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MASTERY OF SWIMMING TECHNIQUES FREE STYLE USING THE PART METHOD IN ELEMENTARY SCHOOL STUDENTS

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Abstract
The background of this research is the lack of mastery of freestyle swimming technique skills for elementary school beginner swimmers that are not in accordance with the correct technique at the Arhesa Swimming Club. The purpose of this study was to improve mastery of the freestyle swimming technique using the part method for elementary school students. The method used in this study was experimental, using a quasi-experimental design in the form of a One-Group Pretest-Posttest Design. The population in this study were elementary school students at the Arhesa Swimming Club, namely 10 people. The sampling technique in this study used total sampling, with a sample of 10 elementary school students. The research instrument used the Freestyle Swimming Skills Assessment Test. Data analysis tested the mean and standard deviation, normality test, homogeneity test, and hypothesis testing, namely the Paired Sample Test using SPSS 25. Based on the results of the analysis t count is less than t table (11.00 < 1.83) then Ho is rejected, meaning that there is an increase in the initial test towards the final test of freestyle swimming technique mastery, with this it can be concluded that the Part Method can improve technique mastery freestyle swimming in elementary school students.
Keywords: *elementary school; freestyle swimming; part method; swimming technique*

Abstrak
Penelitian ini dilatarbelakangi oleh kurangnya penguasaan keterampilan teknik renang gaya bebas perenang pemula sekolah dasar yang tidak sesuai dengan teknik yang benar di Arhesa Swimming Club. Tujuan penelitian ini untuk meningkatkan penguasaan teknik renang gaya bebas menggunakan part method pada siswa sekolah dasar. Metode yang digunakan dalam penelitian ini adalah eksperimen, dengan menggunakan quasi-experimental design dalam bentuk One-Group Pretest-Posttest Design. Populasi dalam penelitian ini adalah siswa sekolah dasar yang ada di Arhesa Swimming Club, yaitu 10 orang. Teknik Sampling dalam penelitian ini menggunakan Total Sampling, dengan sampel sebanyak 10 siswa sekolah dasar. Instrumen penelitian menggunakan Tes Penilaian Keterampilan Renang Gaya Bebas. Analisis data menguji rata-rata dan simpangan baku, uji normalitas, uji homogenitas, dan uji hipotesis yaitu Paired Sample Test menggunakan SPSS 25. Berdasarkan hasil analisis t hitung kurang dari t tabel (11,00 < 1,83) maka Ho ditolak, artinya ada peningkatan tes awal terhadap tes akhir penguasaan teknik renang gaya bebas, dengan ini maka dapat disimpulkan bahwa dengan adanya *Part Method* dapat meningkatkan penguasaan teknik renang gaya bebas pada siswa sekolah dasar.
Kata Kunci: *part method; r*enang gaya bebas; sekolah dasar; teknik renang

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Introduction

Swimming is an activity that is in great demand and can be done by various age groups such as children to adults (Apriyanty et al., 2021; Sin & Hudayani, 2020), even babies who are only a few months old can also be taught to swim like floating in water (Sofyan et al., 2022). Apart from being fun, it is also beneficial for health (Karatrantou et al., 2020), because when

swimming almost all parts of the body move, it is very good for strengthening muscles (Arhesa, 2020a) and improving blood circulation (Roj et al., 2016). Then, it can help accelerate growth, physical and intellectual development, provide opportunities to know, understand the environment, move freely under any circumstances, and move all limbs to be able to float and move (Arhesa & Badriah, 2021). Swimming is a valuable skill for children, as well as helping them stay safe, it is a versatile form of exercise that is relaxing, can be done at any time and can be a therapeutic activity to generate regular movement (Arhesa et al., 2019), good for the growth and development of students, by contracting all the muscles will increase the level of physical fitness of students who are then able to carry out daily activities (Arhesa, 2020b). In the age classification, swimming sports can be taught at an early age, namely elementary school age, because it is very important for the growth and development of intelligence and motor skills of children to develop quickly (Akbar et al., 2020). Swimming is divided into several styles, namely freestyle, breaststroke, backstroke, and butterfly stroke (Nakashima & Motegi, 2008; Sin & Hudayani, 2020).

Freestyle is the fastest swimming style compared to the other three styles, because this style has good motion coordination, the resistance is minimal (Arhesa, 2020a), easy to learn (Arhesa, 2019; Sin & Hudayani, 2020), and make the launch faster (Sofyan et al., 2022) and has the best synchronization (Fauzi et al., 2023). This style is the most basic to be taught to children who are still in the introduction stage. The basic movements that must be taught consist of floating, foot movements, hand movements, breathing, coordination movements (Anandia & Wahidi, 2016; Nur et al., 2023), and posture (Fauzi et al., 2023). To teach basic movements, it must be interspersed with the added level of difficulty, so that it is expected to become a complete movement (Smith, 2013). Freestyle swimming is one of the swimming styles taught in schools, both in intra-curricular and extra-curricular activities (Anandia & Wahidi, 2016). Many famous swimmers learn to swim at the age of 4-5, and by the age of 6-8 they have regular training. Therefore, it is very important to determine a child's ability to swim as early as possible. However, swimming techniques in sports are quickly mastered by young children elementary school (Turdaliyevich & Pulatovna, 2020).

The freestyle swimming ability of elementary school students at Arhesa Swimming Club is still not optimal. The results of observations of 10 elementary school students in the club showed that there were many motion errors that often occurred when they were swimming. Common mistakes include the first, the head is only held in the water and the rotation is small. This should be avoided because it can cause fatigue quickly. Second, the view is forward. This is a big mistake because this position will put pressure on your back so that it can cause you to get tired quickly and drown, for that don't be afraid to look down, if you are afraid that your eyes will hit water, you should wear swimming goggles. Third, bend your knees excessively. This movement makes you tired quickly, slow, even just moving in place. Fourth, hand rotation movements without rotation of the body. This rotary motion is one of the combined motions so it is mandatory to do it, if the body exercise is not performed then we can see that it is difficult to turn your head to the side and what's worse is the rotation of the hands until they appear on the surface of the water. Fifth, take a breath, don't look sideways but forward. Usually it occurs as a result of arising from inconsistency, so that when you take a breath, the head that should be turned to the side. Sixth, hold your breath when your head is in the water. This will make students lose the momentum of taking a breath, because the time that should be used to take a breath, has been spent half of it to exhale what can actually be done in the water.

The selection of teaching methods used by teachers to teach swimming skills is influenced by several factors, one of which is the selection of swimming teaching methods (Subagyo et al., 2020). In an effort to improve freestyle swimming skills, appropriate learning methods are needed. One method that can be used is the part method because it is in line with the results of research (Anandia & Wahidi, 2016) that training using the part-whole method can improve freestyle swimming skills in swimming extracurricular participants at Amal Bhakti Manislor Middle School. Meanwhile, according to (Saputra & Wahidi, 2020) said that the part method is more effective in freestyle swimming compared to the overall method for students. Therefore, this method can help students to learn skillfully and independently (Kurniawan et al., 2018).

Part method is a type of learning that teaches parts per part of each material (Bain & McGown, 2021; Saputra & Wahidi, 2020; Van Hage et al., 2006) separate movement skills, one piece at a time, before combining them all (Candra et al., 2021; Chan et al., 2015), involves breaking motion into smaller units (Park et al., 2004), suitable for learning basic techniques (Walinono et al., 2017) from simple to difficult (Trimizi et al., 2020). The way students are directed to practice the first part of the material. After this part is learned, students master the second part, after that the two parts are combined and studied into one, then learn the third part of the material, and the three parts are combined into one, until all the material is mastered (Pratama & Irianto, 2019; Shay, 2013). Mastering motion skill materials such as foot movements, hand movements, how to take a breath and coordinate movements (Kurniawan et al., 2018). This method is a motor learning approach by relying on the technique division approach described, must be mastered by students, so they can take the side of students' inability to learn (Iyakrus et al., 2022), and should be used for tasks that have high complexity and low organization. Another example of a task with high complexity and low organization is team sports (Fontana et al., 2009).

There is a lot of research on the part method in other sports such as Hidayat & Tomoliyus (2013) in his research that the application of the section method can improve learning outcomes in the hanging style long jump and (Candra et al., 2021) short distance running numbers against students with the kinovia application. So are (Iyakrus et al., 2022) that learning floor gymnastics is basic motion material and (Shay, 2013) gymnastics for beginners has increased through the part method. Then, (Yulianto, 2016) said the part method is better than practice as a whole for improving ball dribble shooting. So, (Humza, 2009; Subarna, 2015) explains that the part method has a significant effect compared to the overall method on increasing the mastery of spike, (Pratama & Irianto, 2019; Trimizi et al., 2020) bottom passing skills, and (Wicaksono et al., 2022) smash techniques in volleyball games. Furthermore, the results of the study (Walinono et al., 2017) show that the application of the part and whole method can improve badminton forehand lob skills.

From the several studies above, it can be concluded that the sectional method is proven to be able to improve basic technical skills in some sports and is widely practiced by students. However, in the sport of swimming there are only a few studies related to the section method, namely the results of research (Kurniawan et al., 2018) that the section method can improve student skills, and (Putra, 2013) basic breaststroke swimming skills. In butterfly swimming also according to the results of the study (Firmansyah & Hartoto, 2023) that there is an increase in the method section but in the moderate category in high school children. Meanwhile, in freestyle swimming, according to researchers (Anandia & Wahidi, 2016), the section method can improve the skills of junior high school students. Then (Putri & Hartoto, 2020; Saputra & Wahidi, 2020) said that the partial method was more effective than the

overall method for students in tertiary institutions, (Rudiana et al., 2022) even so for athletes in clubs.

Therefore, from previous research both from several sports and specifically in swimming that the section method can improve skills. However, no one has conducted research on elementary school students. So, the purpose of this research is to improve mastery of freestyle swimming techniques using the section method in elementary school students.

Research methods

The method used in this study was experimental, using a quasi-experimental design in the form of a One-Group Pretest-Posttest Design (Hastjarjo, 2019), the population was elementary school students in the Arhesa swimming club, namely 10 people. The sample in this study used a total sampling of 10 elementary school students. The instrument uses the Freestyle Swimming Skills Assessment Test in the form of an assessment rubric that adopts from (Anandia & Wahidi, 2016), for more details can be seen in Table 1 below.

Table 1. Freestyle Grading Rubric

Assessment Aspects																	
Sample	Initial Attitude				foot movements				Arm movements				breath movement				total
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	

Based on Table 1 above, the instrument used is a Freestyle Swimming Skills Assessment Test using an assessment rubric. The scoring rubric uses a Likert scale. Score 4 if only four criteria are implemented correctly, score 3 if only three criteria are implemented correctly, score 2 if only two criteria are implemented correctly, and score 1 if only one criterion is implemented correctly with a total of 16 points and a minimum 4 points.

The research procedure was carried out in the Panorama swimming pool, Ujungberung, Bandung City from September to October 2022. Before being given sample treatment, a pre-test was carried out using an assessment rubric, then given treatment for 12 meetings using a training program using the part method. Data analysis was tested for mean and standard deviation, normality test using one sample Kolmogorov-Smirnov, homogeneity test, and hypothesis testing with Paired Samples using SPSS 25.

Results and Discussion

The results of data collection from the collected instruments were then processed. Data processing was carried out by testing the mean and standard deviation, normality test using one sample Kolmogorov-Smirnov, homogeneity test, and hypothesis testing with paired samples using SPSS. The first data processing carried out was to find the average score and standard deviation of each group. From the results of data processing, the results of calculating the average value, standard deviation, and variance were obtained, for more details can be seen in Table 2 below.

Table 2. Results of Calculation of the Average Value, Standard Deviation and Variance

Variable	Results		
	$\bar{X}$	S	Variance (S^2)
Pre test	5,00	1,05	1,11
Post test	7,20	0,79	0,62

The results in table 2 can be explained that the mean scores and pre test deviations are 5.00 and 1.05. Meanwhile average score and standard deviation of the post test were 7.20 and 0.79. After the mean and standard deviation are obtained, then calculating the variance of the pre test and post test, the results for the pre test show 1.11, while for the post test it is 0.62. The next step is to calculate the normality of the pre test and the post test of freestyle swimming technique mastery. The normality test that the author uses is the Kolmogorov-Smirnov test, for more details can be seen in Table 3 below.

Table 3. Normality Test Pre Test Of Freestyle Swimming Technique Mastery

Variable	Test	Sig.	r-critical	Decision
Pre test	*One sample Kolmogorov-smirnov test*	0,148	0,05	Normal

Based on the test results with the Kolmogorov-Smirnov test with r-critical 0.05 at the pre test, it was obtained that the significance of the pre test for mastering the freestyle swimming technique was 0.148. This significance value is greater than the r-critical value (0.05), so that it can be concluded that all research data comes from the population on the pre test with normal distribution. As for the results of the normality test for the post test, for more details can be seen in Table 4 below.

Table 4. Normality Test Post Test Of Freestyle Swimming Technique Mastery

Variable	Test	Sig.	r-critical	Decision
Post test	*One sample Kolmogorov-smirnov test*	0,091	0,05	Normal

Based on the test results with the Kolmogorov-Smirnov test with a r-critical 0.05 in the post test, it was obtained that the significance of the post test of freestyle swimming technique mastery was 0.091. The significance value is greater than the r-critical value (0.05), so it can be concluded that all research data comes from the population on the pre test of mastery of the freestyle swimming technique with normal distribution. The next step is homogeneity testing. The results of the homogeneity test calculation for each test can be seen in table 5 below.

Table 5. Homogeneity Calculation Results Pre Test And Post Test

Test	Variance	F statistic	F_{table}	Information
Pre test	1,11	1,79	5,32	Homogen
Post test	0,62			

From the table above it can be seen that the F distribution is at a significant level (α) of 0.05 and dk = n-1, the F table is 5.32 which is greater than the calculated F statistic calculation of 1.79. Thus the data for each test is homogeneously distributed. Next is testing the hypothesis that will be tested for the effect of the Part Method (X1) variable on increasing

mastery of the freestyle swimming technique (Y) using the t test with paired sample tests, as shown in table 6 below.

Table 6. *Paired Samples Tes*

	t statistic	t table	Conclusion
Pre test against post test	-11,00	1,83	Ho is rejected, there is an increase

Based on the table above because if t statistic < t table (11.00 <1.83) then Ho is rejected. This means that there is a difference between the pre test and the post test of freestyle swimming technique mastery. With this, it can be concluded that the part method can increase the level of mastery of freestyle swimming techniques.

The purpose of this study was to improve mastery of the freestyle swimming technique using the part method for elementary school students. Continuous swimming practice by primary school students improves balance, body part function, and counteracts the damage caused by lifestyle. This activity is to take advantage of experience in teaching swimming approaches (Subagyo et al., 2020). Elementary school-age children in swimming training have a significant impact on forced expiratory volume values (Stanković et al., 2016), and can improve mastery of swimming skills (Gani et al., 2021). There are still many who have not been able to master the basic technical skills in swimming, more precisely in mastering the movements of the arms, legs, breath and coordination. As the results of the study (Fauzi et al., 2023) show that there is an effect of basic technique training on the ability to swim freestyle. These results can be achieved through the implementation of training programs that are made objectively and systematically based on the abilities of each student so that the objectives are achieved.

The results of learning to swim can be determined by many factors, such as teachers, learning materials, quality of equipment, and methods of teaching swimming skills must be taught using appropriate methods (Subagyo et al., 2020). The method used in this study is the part method. Because it is in line with several studies conducted by (Cramer & Wyberg, 2009) that the part method is more effective than the discrete method. Likewise (Hansen et al., 2005) said that the practice of parts is as efficient as the practice of the whole in motion. Meanwhile (Rhein & Vakil, 2018) explains that partial practice appears faster than overall practice.

The part method is easier and quicker to learn. This is because the training material can be presented by breaking down the parts according to the students' abilities. After each part can be mastered by students then it is practiced as a whole according to the actual technique (Rahmadini & Hartoto, 2020; Rudiana et al., 2022). In accordance with what has been explained in the previous theory that students are directed to practice the first part of the material. After this part is studied, students master the second part, after which the two parts are combined and studied into one, then learn the third part material, and the three parts are combined into one, until all the material is mastered (Pratama & Irianto, 2019; Shay, 2013). The part method will focus on one material from the whole skill (Bain & McGown, 2021). Movement skill material such as foot movements, hand movements, breathing and movement coordination (Kurniawan et al., 2018). There are four elements of movement in freestyle swimming, namely body posture, footwork, hand movements, breathing, and coordination (Harmoko & Sovensi, 2021). These elements of motion are a series of actions that must be considered to achieve maximum success (Fauzi et al., 2023). Meanwhile, freestyle swimming movements consist of body position, leg and arm movement techniques, and breathing movements (Subagyo et al., 2020).

In this study (Putri & Hartoto, 2020) the materials used to assess freestyle swimming skills consisted of body position, leg action, and arm action. The body position that must be mastered is a flat body position, hips and feet remain underwater, eyes look down, and when the hands move the waist rolls with the shoulders. then the leg actions include moving continuously, moving legs starting from the waist, both feet close together, movement of the legs in balance with the hands, and the heels break the water. Then the arm action, namely when doing hand and foot movements, keep moving, hand movements, pulling water up to the thighs, when doing passive hand breathing, the position is fixed, the average water does not fall, the head position when breathing is against the water. and when recovering the elbow lifts high, and when recovering the arm is bent.

However, the material that must be mastered in this study is divided into four parts, such as initial attitude, legs, arms, and freestyle swimming breath taking. The first part is learning the initial attitude with several techniques that must be mastered, namely in the initial stance, the right leg is below, then the left leg is bent to touch the pool wall, both arms are straight up then the upper arms touch the ears, the body is bent and the head enters the water level. After that, both feet are kicked off the pool wall to push the body forward with the body lying face down straight parallel to the average water. The second material is leg movements, there are some that must be mastered with the initial attitude of the two legs straight and then moved up and then down alternately, legs with straight thighs but what moves is the groin repeatedly or continuously. Next, leg movements are carried out limply but not too high from the surface, downward movements are carried out hard and strong to get a good reaction. The third material is arm movements, namely the initial attitude of the hands straight up and touching the ears but not sticking, pulling the left hand down the hand out of the surface of the water and swinging it forward as far as possible, repeated activities also occur on the right hand. The next material is the movement of taking a breath, there are several that must be mastered, such as the position of the face facing the surface of the water, breathing is done when the arms are moved out of the water, the position of the body is tilted and the head is turned to the side, and the head is tilted only to the right or left.

If all the material can be done well then the mastery of freestyle swimming techniques will increase as expected. According to researchers like (Anandia & Wahidi, 2016) has explained that training using the path method can improve freestyle swimming skills in swimming extracurricular members at Amal Bhakti Manislor Middle School. Then (Saputra & Wahidi, 2020) said that the part method was more effective in freestyle swimming than the overall method in students. Meanwhile, from the results of the study (Kurniawan et al., 2018) that learning to swim breaststroke with the part method can improve student skills, and (Putra, 2013) the basic skills of breaststroke swimming. From the several studies that have been presented and the results of calculations in this study, mastery of the freestyle swimming technique using the section method can increase at all levels, such as elementary, junior high school students and university students.

The results showed that there was an average difference in the results of the freestyle swimming technique mastery test between the pre-test before being given treatment, namely 5.00 and the post-test data after being given treatment, namely 7.20. free 2.20. As for the statistical test results using the paired sample t-test, the results obtained are t count more than t table, which means that there is an effect of the part method on the mastery of freestyle swimming techniques in elementary school students Arhesa Swimming Club.

Conclusion

Based on the results of data processing and analysis, the researcher can conclude that the Part Method can improve the mastery of freestyle swimming techniques in elementary school students. For educators and researchers, it should be necessary to conduct similar research with a larger sample in order to obtain more accurate information that can be used as material for comparing the results obtained from this study, and should choose one of the sports that you enjoy doing so that in future research you can completed without any major hiccups.

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