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THE EFFECT OF HAND PADDLE TRAINING ON 50 METER FREESTYLE SWIMMING SPEED IN BEGINNER

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Abstract
The purpose of engaging in the look at was to decide the effect of hand paddle exercise on the rate of 50 meter freestyle swimming in novice swimmers. This research technique makes use of a quasi-experimental method, which means that before being given this design treatment, it uses pretests. The studies design used is one group pretest-posttest design. The usage of the full sampling technique for sampling 30 people. The research instrument is that the entire sample performs a 50 meter freestyle swimming test. From the outcomes of records processing and evaluation using the facts normality check, hypothesis take a look at with the t test formulation, that exercises using hand paddle have an influence on 50 meters freestyle swimming speed. It may be seen from the results of statistics evaluation thru the calculation of the t-test formula with the criteria t_{count} (13.730) > t_{table} (1.70) with a belief level of 0.95 or 95% (α=0.05) and the quantity of samples (N = 30). Then the proposed speculation is ordinary. Training using hand paddle aids in the water really has an effect on 50-meter freestyle swimming speed. Based on the results of research on the effect of training using hand paddle aids which are thought to have an influence on 50-meter freestyle swimming speed, it turned out to have a significant influence on speed in 50-meter freestyle swimming at in novice swimmers of the pusri club. The implication of this study is that exercises using hand paddle aids can be done and used as an exercising program to improvement swimming speed in novice swimmers.
Keywords*: Freestyle Swimming; Hand paddle exercises; Speed.*

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INTRODUCTION

Sport is a physical activity performed regularly as an effort to maintain and improve health and fitness in our bodies to achieve. According to (Yuliana et al., 2021) In the sport of achievement swimming is usually contested on the regional, national and international levels. Sports can be carried out by humans on soil inside the air and in water, but watersports activities are more popular, namely

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swimming because with no significant chance of injury, it became one of the most popular sports in the 19th century. Swimming entered Indonesia in 1917 as the swimming association grew rapidly. Poerwo Soedarmo based the Indonesian Swimming association (PRSI) on March 21, 1951.

According to (Sukmawati & Hartoto, 2015) Water activities include water play, water safety, water movement skills, and swimming and other activities. In everyday life a person does not only live in the scope of land, but there are times when a person must be able and survive when in the water. Swimming is an activity that is very important to be mastered by an individual to defend himself while in the water, so that no injuries or unwanted events will occur. In addition to maintaining safety or self-protection, swimming in today's modern era is also used to achieve achievements that are useful for the life of the individual.

According to Marsudi in (Kurniawan & Sifaq, 2018) Swimming is very popular in Indonesia and even in the world. Swimming is a measurable sport where the fastest is the champion. Swimming is so popular that every province, district, sub-district in Indonesia has its own club and swimming pool. At this time swimming is a sport that has many enthusiasts from early childhood to adulthood.

According to (Surahman, 2016) In swimming competitions, four styles are known, namely freestyle swimming, breaststroke, backstroke and butterfly style. Many factors affect the time a swimmer gets such as swimming approach (along with begin, turn and end), persistence, strength, speed. Swimming sports consist of several types, namely freestyle, backstroke, breaststroke and butterfly style. Of the various styles, freestyle is the fastest style compared to other styles. Another advantage of freestyle swimming is that freestyle is the basic, most efficient arm stroke motion pattern, has little water resistance, and has an efficient motion pattern (Rasyid et al., 2017).

According to (Hamsa, 2015) Swimming has benefits for maintaining a healthy body, enhancing health, retaining frame fitness, and private safety, to shape physical skills, for educational, recreational, rehabilitation and achievement facilities. According to Bompa in (Wulandari et al., 2022) long term athletes

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development (LTAD) model sports coaching category has stages, namely 1) 6 - 10 years are fundamentals, namely basic patterns, 2) 10 - 12 years is learning to practice basic techniques, 3) 13-15 years is training to practice, namely refinement of motion, 4) 16 - 18 years is training to compete, namely specific training, and 5) 18+ years is training to win, namely achievement. This research focuses on 13-15 year olds.

According to (Yuliana et al., 2021) Hand paddle training is an exercise to improve the ability of freestyle swimming speed with swimming exercises using props or hand paddle aids. Swimming using props is one of the techniques that affect speed in a freestyle swimming branch, especially for beginners. According to (Kurniawan & Sifaq, 2018) The use of Hand paddles not only provides increased strength and aerobic performance, but can also have an effect on swimming kinematics. This is due to the pushing surface, so the use of Hand paddles tends to increase speed. Props are a very effective form of training for swimming, especially freestyle because, props or aids will gradually change the stimulus in performing freestyle swimming.

Based on the description of the problem above, is there or not the effect of training using hand paddle aids on 50 meter freestyle swimming velocity in novice swimmers of pusri club? The cause of the study turned into to determine whether or not there's an effect of training using hand paddle aids on 50 meter freestyle swimming pace in beginner swimmers of pusri club.

METHOD

This form of research is a form of quantitative research. The technique used on this take a look at makes use of a quasi-experimental technique with a one-group pretest and posttest design where is most effective one group that is tested for swimming 50 meters freestyle. Increased training according to Bompa & Harsono in the (Pranata et al., 2019) improvement in the training process occurs inside 2-6 weeks but commonly 4 weeks or 1 month. Then given treatment in the form of training using hand paddle aids which are given for 6 weeks counting 3 meetings a week with 16 meetings and tested again in the form of swimming 50 meters freestyle.

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According to Arikunto in (Wulandari et al., 2022) that for just diluted, if the subject is less than 100, it is better to take all so that the research is a population study, further said that the size of the number of subjects depends at least from : a) the ability of the researcher in terms of time, energy and cost. b) the narrowness of the area of observation.

Place and Time of Research

Venue : Pusri Swimming Pool Palembang
Day : Monday to Wednesday
Time : 17.00 - 18.30 WIB
The research implementation started from October 21 to December 04, 2022.

The sample of this study was 30 novice swimmers of the pusri club. Using the total sampling technique, the population is directly sampled. The instrument used in this observe is to apply the ability of 50 freestyle swimming speed with a stopwatch measuring instrument using units of seconds. The instrument /measuring instrument in this study is a freestyle swimming test which is reflected by the travel time, so the instrument in this take a look at the writer uses with the help of a tool, namely a stopwatch to measure the travel time, and a swimming pool with a distance of 50 meters (Febriyanto, 2018).

Table 1. 50 Meter Freestyle Swimming Assessment Criteria
(Source: PRSI Indonesia Open Aquatic Championshios 2019)

No	Time Record	Classification
1	00.28.32 – 00.25.12	Excellent
2	00.31.52 – 00.28.33	Good
3	00.34.72 – 00.31.53	Fair
4	00.37.92 – 00.34.72	Less
5	<41.12	Very Poor

RESULT AND DISCUSSION

The results of descriptive statistics on research from pretest and posttest data treated are a lot of data, the highest test results, the lowest test results, mean, median, and mode. The following are the results of descriptive statistics of research from pretests and posttests carried out for the experimental group :

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Table 2. Assessment of pretest and posttest exercises in beginner swimmers of pusri club

Statistics	Pretest	Posttest
A lot of data	30	30
Lowest Result	27,63	26,62
Highest Result	49,85	48,86
Mean	37,51	36,63
Modus	39,29	38,87
SD	6,16	5,87
Mean different = 0,88		

Based on table 1 above that the data comparison of pretest and posttest results of 50 meter freestyle swimming with a total of N of 30, with the highest pretest data of 49.85, and the lowest data of 27.63, with a mean of 37.51, modus 39.29, and standard deviation of 6.16. Posttest result data with the highest data 48.86, and the lowest data 26.62 with a mean of 36.63, modus 38.87, and standard deviation of 5.87 so that the pretest and posttest mean growth is 0.88.

Testing in data normality, the method used is testing using the one semple shapiro-wilk test technique. If it lies between (-1) and (+1) the pretest and posttest information from the exploration pool is adjusted.

Table 3. Normality Tes

Variabel	t-statistics	Sig	Descripsion
Pretest	0,146	0,060	Normal
Posttest	0,104	0,179	Normal

Source : SPSS 26

Distribution normality test results for pretest and posttest gave the result that for the 50 meter freestyle swimming preetest was normally distributed with sig. 0.060> 0.05, while for the posttest it gives the result that the 50 meter freestyle swimming is normal sig.0.179> 0.05. Based on these variable results are normally distributed, because the significance value is> 0.05.

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The t-test statistic is used after knowing that data is normally distributed. The purpose of the t-test to see and answer the hypothesis or temporary conjecture proposed. The provisional results can thus be seen in the table below.

Table 4. Paired t-test

Variabel	t_{count}	Sig	Level of Sig
Pretest & Posttest	13,730	0,000	0,05
N : 30			

Source : SPSS 26

Information from calculations measured by the "t-test" obtained a result of 13.730 obtained from t dispersion table with dk = 28 and a certainty level of 95% (=0.05), recorded in the table. The speculation testing standard recognizes H1 if $t_{count} > t_{table}$ (1-), and rejects H0 if $t_{count} < t_{table}$ (1-), because t_{count} (13.730) > t_{table} (1.70) there is a big difference between post-test and pre-test. test, in this way the H0 theory is rejected and the H1 speculation is recognized, the articulation of H1 is "There is an effect of swimming training using hand paddles on increasing 50 meter freestyle swimming speed in beginner swimmers of pusri club".

Discussion

Based at the research criteria that a discussion is needed to assemble the effects of the research so that it will be discussed about the outcomes of pretest and posttest data on 50-meter freestyle swimming and the outcomes of data on the effect of 50-meter freestyle swimming training on increasing swimming speed in novice swimmers of pusri club. The study was conducted for 6 weeks with a training frequency of 3 times a week, according to Bompa's opinion in (Pranata et al., 2019) that training results can improve if carried out within 2-6 weeks or usually 4 weeks in other words 1 month of training. The thing to note is the increase in every exercising, if the exercising is finished as a minimum 3 times a week and a maximum of 12-14 times a week (2 sessions a day). The increase will be faster if the portion of the exercise is more and more. Therefore, the improvement of the best physical circumstance additives can help a swimmer to be able to follow training at a later stage in an effort to achieve higher achievements. The following is a discussion of results of pretest and posttest data

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on 50 meter freestyle swimming and the results of data on the effect of 50 meter freestyle swimming training on increasing swimming speed in novice swimmers of pusri club in the following criteria : Based at the outcomes of the experimental group pretest data with the largest data 49.85 (late time) and the smallest data 27.63 (fastest time) with a mean of 37.51, modus 39.29 and standard deviation of 6.16 and curve slope -0.28. Posttest data with the largest data 48.86 (late time) and the smallest data 26.62 (fastest time) with a mean of 36.63, modus 38.87, and standard deviation of 5.87 with a curve slope of -0.38. Based on hypothesis testing, experimental group pretest data with a mean or average of 37.51 and experimental group posttest data with an average of 36.63 and it is also known that ∑d is 36.62, ∑xd is 0.02, and ∑xd^2 is 2.2988. From the data of the statistical calculation of "t-test", the result is 13.730 while the t table is 1.70 which is obtained from the t distribution table with dk (30-2) = 28 and a belief level of 95% (α = 0.05), listed in table. Hypothesis testing criterion accept Ha if $t_{count} > t_{table}$ (1-α), and reject H0 if $t_{count} < t_{table}$ (1-α), because t_{count} (13.730) > t_{table} (1.70) so there is a significant difference between pretest and posttest, thus the H0 hypothesis is rejected and the Ha hypothesis is accepted. The Ha statement is " There are effects of swimming exercise using hand paddles on increasing 50 meter freestyle swimming speed in beginner swimmers of pusri club".

This study is in line with research (Kurniawan & Sifaq, 2018) who stated in his research argued that the data showed that training using hand paddles had a better and significant effect on increasing 50 meter freestyle swimming speed. Based on the t-test results, it is known that the pretest average is 40.17 while the posttest average is 38.95 and the t_{count} value is 8.11. The t_{table} value, at the significance level α = 0.05 df 9 is 1.83. Based on this data, it is known that the t_{count} values greater than the t_{table} value ($t_{count} > t_{table}$) (8.11> 1.83), so the hypothesis that states hand paddle aids can growth swimming speed 50 meters freestyle can be familiar.

Exercise is a type of physical activity performed in a structured plan, repetitive body movements that aim to improve or maintain one or more components of physical fitness. The basic principle of training is an effort to

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improve skills and achievements while the principle of good training is to produce a good training organization (Aryanti et al., 2020)

According to Iyakrus in (Tarmono, 2021) Training is a sporting activity that is systematically organized and carried out over a long period of time, progressively improved, and individualized with the aim of shaping human physiological and psychological functions to fulfill tasks. The hand paddle is a plastic disk worn over the swimmer's palm and connected to the again of the swimmer's hand with an elastic strap. Perforated shape with a hole pattern. The use of this hand paddle is more recommended for swimmers with a good / stable stroke (not changing). So the use of this tool is given not to swimmers who are just learning to swim but beginner swimmers who have low arm strength. The use of hand paddles is also adjusted to the age, size and purpose of each exercise (Febriyanto, 2018).

The definition of training derived from the phrase training is a technique of perfecting sports activities abilities that comprise fabric, idea, and exercise, the usage of techniques and guidelines of implementation with a systematic method, the use of the principles of deliberate and organized training, so that the training goals may be achieved on time (Wati et al., 2018).

Hand paddle training is a training aid that is attached to the palm of the hand. When swimming with paddles, pushing water will feel heavier and the hope is that if this is continuously done, the strength of the swimmer will be trained and when combined with speed training, strength is formed to support the swimmer's physical condition so that it can maximize freestyle swimming speed (Iwan sudjarwo, Ari Priana, 2017). According in (Yuliana et al., 2021) the purpose of training using hand paddle aids is to increase speed this is due to the pushing surface, so the use of hand paddles tends to increase speed. Props are a very effective form of exercise for swimming, especially freestyle because, props or aids will gradually change the stimulus in doing freestyle swimming so that finally the speed of freestyle swimming for novice athletes.

According to Sukirno in (Tarmono, 2021) states that speed is the ability of a person to relocate his the body from one place to another as quickly as possible.

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Of course, in the training process, basic and advanced techniques in swimming are applied. Speed in swimming based on opinion (Imansyah & Akbar, 2020) Swimming achievement can be developed optimally because at its core every person has the character to compete and compete to constantly achieve. To achieve, it is impossible to be separated from the determining factors, the factors that influence achievement are: 1) talent, 2) form of movement and training, 3) level of achievement development and motion-powered traits, such as power, stamina, speed, agility, skill and 4) positive values in humans.

CONCLUSION

Based at the outcomes from study, it could be concluded that there is an effect of hand paddle exercise on 50 meter freestyle swimming speed in beginner swimmers of the pusri club. The finding in this study is the production of a hand paddle training method that can increase speed during freestyle swimming. Implications of this are study is that training using hand paddles may be used as one sort of workout to increase 50 meter freestyle swimming speed.

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