



## An Analysis Of Freestyle Swimming Technique on Students the Physical Education, Health And Leisure Study Program

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### ABSTRACT

**The purpose of the study.** The purpose of this study is to describe the technique of freestyle swimming in terms of: body position, hand movements, foot movements, breath taking movements and movement coordination.

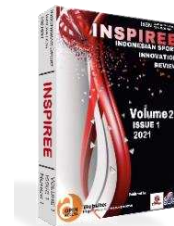
**Materials and methods.** Determine the level of mastery of the freestyle swimming technique in the students of the Physical Education Study Program at the Universitas Pahlawan who attend basic swimming lectures. Is it classified as very good, good, less or less. This research is descriptive, the population of this research is 20 students.

**Results.** the level of mastery of technique on the body position indicator is 66% and the error rate is 34%, then the hand rotation indicator is 66 % and the error rate is 34%, then the foot movement indicator (Kicking) is 70% and the error rate is 30%. Furthermore, the level of mastery of techniques in breathing (breating) is 68.5% and the error rate is 30%, then the level of mastery of techniques in coordination is 68.5% and the error rate is 31.5%.

**Conclusions.** Concluded that the level of mastery of technique on each indicator of the freestyle swimming technique.

**Keywords:** *Freestyle Techniques; Swimming.*

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### INTRODUCTION

One of the efforts to realize a complete human being is the development of the younger generation through sports. Sport to educate the nation's life, the Indonesian government carries out development in various fields, one of which is in the field of education. This is the right policy taken by the government because education is a very important element in human life. Humans can live a more advanced, happy, prosperous, and dignified life with education. The progress achieved by a nation is highly dependent on the quality of the nation's education itself. If the quality of a nation is good, then its people will also have good quality so that development in all fields is easy to achieve. The Indonesian government must be able to improve its human

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resources and achieve this. In connection with that (Law of the Republic of Indonesia Number 20 of 2003) Article 1 paragraph 1 concerning the National Education System states that Education is a conscious and planned effort to create a learning atmosphere and learning process so students can actively develop their potential, have religious-spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, the community, nation, and state. Based on the quote above, it can be said that the purpose of education is basically to improve the quality of human resources who are intellectually qualified, qualified, intelligent, and skilled in various fields, especially sports. Its potential can help the development process in Indonesia if properly developed and distributed. Improve the quality of human resources who are intellectually qualified, qualified, intelligent, and skilled in various fields, especially in the field of sports. With education, it is hoped that all the potential possessed by students can be developed and channeled properly so that the existing potential can help carry out the development process in Indonesia.

However, to realize the expected human resources, the Indonesian government must seek to foster and develop education through the provision and management of educational facilities and infrastructure, upgrading of teachers, procurement of books, and updating of the curriculum so that the learning process can be effective and efficient. Sport is an activity that is needed by everyone. By exercising, a person gets physical fitness, mental fitness, and achievement at work to increase work productivity (Jatra, 2017). To realize and improve Indonesia's human resources, especially in the field of sports, the most important thing we can do is pay attention to the coaching and development of sports for a physically healthy generation that has a quality of life and can make Indonesia proud of its achievements in the field of sports.

This is as confirmed by Law Number 3 of 2005 concerning the National Sports System in Chapter 11, Article 4, which is explained as follows: Sport aims to maintain and improve welfare and fitness, human achievement, quality, instill noble character, sportsmanship, discipline, strengthen and foster national unity and integrity, strengthen the nation's strength, and elevate the nation's dignity. From the quote above, it can be stated that one of the goals of national sports is to improve and develop human quality through sports activities. Aside from that, it can also improve

physical fitness and instill the values contained in these sports activities, such as the value of sportsmanship and discipline. It is based on moral values and good character. To achieve this, it is necessary to establish institutions that play a role in improving human resources, especially in the field of sports, one of which is universities. Of the various universities in Riau Province, Hero University is one of the few that has a physical education study program.

The Physical Education Study Program FKIP Universitas Pahlawan is a study program that produces Physical Education teachers in Riau in particular and Sumatra in general. The vision of Penjasokesrek Universitas Pahlawan is "the realization of a physical education study program that excels in physical education, health, and recreation towards progress and change that is able to make an optimal contribution to efforts to educate the nation's life. professional spirit based on Islamic morals and ethics in 2020. The Physical Education Study Program has a curriculum that includes making sports a subject. Some are included in the category of compulsory subjects, and some are included in the category of elective courses. All of that must be met by students in the physical education study program to get a bachelor's degree. One of the sports that is used as a compulsory subject in the curriculum of the Physical Education Study Program is swimming theory and practice. Swimming courses are included in the curricula for physical education, health, and recreation.

The swimming course aims for students to master and have an understanding of the ideas, history, organization, techniques, and rules of swimming as well as breaststroke and freestyle swimming skills with gross movement coordination. And to achieve an achievement that cannot be separated from several factors, including, according to Syaffruddin, (Jatra, 2020) It states that what determines the achievement of an athlete is their physical, technical, tactical, and mental condition. One important factor is technique.

In the swimming branch, there is a breaststroke swimming technique and a freestyle swimming technique, which is a swimming technique taught to students who take the Theory of Swimming Practice course. The freestyle swimming technique is a style that is suitable for children who are just learning to swim because, philosophically, the style of swimming freedom has a range of movements that are almost similar to

daily walking activities. The freestyle swimming technique is also used for distance calculations in general condition training during the training period and as the first part of teaching swimming style.

According to (Maidarman, 2014). The same thing was also expressed by (Rezki, 2019) The freestyle swimming technique is very efficient compared to other swimming styles because the hands and feet are used in different ways, which provides a rest phase during recovery. Freestyle swimming is a basic swimming technique that is efficient and easy compared to other swimming styles because it uses a swinging motion on the surface of the water.

Based on the quote above, the freestyle swimming technique is one of the swimming techniques taught in swimming practice theory courses, because in basic swimming practice theory, all students are considered beginner swimmers. In learning the freestyle swimming technique, there are several phases of movement that must be mastered by swimmers. This is done so that swimmers can master the movement of one style of swimming technique properly and correctly. The movement phases of the freestyle swimming technique include body position, leg movements, hand movements, breathing movements, and coordination movements. If in the swimming theory practicum, students can master the phases of the movement well, then the students' freestyle swimming skills are also good

## MATERIALS AND METHODS

### *Study participants*

The population in this study were students of FKIP Universitas Pahlawan, Penjasokesrek Study Program, who took swimming theory/practice courses in the January-June 2020. Based on information from students who took the swimming course, 8 classes were consisting of 20 classes per class. In this study, the sample was 20 people.

### *Study organization*

Through this type of research, data was obtained through direct observation in the field through an assessment format. The direct implementation of the sample performs the freestyle swimming technique. The jury made observations on the movements of swimming techniques carried out by students, namely: body position,

hand movements, leg movements, breathing movements, and movement coordination.

### Testing Procedur

The tool used in the collection is a freestyle swimming technique assessment format. Based on the assessment format, the items contained in the freestyle swimming technique assessment aspect. In this case, there are five (five) aspects, of which twenty-two (22) items are assessed. The five aspects include:

Table 1. Swimming technique assessment aspect

No	Assessment Aspect Rekomended
1	Body position In this case, the assessment of body position is based on the assessment format. There are four aspects that are assessed, namely: a) leaning body position, b) rotation of the body against rotation, c) the gaze, and d) the head position
2	Hand rotation movement In this case, the hand movement assessment is based on the assessment format, which identifies five aspects that are assessed, namely: a) how the hand enters the water (entry phase), b) the catch phase (catcher phase), and c) the withdrawal phase (pull or sweep into the water). in water), d) the pressure phase, and e) the recovery phase
3	Footwork (kicking) In this case, the assessment of foot movement is Based on the assessment format, there are five (five) aspects that are assessed, namely: a) the source of the foot movement, b) the rotation of the body on its axis to the foot movement. c) movement of the legs (lower limbs) when moving up the water's surface, d) movement of the arms (upper limbs).
4	Inhaling and exhaling In this case, the assessment of respiratory movements is based on the assessment format. There are 3 (three) aspects that are assessed, namely: a) arm movement when inhaling and exhaling, b) breathing rhythm, and c) head position
5	Movement coordination In this case, the assessment of movement coordination based on the assessment format, there are four (4) aspects that are assessed, namely: a) foot breath coordination, b) hand breath coordination, c) right-left hand coordination, and d) how the series of movements between body position, movement feet, hands, and breathing

### Data Analysis Technique

According to the problems and objectives of qualitative descriptive research, the data obtained will be presented as is, taking into account the facts, circumstances, variables, and phenomena that occurred during the research while in the field, as well as classifying technical errors and their mastery. from swimming styles to numbers. Based on the points contained in the assessment format.

## RESULTS

Based on previous research questions, namely how the level of mastery of freestyle swimming techniques in swimming subjects in the Physical Education Study Program, FKIP Universitas Pahlawan, Therefore, based on the assessment of three (3) judges by taking the Middle Value (NT) from twenty (20) samples of freestyle swimming techniques, the results of the analysis are as follows.

Table 2. Overall Analysis of Freestyle Swimming Technique Indicators

No	Indicator	Rating category (person)					Σ	%TPT
		SB	B	C	K	SK		
1	Body position	3	6	4	6	1	20	66
2	Hand Rotation	2	6	7	5	0	20	66
3	Kicking	5	4	4	5	0	20	70
4	Breathing	5	8	6	1	0	20	71
5	Coordination	0	5	10	5	0	20	68,5
Overall Indicator Average		3,3	6,3	6,3	4,8	0,3	20	67

Description: SB=Very good; B=Good; C= Sufficient value; K= Less value; SK= Very Less; TPT=Value.

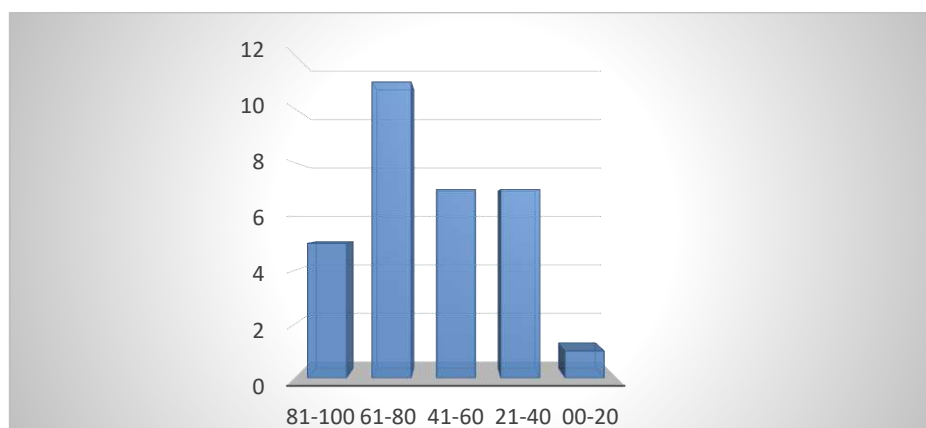
Based on the score distribution table above, from twenty (20) samples of students' freestyle swimming ability in the swimming subject of the Physical Education Study Program, FKIP Universitas Pahlawan, on all indicators, the average freestyle swimming ability of students is 5. (16,12%) was classified as a very good category. 11 people (35.48%) were included in the good category. 7 people (22.58%) were categorized as sufficient. 7 people (22.58%) are in the poor category, and 1 person (3.22%) is in the very poor category. The average percentage level of technical mastery is 67%. Based on the measurement scale of the research variables, the percentage value of the mastery level of freestyle swimming techniques in swimming subjects at the Physical Education Study Program, FKIP Universitas Pahlawan, is in the good category (Riduwan, 2005). More details can be seen in the following table:

Table 3. Category Rating

Percentage %	Level
81-100	Very good
61-80	Good
41-60	Average
21-40	Deficient (Passing grade)
00-20	Very Deficient

Source: Ridwan, 2005, Scale of measurement of research variables. Bandung: Alphabeta.

The following is a percentage histogram based on the number of samples as described above, as follows:



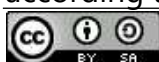
## DISCUSSION

Swimming is a sport with activities in the water that overshadows other sports, such as diving, water polo, scenic swimming, and open water swimming (Dinata, 2006). This opinion suggests, swimming is a sport with activities in the water. (Knechtle et al., 2020) Swimming is a specific sports discipline which can be performed in a range of styles, usually referred to as 'strokes' [1–4], over different lengths [5,6] and in both pools (i.e., indoor, outdoor) of different lengths (mainly 25 m and 50 m) and in open water (i.e., sea, lake, river) [7–10]. Swimming is a specialized sport discipline which can be performed in a variety of styles, usually referred to as "scratch", of different lengths and in both pools (i.e., indoor and outdoor) of different lengths (mainly 25 m and 50 m) and open water (i.e., ocean, lake, river).

In this research, the swimming sport in question is swimming for the Hero University Physical and Health Study Program. For students of the Physical Education Study Program, Swimming is one of the practical courses that must be passed to qualify as a graduate at the Faculty of Education and Culture, Universitas Pahlawan. Therefore, every Penjaskesrek student must be able to swim well, especially freestyle swimming as a swimming basis that must be mastered. Soejoko, (2000) Freestyle is a way of swimming that resembles an animal, so it is called the "crawling style," which means crawling. Next Thomas (2000) argues that freestyle is the force that moves the hand over the surface and allows it to move through the water faster than any other force.

An analysis is an investigation of an event to find out the actual situation, while motion is defined as: "a process of moving from an object, from one position to another that can be observed objectively in a dimension of space and time. (Padang:<http://id.wikipedia.org/wiki/analisis>, 10 Mei 2015). The purpose of the analysis is to determine the extent to which a person's level of mastery of skills is carried out after learning. According to Bloom in Sudijono (2005) Analysis is a skill to detail or describe a material or condition according to smaller parts and can understand the relationship between the parts of a factor with other factors.

Blom in Sudijono (2005) suggests that assessment is a person's ability to assess situations, values, or ideas based on existing standards or criteria. Meanwhile, according to Matidjo (1995) assessment is "the activity of comparing the measurement



results (score) of a trait or object with relevant references in such a way that quantitative quality is obtained.

Based on the results of the analysis of the mastery of the freestyle swimming technique consisting of indicators such as body position, hand rotation, leg movement (kicking), breathing (breathing), and coordination, which was carried out by three judges on 20 samples, From all indicators or assessments of freestyle swimming technique movements as a whole, the level of mastery of freestyle swimming techniques is 67%, which is classified as a good category. However, from the description of each indicator of the freestyle swimming technique, errors were still found. The level of mastery of technique in each indicator of the freestyle swimming technique of students of the Physical Education Study Program, FKIP Universitas Pahlawan, such as the level of mastery of technique on the body position indicator by 66% and the error rate of 34%, then on the hand rotation indicator. If by 66% and an error rate of 34%, then the foot movement indicator (kicking) is 70% and the error rate is 30%. Furthermore, if the level of mastery of breathing techniques (breathing) is 68.5% and the error rate is 30%, then the level of mastery of techniques in coordination is 68.5% and the error rate is 31.5%.

Judging from the description above, the average level of technical mastery that occurs in the overall swimming technique is categorized as good, while the basic swimming goals are to understand ideas, sports history, swimming techniques, and rules as well as breaststroke and freestyle. swimming skills with gross motor coordination. But in reality, the technique used by students of the Physical Education Study Program at Universitas Pahlawan also contains errors that occur in each of the indicators. According to (Dinata, 2006) Swimming is a sport with activities in the water that overshadows other sports, such as diving, water polo, scenic swimming, and open water swimming. This opinion suggests, swimming is a sport with activities in the water. According to (Chen & Meggs, 2021) Swimming is an intense, rhythmical sport with pacing requirements that may predispose these athletes toward a more frequent flow experience. Swimming is an intense, rhythmic sport with speed requirements that can predispose these athletes to a more frequent flow experience.



In line with the above opinion regarding activities in the water, the basic concepts of biomechanics that underlie swimming movements include buoyancy, resistance, the Bernoulli effect, Newton's third law, and the second law (Chalid, 1999). Buoyancy is the ability to maintain a body position above the water surface. Basic conditions to determine the state of floating or sinking an object If the weight of the body is greater than the maximum buoyancy that water can provide, the body will sink. For swimmers to fulfill the needs required for learning and practicing swimming, they must first know swimming techniques and the mechanical principles involved in the swimmers themselves. Knowledge of swimming style techniques must be realized with certain mechanical principles that are directly related to swimming movements. Lack and absence, as well as ignorance of knowledge about the principles of this mechanism, will result in a swimming style that is not fast, especially for basic swimming for people who are just learning to swim. (Dunning, Johnson, Ehrlinger, & Kruger, 2003) asserts that as people increase their knowledge, they become less certain of their competence as their minds are opened to a body of new knowledge and experience in essence, how little they know of that area. As people increase their knowledge, they become less confident in their knowledge competence because their minds are open to new knowledge and experiences, no matter how little they know about the field. At this time, swimmers are expected to increase their knowledge because there is still a lot of other knowledge that is not yet known. Finally, an error occurred.

Several factors cause errors when doing the freestyle swimming technique, one of which is the limited time for students to swim, this may be due to poor transportation or the long distance from the lecture location to the lecture location. the place to live for school. swimming pool, because students spend a lot of money which is then used for transportation costs and consumption purposes. Most of the students in the swimming course at the Physical Education Study Program, FKIP Hero University, take the basic swimming course in swimming only during lectures and do not do independent exercises. Meanwhile, to achieve good technique, it is recommended to do a lot of exercises regularly and repeatedly.

One of the steps to be able to overcome the problems that occur in the freestyle swimming technique of students participating in basic swimming is to attend every face-to-face basic swimming lecture and add one more day as student independent practice. In addition, supporting facilities and infrastructure are needed in the freestyle swimming training process. According to (Thomas, David ,2007) The facilities needed by swimmers to get a good freestyle swimming technique are: a) float board. This tool is very useful for improving swimming movement skills, especially for leg exercises; b) foot buoys (pull buoys) are the most effective equipment for increasing hand muscles; c) foot fins (fins) are individual equipment needed to strengthen and increase the flexibility of the legs; d) glasses are equipment that can help see in the water.

Furthermore, it takes quite a long time to be able to do the exercise regularly and repeatedly. If students are given the time needed to learn and they use it as well as possible, they will achieve a satisfactory level of learning outcomes. Thus, it can be stated that many factors can affect the level of mastery of the freestyle swimming technique of swimming students in the Physical Education Study Program, FKIP Universitas Pahlawan. Therefore, it is inseparable from the evaluation that must be carried out by lecturers and students together in order to be able to improve the freestyle swimming technique that has been previously used in order to achieve better learning outcomes.

## CONCLUSION

Based on the results of the analysis, it can be concluded that the level of mastery of technique in each indicator of freestyle swimming technique, among others: the level of mastery of technique on the indicator of body position is 66% and the error rate is 66%. 34%, then hand-spin indicator 66% and error rate 34%, then footwork indicator (Kicking) 70%, and error rate 30%. Furthermore, the level of mastery of breathing techniques (breathing) is 68.5% and the error rate is 30%, then the level of mastery of techniques in coordination is 68.5% and the error rate is 31.5%. Thus, the overall results of the research from twenty (20) swimming students of the Physical Education Study Program, FKIP Universitas Pahlawan, the level of mastery of freestyle swimming techniques of 66% are in a Good category.

From the conclusions above, the researchers can provide suggestions that can help overcome the problems faced in the implementation of the freestyle swimming technique. To the students of the Penjasokesrek FKIP swimming study program at Universitas Pahlawan who participated in basic swimming in order to understand the importance of every movement in swimming to achieve good swimming skills and to do exercises on other days as student independent exercises.

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## APPENDIX

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