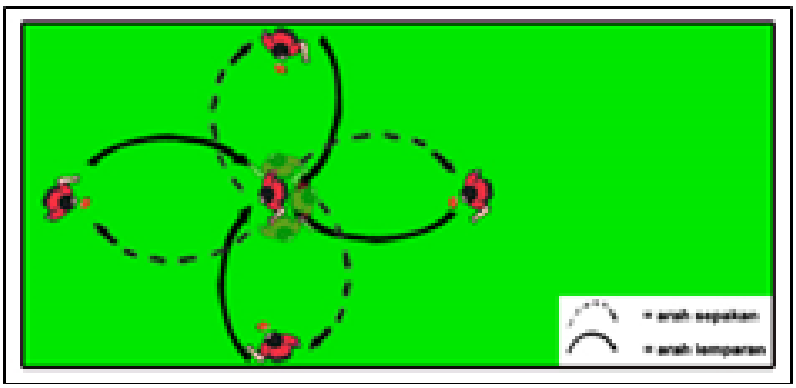

Figure 6. lasun game model

Table 6 Pre-test and post-test results for the game of lasun

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	45.08	70.23	0.51	Moderate
Affective Average	46.04	69.31	0.47	Moderate
Psycho-motoric Average	45.73	67.54	0.41	Moderate

3.6. Six on Six Game Model

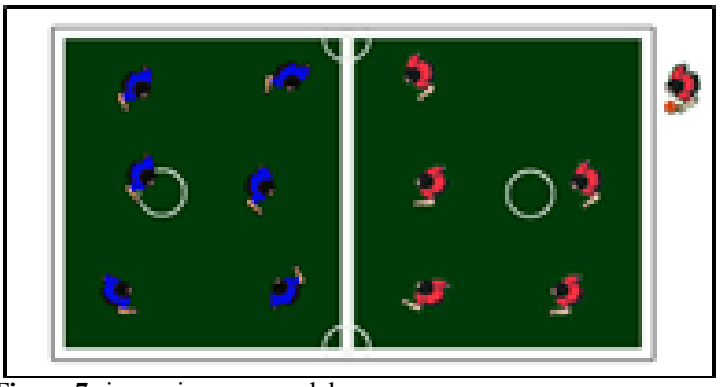

Figure 7 six on six game model

Table 7 Pre-test and post-test results for the game of six-on-six

PE Grade Domain	*Pretest*	*Posttest*	*Gain*	Category
Cognitive Average	52.46	72.62	0.51	Moderate
Affective Average	46.04	72.19	0.56	Moderate
Psycho-Motoric Average	45.62	69.27	0.46	Moderate

Based on the results of the six tables above it can be determined that the cognitive, affective and psycho-motoric average for post-test scores are greater than that of the pre-test, and the score gain values point at moderate. It can then be concluded that based on the objective of physical education under cognitive, affective, and psycho-motoric domains, all six game models are categorized as moderate quality.

4. CONCLUSION

It can be concluded that sepaktakraw can be taught to primary school students in the PE subject under the category of small-ball game. Learning sepaktakraw also encourages children to practice multilateral movements for primary school students of all grades. States that a multilateral movement is a unity of several basic movements (locomotory, non-locomotory, and manipulative) and basic sport skill movements.

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