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BUTTERFLY SWIMMING LEARNING MODEL FOR AGE GROUP 5

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Abstract The purpose of this study was to produce and test a butterfly stroke swimming learning model for age group 5. The research method uses research and development methods adopted from the theory of Borg & Gall. There are ten steps used in this study, namely needs analysis, initial product development, expert evaluation, small group trials, product revisions, large group trials, product revisions, effectiveness tests, revisions, and the final product. The research subjects were WSC Cirebon children aged 5, totaling 15 subjects in small group trials, large group trials of 40 novice athletes and 40 subject effectiveness tests conducted on children aged 5 at the WSC Cirebon club. The data analysis technique used in this study to test the effectiveness of the model is the normality test, homogeneity test and independent sample-test. The results of the research produced a product in the form of learning to swim the butterfly style for the age group 5. For the age group 5, 28 training models had been validated and revised by experts. The implication of this study is that the learning model is feasible and effective for use for 5 year olds in improving butterfly swimming skills.

Keywords: learning models, skills, swimming butterfly style;

INTRODUCTION

Swimming is one of the sports achievements that are favored by some Indonesian people, both children and adults. Swimming is very beneficial for the growth and development of children and can balance the growth of children's physical development. Judging from its benefits, swimming is a sport that combines recreational sports, achievement sports, and educational sports. There are four types of swimming styles, namely freestyle (crawl stroke), breast stroke, back stroke and butterfly stroke.

The butterfly style was born after the breaststroke, what distinguishes it is the butterfly style 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 is often called orthodox breaststroke.

Butterfly swimming is the most difficult swimming style compared to other swimming styles, because not everyone can do the butterfly stroke. Butterfly swimming is swimming with the most beautiful movements compared to other swimming styles, the beauty of butterfly swimming can be seen from the parts of the body that move like twisting waves. In butterfly swimming, body flexibility is the main factor in the movement. to do a kick or also often called a dolphin kick combined with a swing of both hands.

Butterfly learning is given when you have mastered the freestyle, breaststroke and backstroke. According to Abdul Gratitude in the book on the basics of swimming "Swimming butterfly style is an advanced style swimming, meaning that in order to do the butterfly stroke the swimmer must be able to do another style, the crowl style or breaststroke." (Fadillah, 2015). The butterfly style movement is fairly difficult to do, judging from the complex movements which include body position, hand movements, leg movements, waist flexibility, breathing, and coordination movements.

Swimming in Indonesia there is a division of groups in each competition, the group in question is to divide the competition groups according to the age of the athletes. The division of age groups starts from age group 1, namely 15 to 17 years, age group 2, namely 13 to 14 years, age group 3, namely 11 to 12

years, age group 4, namely 10 years, and age group 5, namely under 10 years.

In the age group 5, to be precise, aged 10 and under, athletes are more interested in learning models that are varied and not monotonous, the enthusiasm of novice swimmers will increase if the coach provides variations of games and other variations of movements compared to providing training by means of repetition of movements, because in essence the characteristics of beginners are more like the game compared to the repetition of monotonous movements. Therefore a trainer must provide more varied training so that students are not bored in following the lesson.

Swimming is a fitness activity and is open to everyone, and swimming is very useful for pleasure, so swimming is said to be the perfect sport (Adi, 2012).

Butterfly swimming is an advanced style swimming, which means that in order to do the butterfly stroke, the swimmer must be able to do another style (crawl/breaststroke) (Syukur, 2014), which means swimming butterfly stroke must be done after mastering breaststroke swimming first, butterfly leg movements are not much different from breaststroke swimming movements. The butterfly swimming movement is done with two dolphin kick movements, followed by one hand movement. The distinctive feature of swimming the butterfly style is the movement of the arms that rotate together similar to the movement of the wings of a flying bird and the movement of the legs that move like the movement of a dolphin. Butterfly swimming includes body position, leg movement, arm movement and coordination of leg, arm and breathing movements.

Current swimming learning still uses monotonous learning, lack of variations in movements or games, and lack of coach creativity which causes beginner swimmers to find it difficult to digest what is instructed by the coach, this will have an impact on the catching power of athletes who tend to take a long time to make swimming movements. butterfly style.

Based on the problems that are the main focus of improving swimming learning for age group 5 including, monotonous training styles, boring learning models that make the atmosphere less pleasant between coaches and athletes, lack of creativity of coaches in delivering teaching material, inactivity of trainers during teaching,

learning which is far from being fun and impressed as coercion for novice swimmers, lack of evaluation of teaching, and lack of coach approach to create a sense of comfort between coaches and athletes.

The butterfly style swimming training design refers to skill abilities according to the theory of the child's developmental phases. In simple terms, "motor learning can be interpreted as a process of learning movement skills and fine-tuning motor skills, as well as variables that support or hinder motor skills and skills. Aspects of motor learning in education are “Aspects related to actions or behaviors displayed by students after receiving certain things from the teacher” (Decaprio, 2013).

By looking at these conditions, an appropriate step is needed in the process of learning motion, especially in swimming sports, researchers are trying to design training techniques and strategies by making a butterfly style swimming learning model in order to achieve an effective process and can improve movement skills for students by designed a model according to the characters and developmental phases in the age group of 10 years and under.

Based on these problems prompted researchers to create a butterfly style swimming learning model, especially for the age group of 10 years and under. It is hoped that the results of the development of this model can be used as a training process for the age group 10 years and under which will improve swimming skills with an interesting and fun learning model.

METHOD

In the research and development of the butterfly style swimming learning model, this research and development (R&D) method was used by 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).

This study uses a qualitative and quantitative approach, which is an approach with the aim of finding answers to problems through the formulation of the problem that has been formulated in chapter I, namely the butterfly style swimming training model. This research on the development of the butterfly style

swimming training model uses the research and development model (Research and Development) from Borg and Gall which consists of ten steps, including (Gall, 2001); *(1) Research and information collecting (2) Planning (3) Development of the preliminary from of product (4) Preliminary field testing (5) Main product revision (6) Main field test. (7) Operational product revision (8) Operational field testing (9) Final produk (10) Dissemination and implementation.*

The purpose of this research is to produce a butterfly style swimming training model product which will be compiled into a guidebook for implementing butterfly stroke swimming training for the age group 5 which will later be used as a guide by coaches or teachers in teaching butterfly stroke swimming. butterfly, research on the butterfly style swimming training model specifically has several objectives, including:

1. Design and develop a butterfly style swimming skill training model for age group 5.
2. Testing the effectiveness of the butterfly style swimming skill training model for age groups 5.

This research was conducted at 1 swimming club, the research subjects were novice athletes at the Wijaya Swimming Club Cirebon. The time required for this research and development refers to research and development research with the ADDIE design which is planned for two months.

Research and development of training models that researchers carry out use a technical and skill approach, where there are various butterfly style swimming training models for beginner athletes in swimming that are presented. The target in the research that the researchers did was intended for novice swimmers.

The subject-taking technique used in this study is purposive sampling, also known as judgmental sampling or based on certain considerations. The number of subjects and the criteria for selecting subjects are described in the following table:

Table 1. Criteria and Research Subjects

Research stage	**Number of subjects**	**Criteria**	**Instrument**
1. Preliminary research	3	3 orang pelatih renang	Interview
2. Expert evaluation	3	3 orang ahli renang	Interview 30 Models
3. Test Instruments 4. Small group try out 5. Field try group	10 15 30	WSC Cirebon	28 Models
6. Test product effectiveness	30	WSC Cirebon	28 Models

RESULT AND DISCUSSION

Model Development

The results of the butterfly stroke swimming skills training model for the age group 5 (age 6-8 years) are written in the form of a script or implementation guide that can be presented and read by a swimming coach or instructor to serve as a guide and reference material for training and practice. The skills training model developed by the researcher started with a needs analysis which was carried out in various ways so as to raise several questions related to the development carried out including.

1. Results of Needs Analysis

   Overall there are two general objectives to be revealed in the preliminary study or needs analysis, namely :

   a. How important is the butterfly stroke swimming skills training model for the 5 age group to be developed.
   b. What constraints and supports are found in the butterfly stroke swimming skills training model for the age group 5.

The training model developed is the result of problems found by researchers in the field through observation and interviews as well as personal experience as a swimming coach who holds a lot of the age group 5. The researcher's experience as a swimming coach holds a lot of the age group 5 which made the researchers take the initiative to develop a swimming style skill training model. specific butterfly, both in terms of its general purpose and the subject characteristics of the developed model.

The results of the preliminary study or field findings are then described and analyzed so that these results are descriptive and analytical, with reference to the objectives of the preliminary study.

Trial of the Butterfly Style Swimming Skill Training Model

a. Results of Phase One/Small Group Trial

The product design of the butterfly style swimming skills training model for the 5-year-old group that was made by the researchers was tested on the research subjects after the model went through expert testing and was revised according to suggestions and input from the three swimming experts. The next development step is the product development trial stage, at this stage the model that has

been tested by experts is then tested in small group trials with 15 research subjects namely athletes in the age group 5.

b. Results of Phase Two or Large Group Trials

After the results of the trial in small groups were obtained, the researcher conducted an analysis related to some of the findings in the field related to the model being developed. Based on these findings, the researchers made revisions and improvements for the sake of perfecting the butterfly style swimming skill training model for the age group of 5 which resulted in 28 butterfly style swimming skill training models that could be applied. After the revision was carried out, the researcher carried out the next development stage, namely the trial stage in large groups. The large group trial phase is basically the same as the small group trial but the research subjects are becoming more numerous and heterogeneous. Both from gender, from the swimming club and experience of movement and experience in the water. Large group trials conducted by researchers using research subjects as many as 30 athletes age group 5.

The effectiveness of the developed model

Furthermore, the model underwent phase II revision from the results of small group and large group trials. then proceed with testing the effectiveness of the butterfly style swimming skills training model that has been compiled and perfected through the several stages described. The effectiveness of the developed model was carried out in 3 swimming clubs in the age group of 5 with a total of 60 research subjects. 30 athletes in the treatment group and 30 athletes in the control group where 20 athletes were taken from each club. On the first occasion the researcher presented the results of the assessment of 30 research subjects on the effectiveness of the butterfly style swimming skill training model in the treatment group which is shown in the following table:

Table 2. Results of Butterfly Style Swimming Skills Assessment in the Pre-Test and Post-Test Treatment Group

Subject	Tretment	
	Pre-Test	Post-Test
X1	33	60
X2	32	61
X3	34	64

X4	36	62
X5	35	65
X6	34	66
X7	38	64
X8	34	60
X9	32	61
X10	35	65
X11	39	62
X12	36	62
X13	38	68
X14	41	62
X15	36	64
X16	39	65
X17	35	62
X18	32	67
X19	31	66
X20	36	66
X21	29	62
X22	35	65
X23	37	65
X24	37	66
X25	30	62
X26	30	62
X27	32	64
X28	33	62
X29	36	63
X30	35	63
Amount	969	1906
Average	34,607	63,533

Based on the data analysis, the average pre-test score for the experimental group was 34.607 and the post-test average was 63.533. The existing data were then tested for normality using SPSS.20 to determine whether the paired sample t-test could be continued. The normality test is presented in the following table.

Table 3. Treatment Group Normality Test

Tests of Normality

	Treatment Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Results	*Pre-test*	.192	30	.180	.923	30	.105
	Post-test	.244	30	.190	.854	30	.132

a. Lilliefors Significance Correction

Based on the existing normality test, a significant value was obtained in the p-value sig pre-test group. 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. Thus, it can be continued to analyze the test data for the difference between the two averages using the 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 4. *Paired Samples Statistics Treatment Group*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre_Test	34.607	30	6.272	1.312
	Post_Test	65.533	30	5.129	1.311

Table 5. *Paired Samples Statistics Treatment Group*

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

Table 5. The mean pre-test is 34.607 and post-test is 65.533 with standard deviations of 6.272 and 5.129 respectively. For the pre and post test mean it shows 28.926, the mean for both is positive which means there is a tendency for the number to increase after and before treatment with the mean showing the number 28.926. In the t-test table with a significance level of 0.05 has Sig. (2-tailed) 0.000. This value has indicated that H0 is rejected because the p-value Sig. (2- tailed) < 0.05, meaning that the butterfly stroke swimming skills training model developed can improve the athlete's initial ability and is effective to be applied in the butterfly stroke swimming skill training process for the age group 5. Furthermore, for the control group is described in the following table.

Table 6. Results of the Butterfly Style Swimming Skills Assessment in the Pre-Test and Post-Test Control Group

subject	Control	
	Pre-Test	Post-Test
Y1	32	37
Y2	37	39
Y3	33	35
Y4	34	38
Y5	33	32
Y6	38	37
Y7	32	35
Y8	36	42
Y9	31	36
Y10	36	33
Y11	37	39
Y12	35	39
Y13	40	28
Y14	41	36
Y15	37	33
Y16	42	43
Y17	40	47
Y18	39	45
Y19	35	29
Y20	37	31
Y21	35	37
Y22	36	32
Y23	40	31
Y24	38	42
Y25	36	45
Y26	36	39
Y27	35	45
Y28	39	51
Y29	38	34
Y30	35	36
Amount	1020	1126
Average	36,428	37,533

The rest, based on data analysis, obtained an average pre-test value of the control group of 36.428 and an average post-test of 37.533. The existing data were then tested for normality using SPSS.20 to determine whether the paired sample t-test could be continued. The normality test is presented in the following table.

Tabel 7. Control Group Normality Test

Tests of Normality

	Treatment Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statis	df	Sig.	Statis	df	Sig.
Results	*Pre-test*	.112	30	.241	.061	30	.209
	Post-test	.341	30	.146	.097	30	.232

a. Lilliefors Significance Correction

Based on the normality test for the control group, a significant value was obtained in the p-value sig pre-test group. 0.209 and post-test 0.232. The test through the Shapiro Wilk test shows a value of more than α = 0.05, meaning that the data is normally distributed. Thus it can be continued to analyze the test data for the difference between the two averages using the 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 8. *Paired Samples Statistics Kontrol Group*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre_Test	36.428	30	4.072	4.083
	Post_Test	37.533	30	6.201	3.973

Table 9. Paired Samples Correlations Control Group

		N	Correlation	Sig.
Pair 1	Pre_Test & Post_Test	30	.148	.711

Table 9. It can be seen that the average value of the treatment group was 36.433, the control group was 37.533 and the standard deviation was 12.132 for the treatment and 3.892 for the control. Descriptively the skills of the treatment group were higher and more consistent than the control group. Because the data is not homogeneous, in table 10. in the column equal variances not assumed and in the t-test line for equality means the number is 10.744, db = 28.199 and sig. (2-tailed) or the p-value shows anga 0.000/2 = 0 <0.05 or Ho is rejected. This means that Hi is accepted so that the butterfly stroke swimming skill in the treatment group given the model that has been applied is higher than the control group.

Based on the acquisition of the numbers in the table above, it can be concluded that the butterfly style swimming skill training model can and is appropriate for use in butterfly style swimming practice for the age group 5. Seeing the advantages and disadvantages of the products made, there are inputs that the researcher will convey for the sake of the improvement of this product, the input is as follows:

a. In the training process the directions correspond to the elements of the

exercise, not the directions for the exercise.

b. Regarding time, the model that is applied for the duration of the time must be in accordance with the duration of class hours, so that it can be applied in the training process at school.
c. Use a model that really fits, so it can be useful for the training process.

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

After reviewing some of the weaknesses that need improvement, this product can convey some of the advantages of this product, among others:

a. This product improves butterfly swimming skills for age group 5.
b. This product is able to bring enthusiastic and happy athletes during the training process.
c. This product can make situations in practice fun and increase creativity because the exercises are varied and accompanied by interesting explanations.
d. Used as a reference for the butterfly style swimming skills training model for age groups 5.
e. The butterfly style swimming skill training model is carried out from easy to difficult things, so athletes can easily absorb the training material.

This development research has been maximally pursued according to the abilities of the researchers, but in this research there are still some limitations that must be acknowledged. The limitations include the following:

a. The products used are still far from perfect.
b. Instructions or explanations of the butterfly style swimming skill training model for the 5-year-old group are still far from perfect.
c. When field trials this research will be even better if it is carried out 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 the researcher from the initial stage to the creation of a product in the form of developing a butterfly style swimming skill model, with several expert trials, small group trials, large group trials and testing the effectiveness of the model on the athlete's initial abilities in swimming style training butterfly it can be concluded that:

1. The butterfly style swimming skill model for age 5 group athletes can be developed in the athlete's way in the butterfly stroke training process for age 5 group athletes.
2. A model of butterfly stroke swimming skills for age group 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 recognition for age group 5 athletes.
3. The process of developing a butterfly style swimming skill model for age 5 group athletes went through several stages and tested the effectiveness of the product developed. The results can also be used as the basis that this model can be used for age group 5 athlete swimming training programs..

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