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THE EFFECT OF SMALL GAME EXERCISES ON SWIMMING FREESTYLE SPECIAL CLASS FOR SPORTS STUDENTS: CASE STUDY OF SMK 5 MERANGIN

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ABSTRACT

This study is set to determine the effect of small game exercises on the swimming freestyle of special sports students SMK 5 Merangin. This study uses an experimental method with the one group pretest-posttest design. The population of this research is the students of special sports class SMK 5 Merangin with a sample of 10 students taken by simple random sampling. The instruments used were equipment for small games and exercises in the techniques of feet, hands, breath and freestyle swimming coordination. Samples do swimming exercises with a frequency of 3 times a week and carried out for 6 weeks. The results of the normality and homogeneity test data analysis showed a significance value of $p > 0.05$, which means that the data were normally distributed and homogeneous. *T*-test results showed a significance value of $p > 0.05$ with a calculated *F* value of 63.119 and an F table of 5.296, it can be concluded that there was a significant effect of small game training on the freestyle swimming for special sports class students SMK 5 Merangin.

Keywords: Freestyle Swimming, Small Game.

1. INTRODUCTION

Swimming is a sport in water that is done by all ages. Swimming is done by moving the limbs to make it spin, go forward, backward and even make the body stay still while doing the movement or not so that the body floats, floats, and dives [1]. The notion of swimming in general is the floatation of an object in a liquid due to its buoyancy or lift [2]. Which means that swimming in general is an attempt to float or lift the body to the surface of the water. More specifically, Swimming is the method by which humans (or other animals) move themselves through water [3]. This means a way for people or animals to move their bodies in the water. Swimming is a sport that gives excellent fitness to body and physical health, to increase stamina, to train the muscles of the body, to train the heart and lungs to work more efficiently, which provides oxygen circulation throughout the body, to train power float when exercising and also to reduce tension in the body [4].

Swimming is also an activity carried out in water, good walking, playing and part of it. Swimming provides a new experience, fun, providing freshness while enriching the movement of actors [5]. Another thing experienced by the perpetrators is feeling the cheerful atmosphere of meeting friends, competing in feeling success that is continuous, directed, balanced and the determination and use of media and methods that are adapted to internal and external conditions [6]. Swimming has many benefits such as health, therapy, recreation, education, being the basis of other water sports, or to gain achievements by means of a programmed, planned, progressive, and trained exercise [7].

Swimming Freestyle is swimming with the chest position facing the surface of the water, both hands are alternately moved far forward by pedaling, while both legs are whipped up and down up-down, breathing is done when the arms are moved out of the water, when the body becomes tilted and head turned to the side [8]. When taking a breath, swimmers can choose to turn left or right. Freestyle swimming is really aimed at many beginners who want to learn not to be bound by specific technical techniques. It takes patience and perseverance to be proficient in swimming. Freestyle consists of movements of the feet, hands, breath, and coordination of the freestyle. In order for someone to be able to do freestyle well, one must pay attention to what should be considered for the freestyle swimming. Among other things, namely, achievement motivation, pedaling frequency, and strength. Achievement motivation according to [9]. This freestyle swimming is one of the swimming styles contested by the All Indonesian Swimming Union (PRSI) and the International Swimming Federation (FINA).

The problem with freestyle swimming athletes is the speed of the swimming itself. Swimmers who win the

race are swimmers who complete the distance in the fastest time. Therefore swimming speed plays an important role for swimming athletes. Freestyle swimming speed can be increased by means of programmed, planned, and progressive training. One of the exercises that can improve freestyle swimming is a small game exercise.

Small games are all forms of games that do not have standard rules in their application both regarding the rules of the game, the tools used, the size of the field, and the duration of the game [10]. Small games can be adapted to circumstances or situations where and when the intended game is held. Besides that, small games do not have a National Parent Organization let alone International Parent Organization. This little game exercise is an exercise technique of feet, hands, breath and coordination which are all done in water. Components of swimming training using this small game include speed training with the method of students running to catch other students in the water so that students have the ability to pursue and avoid indirectly training the speed of movement of students' hands and feet, swimming with the target variation that students swim as fast as possible to catch the target and breathing exercises by students diving in water [11]. This gives motion experience to students so that the more types and forms of games that are carried out, the more rich students will experience motion.

Sports school is an alternative as a nursery facility in the sports coaching pyramid system to produce achievements. Through sports schools, talented athletes from various sports branches who are still in school age will be facilitated, both facilities for non-sports academic learning and sports. Through sports school, it is expected that an athlete who is still in school does not experience obstacles and must choose between studying non-sports and doing well in sports.

Based on the description above, researchers are interested in conducting research on the effect of exercise using small games on 50m freestyle swimming in special sports class students SMK 5 Merangin. The remaining of this paper proceeds as follows. Section 2 presents the materials and methods of conducting the experiments. Section 3 presents the results and analysis for the hypothesis testing and finally Section 4 concludes the paper.

2. MATERIALS AND METHODS

This type of research is an experiment with the one group pretest-posttest design. Instruments used in small games include swimming pools, stopwatches, star flags, and time keeping instruments. Small games include exercises in leg, hand, breath and freestyle swimming coordination. Small game exercises are done with a frequency of three times a week and carried out for six weeks. The small game training components are described as follows.

2.1 "HITAM-HIJAU" SMALL GAMES

The little "hitam-hijau" game consists of two teams facing each other. Rules of the game: The game consists of 2 teams namely "hitam team" and "hijau team". Students are divided into 2 banjars and the two banjar teams face each other, each team consists of 5 members and both have the same number of members, both teams face each other with a distance of approximately 3 or 4 steps of an adult's foot, the team called is the team that runs and the team that is not called out is the team that chases, each student only chases the student who becomes his partner (this is the reason why the number of each team member must be equal). The game starts when the teacher shouts the name of one team. If the teacher yells, "hitam" then the "hitam team" must run and the hijau team chases the partner in the hitam team. Vice versa, if the teacher yells "hijau", then the "hijau team" must run as fast as possible to avoid catching students from the hitam team. For shouting in the name of the team, the teacher can extend the initial syllable so that it sounds thrilling and confusing students (to increase concentration) because both team names have the same initial syllable. Students who catch students who are chased are entitled to a reward in the form of punishment for students who are caught. For instance: students who catch ask for a carrying student who is caught about 10 meters sling. Repeat this game 3 or 4 times.

But here the hitam-and-hijau game that is applied to students of the special sports class SMK 5 Merangin is the implementation in the water. There are 10 students divided into 2 groups, each group consisting of 5 people. The two groups face each other approximately 3 to 4 steps of adults. The team that is called is the team that avoids by swimming with freestyle and the team that is not called out is the team that chases the opponent and must swim using freestyle. Each student only chases after the student who becomes his partner. The game began when researchers shouted the name of one of the teams. If the researchers shout hitam, then by swimming freestyle the hitam team must avoid by freestyle swimming. And the hijau team chases their partners in the hitam team, by swimming and vice versa.

2.2 SWIMMING COMPETITION WITH TARGET VARIATIONS

The second small game approach is a swimming competition with a target. The tool used is a plastic ball. The first thing to do is to line up students by the pool. Students are lined up like people swimming, the edge of the pool is depicted as the initial start of the race. The rules of the game students who have been

lined up are ordered to chase the target which is a plastic ball. The winner is the student who gets the ball the fastest. The purpose of this small game is intended for students to try to move (swim) so the students special sports classes are accustomed to doing 50m freestyle swimming. The researchers only need to ring the fluit to start the game, if the researcher has already sounded the fluit to start the game, it means that the game starts.

2.3 15M DIVING COMPETITIONS

The last little game approach is a 15 m dive competition. The implementation of the researchers was enough to line up special sports class students alongside the pool then the researchers gave a signal to all students of special sports classes to get ready to dive as far as 15 m simultaneously. Students of the special sports class are the first to win. The purpose of this small game is for students in the special sports class to have a good breath in the implementation of freestyle swimming and is very supportive for their breathing endurance.

The population of this research is the students of special sports class SMK 5 Merangin with a sample of 10 students taken by simple random sampling. Samples were carried out twice, namely before being given a small game training (pretest) and after being given a small game training (posttest). Pretest data is the speed of 50 meter freestyle swimming students before being given a small game practice. Posttest data is the speed of 50 meter freestyle swimming students after being given a small game practice. The implementation procedure is that the test participants (pretest) swim using the freestyle to cover 50 meters. The time taken by the sample to do freestyle swimming with a distance of 50 meters is recorded as research data to be analyzed to answer the research hypothesis. Data were analyzed using the IBM SPSS 24 program. Data were performed normality test to determine whether the research data was normally distributed or not with the criteria of normally distributed data if the significance of $p > 0.05$. Homogeneity test data is performed to see whether the data is homogeneous or not, then proceed with hypothesis testing using the *t*-test.

3. RESULTS AND DISCUSSION

The data of this study are the results of measurements of the effect of training using a small game on swimming 50m freestyle in special sports class students SMK 5 Merangin. Data measurements were carried out twice, namely the speed of a 50 meter freestyle swimming student before being given a small game practice (pretest) and the speed of a 50 meter freestyle swimming student after being given a small game practice (posttest). Pretest and posttest data are shown in Table 1 and Table 2.

Table 1. Data on the Results of the Pretest and Posttest

Sample	Freestyle Swimming Speed		Explanation
	Pretest	Posttest	
1	36.10	35.09	Increased
2	37.20	35.92	Increased
3	37.53	35.45	Increased
4	38.23	36.78	Increased
5	38.90	36.47	Increased
6	39.86	36.26	Increased
7	39.12	36.94	Increased
8	40.05	37.53	Increased
9	41.63	38.36	Increased
10	42.90	38.96	Increased

Table 2: Average Pretest and Posttest Results

Treatment	N	Mean	Std. Dev.	Worst Score	Best Score
Pretest	10	39.15	1.954	42.90	36.10
Posttest	10	36.78	1.165	38.96	35.09

After the pretest and then given treatment for 18 meetings and ending with the posttest, the data obtained from the ability of the beginning and end of freestyle swimming. The data obtained on the pretest of freestyle swimming ability obtained an average speed of 39.15 with the best ability is 36.10 and the worst ability is 42.90.

Posttest data on the ability to swim 50m freestyle after making a small game approach for 6 weeks with a frequency of 3 times a week was found to be an average of 36.78, with the best ability of 35.09 seconds and the worst ability of 38.96. This shows the influence of exercise using small games on 50m freestyle swimming in special sports class students SMKN 5 Merangin.

The frequency distribution of the sample before a small game exercise is done and after a small game training exercise on the 50 meter freestyle swimming is shown in Table 3.

Table 3: Distribution of Students' Abilities Before and After Training

Criteria	Pretest Freq.	%	Posttest Freq.	%
35 – 35.99	0	0	3	30
36 – 37.99	1	10	4	40
37 – 37.99	2	20	1	10
38 – 38.99	2	20	2	20
39 – 39.99	2	20	0	0
40 – 40.99	1	10	0	0
41 – 41.99	1	10	0	0
42 – 42.99	1	10	0	0
Total	10	100	10	100

Based on the table above it is known that students with a 50m freestyle swimming speed classification before treatment on the criteria as follows:

- 35 - 35.99: 0 people (0%)
- 36 - 36.99: 1 people (10%)

- 37 - 37.99: 2 people (20%)
- 38 - 38.99: 2 people (20%)
- 39 - 39.99: 2 people (20%)
- 40 - 40.99: 1 person (10%)
- 41 - 41, 99: 1 person (10%)
- 42 - 42.99: 1 person (10%)

Whereas after treatment of swimming speed 50m freestyle on the criteria as follows:

- 35 - 35.99: 3 people (30%)
- 36 - 36.99: 4 people (40%)
- 37 - 37.99: 1 person (10%)
- 38 - 38.99: 2 people (20%)
- 39 - 39.99: 0 people (0%)
- 40 - 40.99: 0 people (10%)
- 41 - 41.99: 0 people (0%)
- 42 - 42.99: 0 people (0%)

This shows the influence of exercise using small games on 50m freestyle swimming in special sports class students SMKN 5 Merangin.

The data was then analyzed using SPSS IBM 24. Normality test analysis results are shown in Table 4.

Table 4: Normality Test Results

Treatment	Significance Value	Explanation
Pretest	0.950	Normal
Posttest	0.769	Normal

The table shows that the results of the calculation of the normality of the freestyle swimming speed data at the pretest obtained a significance value of 0.950 and at the posttest obtained a significance value of 0.769. Because the results of the freestyle swimming speed normality data results obtained significance values greater than 0.05 ($p > 0.05$), it can be stated that the freestyle swimming speed data is normally distributed. This means that the distribution of data in this study meets the criteria for data normality curves as a condition of parametric statistical analysis. Then the data continued with the homogeneity test shown in Table 5.

Table 5: Homogeneity Test Results for Swimming Speed

Treatment	*p*	Explanation
Pretest	0.841	Homogeneous
Posttest		

Homogeneity test results to test the similarity of the variance measurement results of the effect of small game exercises on 50m freestyle swimming at the pre test and post test significance value of 0.841. Because the significance value is greater than 0.05 ($p > 0.05$), it can be stated that the freestyle swimming speed measured by the pretest and posttest is homogeneous. This means that there is a similarity in variance between the swimming speed data measurement results at the time of the pretest and posttest so that the data meet the requirements for parametric statistical analysis. Then the parametric test *t*-test of the data is displayed in table 6:

Table 6: *T*-Test Results for Swimming Speed

Test	*t*-value	*t* table	*p*	Explanation
Pretest	63.119	5.296	0.005	Significant
Posttest				

Based on the results of the *t*-test analysis, the calculated value of *t* is 63.119, while the t table is 5.296 with a significance value of 0.005. Because the significance value of $p > 0.05$, it can be concluded that there are significant differences in swimming speed during pretest and posttest, and because *t*-value > *t* table, it can be concluded that there is a significant effect of training using a small game on swimming 50m freestyle in the special sports class student at SMK 5 Merangin, so the research hypothesis was accepted.

A small game exercise is a technique of foot, hand, breath and coordination techniques which are all done in water. Small game exercises provide motion experiences to children so that the more types and forms of play that children do, the more rich the motion experience will be, besides the small play exercises, stimulating and increasing children's growth and development, maintaining and improving physical fitness, increasing knowledge and insight in children, especially to fulfill a child's curiosity, and instill cooperation, social sense, and mutual help.

Small games are all forms of games that do not have standard rules in their application both regarding the rules of the game, the equipment used, the size of the field, and the duration of the game. Small games can be adapted to circumstances or situations where and when the intended game is held. By exercising using a small game the researcher tries to arouse the motivation of students of the special sports class SMKN 5 Merangin to find out the effect of 50-meter freestyle swimming using small game exercises, such as hitam-and-hijau games, swimming competitions with target variations, and 15 m diving competitions.

Freestyle swimming is swimming with the chest position facing the surface of the water. Both hands are alternately moved further forward in a pedaling motion, while both legs are whipped up and down up and down. When swimming freestyle, position facing the surface of the water. Breathing is done when the arms are moved out of the water, when the body becomes tilted and the head turns to the side. When taking a breath, swimmers can choose to turn left or right.

In this study, it was proven that there was a significant effect of small game practice on 50m freestyle swimming in students of the special sports class of SMK 5 Merangin. This can be seen in Table 6, where

t-test results that show *t*-value greater than the *t* table. Small game practice is proven to be able to increase the speed of 50 meter freestyle swimming in the special sports class Vocational School 5 Merangin. Small game play is actually a complex game involving cognitive, affective, and psychomotor abilities, but in this small game practice it is packed with the way students feel like playing, so that this exercise does not place a burden on students.

Play is an activity that is done freely and voluntarily, but this freedom does not apply to children and animals because they play and must play because of instinctual encouragement. For children, play is very useful to stimulate physical and mental development, as with adults, play is a necessity as long as the desire to do so is a necessity. Play is not an ordinary or real life, because if you carefully observe the behavior of children during play, they act fake or not real. However, on the contrary with the symptoms that are not real, playing becomes a real activity and can absorb energy and concentration. For example in children, they play doctors; regard the doll as a living thing by talking to it as if it were a living, a toy car; think of a seat like a real car as if it were a real car. This is where the uniqueness of playing, namely there are two things that contradict each other, "Playing really is in the realness".

Playing is different from everyday life, especially in places and times when play always starts and ends and is carried out in certain places. Playing requires regularity, without rules the game world will be paralyzed. The tension element is an important part of the game. Although playing outside of good and bad judgments, but the element of tension is at the same time testing the player's toughness, courage, tenacity, honesty, even though all players want victory, but he must fight with all his heart and must be bound by the rules of the game. Play is an activity that has a purpose, these objectives are in the game itself. The purpose of the activity is not related to the acquisition or material benefits, this characteristic is the difference between playing and working. Play is an activity that is carried out consciously, voluntarily without coercion, and is not real within the time limit, without binding rules. Accompanying all these characteristics, playing encourages the growth and development of social groups because it is done not only alone, but also carried out in a group setting.

Therefore a small game practice is very influential on the 50 meter freestyle swimming. Small game practice is very important to improve the technical ability of the feet, hands, breathing. Though the technical ability of the hands, feet and breathing is a major component in the success of freestyle swimming. The technique of doing freestyle swimming is the first leg movement. The first lesson that needs to be practiced is moving your feet up and down like walking in a swapping way. In this movement, the legs and thighs are in a straight position and the knees cannot be bent. Repeat this movement by repeating it as a basic free style swimming. The second is hand movements. The movements on this hand are divided into 5 categories. The first category is the initial position where the position of both hands straight above the head. Strive your palms in a close position but not attached. After positioning both hands above your head, pull your left hand down to the back, then lift your left hand out of the water surface. In this position, swing your left hand forward as far as you can. When your left hand is raised from the surface of the water, move your right hand down to the back then there is a turn on the left hand up and right hand down. The third is the fingers. Do not have time to open your fingers, because it reduces the thrust that arises. The truth is, close them both, when your hands are paddling and extending. Freestyle swimming technique which is a joint movement of the hands, feet and breathing. This breathing is carried out when your left hand swings forward into the water again. At this time, the right hand rises to the surface of the water. The movement is followed by a movement of the head to the right to take a breath on the surface of the water. This breathing movement can you do as with your comfort either by moving your head left or right. Sculling starts from the time the extension is extended until your hands extend beyond the facet of your thigh. Never remove your hand before your hand touches the side of your thigh, even if you are tired.

In order for someone to be able to do freestyle well, one must pay attention to what should be considered for the freestyle swimming. Among other things, namely, achievement motivation, pedaling frequency, and power. Achievement motivation according to (Indgren, 1973: 105) is an impetus found in a person to always try to improve abilities. Another dimension related to swimming 50m freestyle is paddling frequency, in swimming 50 meters freestyle the number of paddling frequencies will have a profound effect on travel time. Besides motivating paddle achievement, one of the important efforts that must be made to influence the 50 meter freestyle swimming is how much power the special sports class of 5 Merangin SMKN has mobilized during the 50m freestyle swimming arm power.

The frequency of paddling in freestyle can be trained with small game exercises. One component of small game practice is the small game "hitam and hijau". In this small "hitam and hijau" game exercise stimulates the feet to keep moving, thus increasing the strength of the legs. In this game students are stimulated for fast movements because in this "hitam-hijau" game students are required to chase other students by swimming and are required to avoid the pursuit of other students by swimming too. In addition, this

"hitam-hijau" game can increase students' freestyle swimming speed.

The frequency of paddling feet during freestyle swimming can also be trained with a small game of swimming competitions with target variations because in this game each student is focused on reaching the target as fast as possible by swimming. This can increase the frequency of foot paddling and also the speed of the hand paddle.

4. CONCLUSION

Swimming is a sport that is carried out in water with an effort to lift his body to float to be able to breathe, move back and forth for health, therapeutic, recreational, educational purposes, to be the basis of other water sports, to gain achievements by programmed, planned and progressive exercises. Freestyle swimming is swimming with the chest facing the surface of the water, both hands are alternately moved far forward with a pedaling motion, while both legs are whipped up and down up-down, breathing is done when the arms are moved out of the water, when the body it tilts and the head looks sideways. One of the swimming exercises is a small game exercise. From the data analysis and hypothesis testing, it can be concluded that there is a significant influence of the practice of using small games on the 50m freestyle swimming in special sports class students SMK 5 Merangin.

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