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Model of butterfly swimming skills for age 5

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Abstract
This study aims to test the effectiveness of the butterfly style swimming skill training model for the age group of 5 (8-10 years). This development research uses the Borg and Gall development model which includes 10 steps systematically. The subjects of this study involved 60 athletes for the big test and 20 athletes for the small test with the distribution of 6 swimming clubs in East Jakarta. Testing the effectiveness of the study was analyzed with SPSS.20 which resulted in a significance value of the difference at t-count = 21.974, db = 29 and p-value = 0.00 <0.05, meaning that there were significant differences in the ability before and after treatment. It can be concluded that the developed training model is effective to be applied to the age group of 5.

Keywords: exercise, skills, butterfly swimming, age group 5

Introduction

Preliminary

Sports has a role and function that is very important for human survival, sport can not be separated from human life, because in essence human life requires motion, and motion is one component in sports. Various methods are used by humans to maintain their physical health and fitness. One of the methods is regular exercise, healthy lifestyle, and adequate rest patterns (Syukur, 2014) [17]. Physical fitness must be possessed by every human being so that every human being is able to carry out daily activities with fresh and fit conditions, with fit conditions a person can perform his daily activities to the maximum (Scott Riewald, PhD, Scott Rodeo, 2015) [15]. (Adi, 2012) [1].

Sports activities are carried out not merely to maintain health, but sports can be used as a means of education, achievement, recreation and social facilities as a unifying nation. Sports in Indonesia have been regulated in the Law of the Republic of Indonesia Number 3 of 2005 concerning the national sports system article 1 paragraph 1 which explains that Sports is all aspects related to sports that require regulation, education, learning, coaching, and supervision (Gow, 2011) [1]. Furthermore, in the law sports include 3 scope of sports, namely educational sports, recreational sports and sports achievements.

Achievement sports are sports that score outstanding athletes, and develop sports in a planned manner to achieve the highest possible achievements in a competition, achievement sports are also supported by sports science and technology that supports the achievement of an achievement (Hakim, 2008) [4]. (Hernawan, 2016) [6]. Swimming is an achievement sport that is favored by some Indonesian people, both children and adults. Swimming is very beneficial for the growth and development of children and can balance the child's physical development. Judging from the benefits, swimming is a sport that combines recreational sports, achievement sports, and educational sports. Swimming sports have four kinds of swimming styles, namely free style (crawl stroke), breast style (breast stroke), back style (back stroke), and butterfly style (butterfly stroke) (Jimontgomery, 2013) [8].

The butterfly style is born after the breaststroke, the difference is the butterfly's leg movements such as the dolphin movement and the hand movements which are rotated simultaneously and therefore the butterfly style is often also called the modern breaststroke, while the breaststroke itself often called orthodox breaststroke (Lucero, 2009) [9].

Butterfly swimming is the most difficult swimming style compared to other swimming styles, because not everyone can do the butterfly swimming. The swimming style of the butterfly is the swimming with the most beautiful movements compared to other style swimming movements, the beauty of the swimming style of the butterfly style can be seen from the body parts that move like a twisting wave, in this butterfly style swimming body flexibility becomes the main factor in its movement, body flexibility is required to do a kick or also often called the dolphin kick combined with a swing of both hands (Susan, 2016) [16]. (Scott Riewald, PhD, Scott Rodeo, 2015) [15]. Butterfly learning is given when mastering freestyle, breaststroke, and backstroke. According to Abdul Syukur in the basics of swimming, "Butterfly style swimming is an advanced style of swimming, meaning that to do swimming, the swimmer must be able to perform another style (crowl style or chest style)" (Jimontgomery, 2013) [8]. The movement of the butterfly force is somewhat difficult to do, seen from its complex movements which include body position, hand movements, leg movements, waist flexion, breath taking, and coordination movements. In swimming there is a division of age groups in each match. This age group can be shortened by "KU". The age group in question is to divide the match group according to the athlete's age, while the age group division is KU1 15-17 years, KU2 13-14 years, KU3 11-12 years, KU4 10 years, and KU 5 which is under the age of 10 years. At KU5, exactly 10 years old and younger athletes are more interested in varied and non-monotonous learning models, the enthusiasm of beginner swimmers will increase if the trainer provides variations of the game and other variations of movement compared to providing training by means of drilling or repetition of movements, because

in essence beginner characteristics are more love the game compared to the repetition of monotonous movements (Mulyani, Thomas, & Semarang, 2018) [11]. Therefore a trainer must present a more varied training so that students are not bored in participating in learning.

The current swimming learning still uses monotonous learning, lack of variation in movements or games, and the lack of creativity of the trainer which makes it difficult for beginner swimmers to digest what is instructed by the coach, it will have an impact on the catching ability of athletes who tend to take long to swim. butterfly style (Danilewicz, 2018) [2]. The following are some of the problems that are the main focus of improvement in swimming learning for beginners including, monotonous training styles, boring learning models that make the atmosphere less pleasant between coaches and athletes, lack of trainer creativity in delivering teaching material, inactivity of trainers when teaching, learning which is far from pleasing and impressed as coercion for novice swimmers, lack of teaching evaluation, and lack of a coach approach to create a sense of comfort between coaches and athletes (Roundund, 2014).

Innovation and creativity that can be done to improve the results of training are very many ways and methods, both innovation in terms of infrastructure, training methods, approaches in the training process. The training process is expected to be able to provide comprehensive knowledge and knowledge. In the butterfly swimming training process, a trainer must of course pay attention to the characteristics of the athlete's age group (Marhaeni, Astuti, & Atmaja, 2018) [10].

The design of the butterfly style swimming training refers to the ability of the skills according to the theory of the phases of child development. Simply stated, "motor learning can be interpreted as a learning process of movement skills and refinement of motor skills, as well as variables that support or impede motor skills and skill. The aspect of motor learning in education is "aspects relating to the actions or behaviors displayed by students after receiving certain from the teacher" (Okioga, 2013) [12]. By seeing this condition, an appropriate step in the process of learning motion is needed, especially in swimming (Poerwanto & Firdiansyah, 2019) [13]. Research to designing techniques and strategies to make learning model train swimming the butterfly stroke in order to achieve an effective process and can improve motor skills to learners by designing appropriate character models and phases of development in grub aged 10 years and below (Hernawan & Widyaningsih, 2018) [7]. The researchers took the initiative to create a butterfly-style swimming learning model especially for the age group of 10 years and under (Hary & Firdiansyah, 2020) [5]. It is hoped that the results of the development of this model can be used as a training process for the age group of 10 years and below which will later improve swimming skills with an interesting and fun learning model.

Method

In research and development of the butterfly swimming swimming learning model using the Research and Development (R&D) method of Brog and Gall. According to Sugiyono research and development methods Research and Development (R&D) is a research method used to produce certain products, and test the effectiveness of these products (Darmadi, 2011). The final goal of this research and development is to produce a product that can be used in physical education subjects, especially the butterfly swimming style for the age group of 5 with a new design model or perfecting the existing ones so that they can be used as other learning resources in the practice process.

Development with Borg and Gall consists of ten steps, among others (Gall, 2001) consisting of (1) Research and information collecting as an analysis of research needs. (2) Planning in the sense of finalizing a research plan that encompasses a place in East Jakarta involving several swimming clubs. (3) Development of the preliminary from of product, this stage as developing the design of the answer as an answer to the needs analysis. (4) Preliminary field testing, is defined as a small test involving 20 athletes. (5) Main product revision as the initial revision stage after a small test (6) Main field test, as a large test involving 60 athletes from 6 swimming clubs. (7) Operational product revision, to be made in a more complex phase 2 revision. (8) Operational field testing is used as an effectiveness test phase with the aim of giving subjects treatment in the form of training models developed with the presence of pre and post tests. (9) Final product that is evaluating the model as a whole in the final stage before the cementation is carried out. (10) D issemination and implementation is a mass dissemination of the model.

Results and Discussion

The results of the study are based on the treatment at the effectiveness test stage with the application of the developed model. Based on data analysis, the experimental group's average pre-test score was 34,607 and the post-test average was 63,533. Examination of the normality obtained significant values in the group pre-test *p-value* sig. 0.105 and post-test 0.132. The test through the *Shapiro Wilk* test shows a value of more than $\alpha = 0.05$, meaning that the data is normally distributed. The rest based on data analysis obtained the average value of the pre-test of the control group was 36.442 and the post-test average was 37.533. Based on testing the normality of the control group, a significant value was obtained in the pre-test *p-value* sig group. 0,209 and 0,232 post-test. The test through the *Shapiro Wilk* test shows a value of more than $\alpha = 0.05$, meaning that the data is normally distributed. Thus both of them can be continued with the analysis of the difference between two average test data using *paired* t-test *(paired sample test)* with a significance of 0.05. Following are the results of the *Treatment* group's t test presented in the table.

Table 1: Paired Samples Statistics Treatment Group

		The mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test	34,607	30	6.272	1.31 2
	Post-Test	65,533	30	5. 129	1.31 1

Table 2: Paired Samples Correlations Treatment Group

		N	Correlation	Sig.
Pair 1	Pre_Test & Post_Test	30	.148	.331

Table 3: Paired Samples Treatment Group Test

	Paired Differences						t	df	Sig. (2-tailed)
		The mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test – Post-Test	28,926	12.008	1,790	42,941	35,726	21,974	29	.000

Table 1 obtained the mean pre-test 34.607 and post-test 65.533 with a standard deviation of 6.272 and 5.129. For the mean of pre and post test shows 28,926, the mean of both values is positive, meaning that there is a tendency of increasing numbers after and before treatment with the average number showing 28.926. In the t-test table with a significance level of 0.05 having Sig. (2-tailed) 0,000. This value has demonstrated that Ho is rejected because the p-value Sig. (2- tailed) <0.05, meaning that the butterfly style swimming skill training model developed can improve the athlete's initial ability and is effective to be applied in the butterfly style swimming skill training process for age group 5.

Model of butterfly-style swimming skill training can and is suitable for use in butterfly-style swimming training for the age group of 5. Seeing the weaknesses and strengths of the products made there is input that researchers will submit to achieve the improvement of this product, as for the following input (1) in the exercise process the instructions are in accordance with the elements of the exercise, not the direction for the exercise. (2) Related to time, the model that is applied to the time duration must be in accordance with the duration of the lesson hours, so that it can be applied in the training process at school. (3) Use a model that is truly appropriate, so that it can be useful for the training process.

The butterfly swimming skill training model for age group 5 made by researchers is a product that aims to help swimming coaches improve their butterfly swimming skill and as a reference for the butterfly swimming skill training model for age group 5. This butterfly-style swimming training model is created based on the needs of athletes in the age group of 5 in butterfly-style swimming training.

This product after reviewing some weaknesses that need improvement, it can be conveyed to some of the superior products, namely (1) This product increases the swimming skills of butterfly style for age group 5. (2) This product is able to bring athletes enthusiastic and happy during the process practice. (3) This product can make the situation in the exercise fun and increase creativity because of the varied exercises accompanied by interesting explanations. (4) As a reference model of butterfly-style swimming skill training model for the age group of 5. (5) Butterfly-style swimming skill training model is carried out from easy to difficult, so that athletes easily absorb training material.

This research and development is maximized in accordance with the capabilities of the researchers, but in this study there are still some limitations that must be recognized, such as (1) the products used are far from perfect. (2) Instructions or explanations of the butterfly swimming skill training model for groups of age 5 that are far from perfect. (3) When field trials this research will be even better if it is done in a location that is not too crowded so that the athlete's condition can be more conducive.

Conclusion

Based on the development process carried out by researchers from the initial stage until the creation of a product in the form of development of the butterfly style swimming skill model, with several expert tests, small group trials, large group trials and model effectiveness tests on the athlete's initial ability in style swimming training butterfly can be concluded (1) m odel skills butterfly style swimming for athletes age group 5 can be developed dilaks athlete 's in the process of swimming practice butterfly style on the athletes age group 5. (2) A butterfly style swimming skill model for age 5 athletes that has been developed, in the form of a narrative accompanied by systematic pictures and explanations so that it can be used as a reference for water recovery for age 5 athletes. (3) The process of developing a butterfly-style swimming skill model for athletes in the age group 5 through several stages and testing the effectiveness of the product developed results can also be used as the foundation that this model can be used for the age-5 group kuuatlet swimming training program.

References

1. Adi R. Learn to Swim. Jakarta: Buana Cipta, 2012.
2. Danilewicz W. Participation, Education, and Global Society: International Perspectives. Polish Journal Od Education Studies. 2012; 5(2):87-99. https://doi.org/ 10.2478/poljes-2018-0002
3. Gow B. Swimming Basics. Bandung: Printing Space, 2011.
4. Hakim AHL. Smart Sports Book. Jakarta: CV Mawar Gempita, 2008.
5. Hary V, Firdiansyah B. Model Training for Attacking in Football of 16 Years Old. CHAMPION: Sports Journal. 2020; 5(1):8-18.
6. Hernawan H. Model Kegiatan Outdoor Games Activities Untuk Mahasiswa Program Studi Olahraga Rekreasi Fakultas Ilmu Keolahragaan Universitas Negeri Jakarta. In Prosiding Seminar dan Lokakarya Fakultas Ilmu Keolahragaan Universitas Negeri Jakarta. 2016; 1(01):28-35.
7. Hernawan H, Widyaningsih H. Model Outdoor Games Activities Untuk Pemuda Karang Taruna Tenaga Penggerak Olahraga Rekreasi. Fakultas Ilmu Olahraga. Universitas Negeri Jakarta. 2018. In Prosiding Seminar dan Lokakarya Fakultas Ilmu Keolahragaan Universitas Negeri Jakarta. 2018; 3(01):28-33.
8. Jimontgomery MC. Swimming swimming. Canada: Human Kinetics Books, 2013.
9. Lucero B. Technique Swim Workouts. Maidenhed: Mayer Sport, 2009.
10. Marhaeni T, Astuti P, Atmaja HT. The Impact of the Use of Gadgets in School of School Age Towards Children 's Social Behavior in Semata Village. Journal of Educational Social Studies. 2018; 7(2):161–168.
11. Mulyani R, Thomas P, Semarang UN. The Influence of Student Consumption, Social Status of Family, The Economic Parent Status, and The Economic Education of Family to Consumption Behavior. Journal of Economic Education. 2018; 7(81):24-30.

12. Okioga CK. The Impact of Students' Socio-economic Background on Academic Performance in Universities, a Case of Students in Kisii University College. Journal of Human Movement Studie. 2013; 2(2):38-46.
13. Poerwanto S, Firdiansyah B. Effectiveness of game models on tsunami disaster anticipation in two provinces of indonesia, year 2019. Science of Tsunami Hazards, 2019, 38(4).
14. Rönnlund M. Justice in and Through Education? Students' Participation in Decision - Making. Academic Journal Interdisciplinary Studies. 2014; 13(2):104-113. https://doi.org/10.2390/jsse
15. Scott Riewald PhD, Scott Rodeo M. Science of swimming faster. United States: Human Kinetics, 2015.
16. Susan G. Water learning. Unitet States of America: Human Kinetics, 2016.
17. Syukur A. Swimming Basics. Jakarta: CV Rundawa Teknik, 2014.