

Resistance Training Model Based on Traditional Games for Children Junior High School

Sandey Tantra Paramitha, I Wayan Repiyasa, Muhammad Asshagab, Mulyana Mulyana and Made Agus Wijaya
Faculty of Sport and Health Education, Universitas Pendidikan Indonesia, Jln. Dr. Setiabudhi, Bandung, Indonesia
sandeytantra18@upi.edu

Keywords: Exercise Models, Endurance, Traditional Games.

Abstract: This study aims to produce products such as books endurance exercises based traditional games. The method in this research is the method of Borg and Gall consisting of ten steps. Junior male student research subject in Badung. The final results of this study guide books and video models endurance exercise-based models of traditional games. the amount of the final model 15 models that have been through the evaluation and testing. pre-test and post test results data by t test 0.05 level of significance. pre-test and post test results obtained $t_0 = 10:35$ is greater than the significance $t_t = 0.00$ (significance level 0.05), null hypothesis is rejected. concluded, there is a significant difference between pre-test and post test results-based endurance exercise traditional games, the average yield pre-test n mean = 5:16 is smaller than the average post-test means = 3.84. The count in minutes, increased by 1:32 minutes. concluded, the model based on endurance exercise traditional game effectively used to improve the durability of the results of the child.

1 INTRODUCTION

Traditional games at the present time is very rarely played by children. Where this traditional game is an asset inherited from grandmother. In addition to traditional games can indirectly make children more active to move, traditional games also to train cooperation, teamwork, fitness and endurance training, especially in children.

Based on the above background, the researchers want to develop models of endurance exercises using a traditional game that it is taken in addition to endurance training using resistance exercises based on traditional games are expected to keep the national cultural heritage and ancestral heritage, and to be played as well as inherited from the children. To that end, researchers will conduct a development model based endurance exercise traditional game in junior high school children.

1.1 The Theoretical Study

1.1.1 Concept Model Development

In the course of research has a purpose and a certain usefulness, but in general there are 3 that the

purpose of research is the discovery, verification and development. The discovery that the research may discover new things that have never been known. Data used as evidence to prove and no doubt, and the development of means deepen and broaden existing knowledge.

Research can also be interpreted as a process of collecting, processing, analyzing and concluding the data that is supported by a concept of theoretical studies. For the four key words to note are: scientific way, the data, the purpose and usefulness. Kerlinger (1990) in emzir (2012) argue that research is a systematic investigation, controlled, empirical and critical about the phenomenal guided by theories and hypotheses about the phenomenon. Research and development is research that produces a particular product. In the opinion of some experts about the research is the development.

Gall et al. (2007) says as follows research and development is an industry-based development models in the which the findings of the research are used to design new products and procedures, the which then are systematically field tested, evaluated, and refined until they meet specified criteria of effectiveness, quality, or similar standards. In research and development can be a model. The model is to describe the mindset, can also be seen as

an attempt to strengthen a theory once an analogy and representation of variables contained in a theory. Models in development research can be procedural models, conceptual models and theoretical models.

Based on the above understanding of this research seeks to develop a model of endurance exercise-based traditional game that has elements of traditional and empower the nation's culture as ancestral heritage can be used to model the resistance training in addition to the traditional elements that are also contained in the physical condition of the traditional game.

1.1.2 Concept Model Developed

Widiastuti (2011) is a physical freshness which reflects the physical condition and physical ability to perform certain tasks with maximum results without regard to significant fatigue.

Components of physical condition are developed through endurance exercise (endurance), strength (strength), flexibility (Flexibility), stamina, muscle explosive power (power), velocity (speed), agility (balance), the reaction speed, coordination. component of physical condition is very necessary to be trained for success in achievement. Exercise physical condition is the main preparation to support the appearance of athletes.

Ambarukmi et al. (2007) Exercise is essentially a systematic process to enhance the quality of the performance of athletes in the form of fitness, skill and energy capacity, the aspect of education and using a scientific approach. Based on the above it can be concluded that the exercise was essentially that the activities are carried out continuously to form and optimize body condition and physical state. someone that contains the active principle a comprehensive, holistic development, specialization, individualization, variations in practice, the model in the process of training, overload or additional training load. Which aims to achieve increased durability, speed, flexibility, strength and skills of certain sports.

The traditional game is a tradition and cultural heritage of the nation that needs to be preserved, a lot of what is in the traditional games, such as matters relating to physical, team, reaction and much lg matters contained in traditional games.

1.2 The Theoretical Framework

1.2.1 Exercise

Definition of training in foreign languages, exercise can contain multiple meanings that practice, exercises, and training.

Traits - traits exercise in wanto (2013) says: (1) a process to achieve a level of proficiency better in sports that require time and proper planning, (2) the training process should be regularly means the exercise should be steady, sustainable and progressive training is given from the simple to the complex, (3) on each exercise should have goals and objectives

Bompa (2009) contends "theory training center is the idea that a structured system of training can be formed which combine the activities of specific exercises that target the physiological, psychological and individual performance characteristics of sport and athletes. From the opinions of experts, we can conclude that the exercise is a state done continuously with increasingly adds to the state long and can do a better state when making a match.

Lubis (2013) The principles in practice, namely (a) multilateral, (b) specialization, (c) the individual, (d) an excess burden, (e) take into account the differences in genere, (f) a variety of exercises, (g) the development of this type of training. in addition to the principle of specification of a good exercise program should be drawn up variant to avoid burnout, anxiety and psychological exhaustion in practice. For that structured exercise program varied to keep increasing the interest sportsman in practice so that the objective of the exercise can be achieved. Through the practice of the physical condition of athletes, physical fitness can be maintained or enhanced, whether related to the skills and health in general.

1.2.2 Durability

Tangkudung (2012) argues "state of good physical condition will affect the psychological aspects of increased employee motivation, morale, confidence, accuracy, and so forth. Tulloh (2007) says an endurance sport is one in the which the effort is not flat out and the event is of long duration

The relationship between power and performance (appearance) Physical sportsmen including the ability to perform work activities continuously with high intensity and for a long time, ability to shorten the recovery time (recovery), especially in sports games and games, Ability to

receive the training load is heavier, longer, and varied. two types of endurance exercise are aerobic endurance (DTA) and anaerobic endurance (DTNA). Durability can be divided into two kinds of local muscular endurance (local muscular endurance) and endurance of the heart and lungs (cardiorespiratory endurance).

Aerobic endurance is also called endurance that uses low intensity, allows a person to perform activities continuously for a long time or long. aerobic respiration is the most efficient process because it produces 12 times more energy per molecule of glucose compared to anaerobic respiration, but also a longer process and depending on the availability of oxygen. to train the aerobic endurance growing to do three activities, namely running, continues running-steady state, continues running-mixed intensity, intermittent running.

Anaerobic endurance is durability using high intensity, providing the ability repeatedly to perform a series of exercises with high intensity. Anaerobic respiration without the use of oxygen so that it can proceed directly. Muscle endurance is focused on the lower loading and repetition is longer. According Widiastuti heart and lung endurance is the ability of the lungs and blood vessels to function optimally when performing daily activities, in a long time without experiencing significant fatigue.

1.3 Characteristics of Children SMP

In practice the physical conditions for junior Possible classes should be given to the need to know the characteristics of students in terms of both growth and development. For junior high school students they were in the age range 12-16 years, this phase-age children are undergoing puberty or log in adolescence, the transition from childhood to adulthood.

According to the theory of growth and development. Growth associated with quantitative changes concerning biological changes (Sunarto and Hartono, 2006). Phase development visible starting from pre-natal phase up to the juvenile stage. At the age of students is the most prominent developments In more detail the growth and development of children aged students include physical growth, development of physical ability, development and motor skills, cognitive development, development of socialization and personality development.

1.4 Traditional Game

The traditional game in the present circumstances is very rarely played by children, traditional games is a culture that is inherited from ancestors. ardiwinata (2006) The game is divided into two games to play (play) and games to play (games). Taro (2001) argues this game is an activity performed by children to pass the time leisure. In addition to traditional games are cultural activities in the form of a game with elements of motion, arts, social and cultural. in traditional games can also be picked things very well, namely as a medium of learning, personal development, social function, appreciation of cultural values, the function organically, encourage the creative process.

Laksono et al. (2012) Traditional sports must have two elements as a requirement in the form of traditional exercise and good in the tradition that has evolved over many generations and consists of a broad tradition bang. The characteristics of the traditional game dibali is (1) easy to play, (2) has a set of rules (3) is sometimes accompanied by the song, (4) infrastructure is not too binding, rich in variety, (6) and flexible.

1.5 Draft Model

Development of a model-based endurance exercise traditional games developed to preserve traditional games and performed as a stage of resistance training. Products developed a variation of the model-based resistance training to improve the traditional game of endurance athletes, especially athletes junior high school students, as well as to preserve the traditional game. Needs analysis compiled from the results of observations, interviews and questionnaires given to coaches and football student extracurricular son of the obtained ideas.

The next step is to make the initial product in the form of a series of development models based endurance exercise traditional game for junior high school age students that can later be used as a reference or hint to training durability. The initial products are set forth in the manual models endurance exercises based traditional games.

Once the modeling is complete, the next step is to evaluate the model. This evaluation is done to improve and enhance endurance exercise-based models of traditional games for children ages SMP has been made. The application of the concepts above development framework created based on

these concepts by adding aspects of excitement, decision making, creativity and total involvement.

2 METHODS

Research development model of endurance exercises based on traditional games in particular have the multiple objectives including Develop a draft model of endurance exercises based on traditional games in junior high, Acquire empirical data resulting increase in resistance development model of endurance exercises based on traditional games to children aged SMP (Sekolah SMP)

Research development model of endurance exercises based on traditional game using the model of R & D (Research and Development) of the Borg and Gall consisting of ten steps, among others: (1) Conduct research and information gathering (literature review, observation subjects, preparation of reports issue) (2) Conduct planning (defining skills, formulation of objectives, determining the order of teaching, and testing small-scale) (3) Develop a form of initial product (preparation of teaching materials, preparation of handbooks and equipment evaluation) (4) Conducting field tests beginning (use the subject 6-12) (5) Revise the main products (in accordance with the advice of the results of the field test beginning) (6) to test the main field (with 30-100 subjects). (7) Revise the product (based on the suggestions and the results of field trials primary). (8) Field test with 40-200 subjects (9) Revision of the final product (10) Make a report concerning the product in the journal, working with publishers to distribute commercially.

product planning and development is carried out before the trial is held. For the development of this type of training, the researchers consult with mentors, coaches physical condition, as well as expert lecturers in the field of coaching and biomechanics. In research-based endurance exercise Traditional game next stage is to evaluate the model. The evaluation was done in order to improve and enhance training models that have been made. The move is the study of experts (Expert Judgement), Trial Small Group, a large group trials, test effectiveness.

This trial aims to (1) to determine whether the design of the model has been applied properly by the coach, and (2) how effective are the results of applying the model to the objectives of this study. The approach used in this study is a qualitative and quantitative approach. Thus the quantitative approach used to search the effectiveness of the pre-

experimental research design form of the one-group pretest-posttest design.

Table 1: Design research into the effectiveness test.

Subject	Pres-Test	Treatment	Post-Test
R	O ₁	P	O ₂

Steps taken in this trial, among others; (1) group of research subjects; (2) conduct pre-test (O 1); (3) trying to models that have been developed; (4) carry out post-test (O 2); (5) looking for average scores of pre-test and post-test and compared between the two; (6) subtract the average second difference through statistical methods (t-test) to determine whether there is a significant effect of the use of models. The final results of this development is the model-based endurance exercise traditional games the products with the design of new training models or enhance existing, complete with product specifications as well as test the effectiveness of this type of training is made, so as to improve the quality and can be used as a handle in the activities of endurance training.

3 RESULTS AND DISCUSSION

In general, these results (1) Model-based endurance exercise traditional games, (2) The user manual resistance training models based traditional games. The traditional games produced in the model this exercise include: (1) the traditional game tundik melaib, (2) the traditional game ngejuk Iindung I, (3) the traditional game ngejuk Iindung II, (4) the traditional game of jangkrik-jangkrikan, (5) the traditional game Kelik-kelikan, (6) the traditional game mecapung-capungan, (7) the traditional game meban-banan, (8) the traditional game meong-meongan, (9) the traditional game Megala-gala, (10) the traditional game Megala-gala with target , (11) the traditional game meban-banan metukar, (12) the traditional game mejangkrik-jangkrikan move objects, (13) the traditional game mekelik-kelikan with instruments of traditional games mekelik-kelikan with the object, (14) the traditional game mekelik-kelikan with tos, (15) the traditional game tundik melaib with tos.

Based on the data that can be gathered from experts exercise training methods, a traditional game as well as data on a small group trial and field trials of participants, then there are some parts of the product that needs to be revised. This is done to optimize the benefits of the development of

resistance training models based traditional games for children aged junior.

Table 2: Outcome-based Endurance traditional games.

	Mean	N	Std. Deviation	Std. Error Mean
Pre test	5,1653	40	,78508	,12413
Post test	3,8467	40	,50556	,07994

Table 3: Summary of Effectiveness Test Results Result-Based Model Endurance Exercise Traditional Game with t-test.

Pair 1	Pretest – Post Test	Paired Differences			t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean		
		1,31	0,80	0,12	10.353	0.00

Based on the results of the effectiveness test using t-test (see Table 3), from differences in pretest and posttest results of the model-based endurance exercise traditional game result $O = 10\ 353$ t is greater than $t\ t = 0.000$ (at significance level 0.05), then the null hypothesis is rejected. So it can be concluded that there are significant differences between pretest and posttest results-based endurance exercise traditional games.

Data from the study (see Table 4.3), obtained an average yield of pretest with mean = 5:16 is smaller than the average posttest mean = 3.84. in a matter of minutes in the form of an increase of 1:32 minutes. Thus it can be stated that, the model-based endurance exercise traditional games for children ages SMP effectively used to improve student outcomes durability.

4 CONCLUSIONS

From the results of field testing and discussion of the results of this study concluded that. Based on the results of expert evaluation and testing that has been done shows the final model or final endurance exercises based on traditional games include ((1) the traditional game *tundik melaib*, (2) the traditional game *ngejuk lindung I*, (3) the traditional game *ngejuk lindung II*, (4) the traditional game of *jangkrik-jangkrikan*, (5) the traditional game *Kelik-kelikan*, (6) the traditional game *mecapung-capungan*, (7) the traditional game *meban-banan*, (8) the traditional game *meong-meongan*, (9) the traditional game *Megala-gala*, (10) the traditional game *Megala-gala* with target , (11) the traditional game *meban-banan metukar*, (12) the traditional

game *mejangkrik-jangkrikan* move objects, (13) the traditional game *mekelik-kelikan* with instruments of traditional games *mekelik-kelikan* with the object, (14) the traditional game *mekelik-kelikan* with *tos*, (15) the traditional game *tundik melaib* with tools.

Based on the expert validation and testing, has produced a product-based model of durability traditional games overall fit for use in children aged junior. It is based on a discussion of the results of the analysis of product trials, which include the ease, the attractiveness, the usefulness and security and are the result of the test group, namely the item 1 the size of the field to the added length to further improve exercise endurance, in item 2 multiply the amount the race, in item 3 game done in duration over at speed, in item 4 length in traditional games for students to be more active in playing, item 5 instruction in the game to be clarified, item 6 in clarifying in giving the instruction, the item 7 games held in how many repetitions to be clarified, item 8 the length of the game, item 9 the number of people in the game, item 10 the number of people in the game, item 11 the duration of the game, item 12 instruction in the game, item 13 the length of the game, item 14, the duration of the game, items 15 the size of the field in the game.

Based on the test results of the effectiveness of the model, proven empirically that the results of the product in the form of resistance training models based on traditional games for children aged junior has a good effectiveness. It was based on the physical fitness test results showed that the average yield of 5.16 and the posttest at 3.84 pre-test post test results indicate that larger than average pretest results. So it can be stated that, the model-based endurance exercise traditional games for children ages SMP was effectively used to improve the results of resistance training to junior high school age children with a significance value below 0:05 and 1:32 minutes there was an increase from pretest to posttest results and the number of participants to 40 people.

4.1 Implication

Based on the overall conclusion of the study show that, product-based model of endurance exercise traditional games for children aged junior, overall decent and effectively used in training junior high school age children. Thus, the implication of these findings is a model of endurance exercises based on traditional games should be considered by the teacher or coach to guide other alternatives or reference in the activities of resistance training for

children aged junior high, because effectively used to improve the durability of the child and be able to teach traditional games for children in order to maintain the heritage.

4.2 Suggestion

Based on the results of the development model of resistance training junior high school age children, it is necessary to put forward some suggestions by investigators in connection with the product. The suggestions put forward include utilization advice, suggestions dissemination, and suggestions of further development.

4.2.1 Suggestions Utilization

Product development is a development-based model of endurance exercise traditional games for children aged junior. If the model of development models based endurance exercise traditional games for children ages SMP used in extracurricular activities and as an ingredient in learning in every school.

In addition, if the model of endurance exercises based on traditional games for children ages SMP used as a guide in extracurricular activities and learning process in physical education at school, then to the teachers or trainers should further improve professionalism in order to use this model in extracurricular activities and learning can take place effectively and efficiently.

4.2.2 Suggestions Dissemination

Product development model of endurance exercises based on traditional games for children ages SMP in the form of this manual empirically proven effectiveness is good to improve the durability for children aged SMP, the product of this development can be disseminated to a wider target, especially to teachers or coach extracurricular junior futsal. But before being distributed researchers advise, so guidebooks model of endurance exercises based on traditional games for children aged junior high school need to be produced much more, so that later more teachers or coaches junior who can understand and be able to master the traditional game as a training or learning.

4.2.3 Suggestions Further Development

In developing product models endurance exercises based on traditional games for children aged SMP further, researchers have some advice, namely: (a) on the product development model of endurance

exercises based on traditional games for children aged junior, still require further investigation and trial of intensive and continuous, as well as the effect on the broader scope which has the characteristics of a more diverse (heterogeneous), to obtain feedback to make improvements to the product; (b) Subject involved in the evaluation and testing needs to be expanded to involve more experts or exercise physical condition as well as teachers or trainers as users and students as subjects; (c) The need assessment in the development of the next on the degree of variation and conformity with chronological age, is expected is a shape model of a more varied, innovative, and stimulate students / participants to be more enthusiastic in training (d) It is expected that the existence of researchers who can develop resistance training models based traditional games.

REFERENCES

- Ambarukmi, D. H., Pasurney, P., Sidik, D. Z., Irianto, D. P., Dewanti, R. A., Suyonto., sulistiyanto, D., Harahap, M. Y., 2007. *Pelatihan Pelatih Fisik Level 1*, kemenpora. Jakarta.
- Ardiwinata, A. A., Suherman., Martadinata, 2006. *Kumpulan permainan rakyat olahraga tradisional*, kemenpora. Jakarta.
- Bompa, T., 2009. *Theory and Methodology of Training*, Kendal Publishing Company. Iowa.
- Emzir, 2012. *Metodelogi penelitian pendidikan kuantitatif & Kualitatif*, Raja grafindo persada. Jakarta.
- Gall, M. D., Gall, J. P., Borg, W. R., 2007. *Eight Edition Educational Research*, Longman, USA.
- Laksono, B., Carmo, A. D., Hermansyah, B., Tanjung, R., Ernawati, E. L., Pudjiastuti, 2012. *Kumpulan permainan rakyat olahraga tradisional*, Kemenpora. Jakarta.
- Lubis, J., 2013. *Panduan Praktis Penyusunan Program Latihan*, PT. Raja Grafindo Perkasa. Jakarta.
- Sunarto, Hartono, A., 2006. *Perkembangan peserta didik*, rineka cipta. Jakarta.
- Tangkudung, J., Puspitorini, W., 2012. *Kepelatihan Olahraga "Pembinaan Prestasi Olahraga"*, Cerdas Jaya. Jakarta, 3rd edition.
- Taro, M., 2001. *Bunga rampai permainan tradisional bali*, percetakan bali Denpasar. Denpasar.
- Tulloh, Bruce, 2007. *Endurance for master*, peak performance. London.
- Wanto, G., 2013. *Fisiologi dan olahraga*, Graha ilmu. Yogyakarta.
- Widiastuti, 2013. *Tes dan pengukuran olahraga*, PT. Bumi timur jaya. Jakarta.