



The Use of Kickboard and Pull Buoy Aid Toward Freestyle Swimming Speed in Children Aged 6-9 Year at Club Aura Swimming Academy

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Abstract

This study was motivated by the importance of mastering basic freestyle swimming techniques in early childhood, particularly to improve speed through better leg movement, arm movement, and body position. Initial observations at Club Aura Swimming Academy indicated that most students aged 6-9 years still exhibited weak kicking techniques and poor movement coordination, which negatively affected their freestyle swimming speed. Therefore, the use of assistive devices such as kickboards and pull buoys was considered effective in helping students practice specific movement components in a more focused and gradual manner. The purpose of this study was to determine the effect of kickboards and pull buoys on freestyle swimming speed among children aged 6-9 years at Club Aura Swimming Academy. A pre-experimental method with one-group pretests/posttest design was employed, involving a sample of 10 students selected through purposive sampling. The research instrument was a 25-meter freestyle swimming time test, and data were analyzed using the Shapiro-Wilk normality test and a paired sample t-test to examine differences before and after the treatment. The results revealed significant improvements in students' swimming speed, with the average pretest time of 51.54 seconds decreasing to 48.99 seconds in the posttests. Furthermore, the paired sample t-test produced a significant value of 0.000 (<0.05), indicating that the use of kickboards and pull buoys had a significant effect on improving freestyle swimming speed.

Keywords: *Kickboard, Pull Buoy, Swimming Speed, Freestyle, Children Aged 6-9 Years*

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INTRODUCTION

Exercise is a physical activity that involves regular and repetitive body movements, which have benefit for improving physical fitness, mental health, and overall well-being. It is said that exercise is the best stress-relief medium ever (Hasmarita & Nursyamsi, 2023). In addition, exercise also plays an important role in weight management, reducing the risk of chronic diseases such as diabetes, hypertension and improving sleep quality (Dwi, 2019). Sport come in various forms and types, ranging from team sports like soccer, basketball, and volleyball, to running, cycling, and swimming.

Swimming is known as a sport that can be practiced by people of all ages, from children to the elderly, so its prevalence is considered high in various communities (Putra & Supriyono,

2023). As a result, many swimming been opened in various cities. One of them in the city of Surabaya is a swimming club called Aura Swimming Acdemy. The background of the establishment of Aura Swimming Academy is to provide a platform for young children to develop their talents in swimming. The formation of Aura Swimming Academy was prompted by the need to address the lack of swimming skills in young children, particularly the insufficient ability in leg movements. According to Syanjaya et al., (2024), many young children are afraid of drowning, which causes their leg movements to not align whit the correct technique.

In swimming, the terms resistance and propulsion are known, because while swimming the body will face opposition from the water current. therefore, an adequate propelling force is needed for the swimmer to move effectively in the water (Rudiana et al., 2022). One of the swimming strokes that is quite popular is the freestyle stroke.

METHOD

The study uses a quantitative approach with a pre-experimental type (weak experiment) and uses the One Group PreTest-Posttest Design. This design does not use a control group, an the subjects are not taken randomly (Maksum, 2018). The research was conducted at swimming pool in the GunungAnyar area, Surabaya,form June to July 2025, inloving 10 srudents aged 6-9 years who were members of Aura Swimming Academy and selected through purposive sampling based on age and active participation in training. The research instruments was a 25-meter freestyle swimming speed test, whith time recorded in seconds during the pretest and posttest (Ramadhani & Hartoto, 2024). The treatment consisted of atraining program using a kickboard to develop leg movements and pull bouy to train arm movements, carried out over 10 training sessions, with total of 12 sessions including statistics to determine changes in freestyle swimming speed after the implementation of the training program(Spanton et al., 2024).

RESULTS AND DISCUSSION

Result

Based on the results of the research that has been carried out, the data obtained has been analyzed and the results obtained. The results were obtained from the analysis through IMB SPSS 22, here are the results:

Table 1. Descriptive Test

Description	Pre-Test	Post-Test
N	10	10
Minimum	49.21	47.67
Maximum	54.21	51.11
Mean	51.54	48.99
Std. Devatation	1.61	1.18
Average	51.546	48.991

Table 2. Test Of Normality

Data	Statistic	Df	Sig	Result
Pre Test	0.974	10	0.923	Normal
Post Test	0.902	10	0.228	Normal

Based on the table above, the Sig. values for the pretest and posttest data are each above 0.05, so it can be concluded that the data are normally distributed.

Table 3. Paired T-Test

Data	Analysis	Sig	Results
Pre-Test	Paired	0.000	There is a difference
Post-Test	Paired	0.000	There is a difference

Based on the table above, the results of the pretest and posttest show a significance value of $0.000 < 0.05$, it can be concluded that H_a is accepted and H_o is rejected. Therefore, the use of both tools has a significance effect.

DISCUSSION

The results of this study indicate that the use of kickboards and pull buoys has a significant effect on improving freestyle swimming speed in children aged 6-9 years. These findings are in line with research (Setyo Wicaksono, 2017) which states that freestyle swimming speed is greatly influenced by the coordination of leg and arm movements and an efficient body position. The use of a kick board contributing to increased propulsion and body stability in the water, as explained by (Parmana, 2016) that technique training with aids can improve movement efficiency in young swimmers. In addition, the use of a pull buoy helps improve body position and enhance training focus on arm movements, which aligns with the findings (Rizka & Harwanto, 2020; Rosita & Sudijandoko, 2025) that more horizontal body position can reduce water resistance and increase swimming speed. Subagyo & Sismadiyanto

(2019) also emphasized that biomechanical efficiency is a key factor in improving swimming performance, particularly in freestyle. Syaleh et al. (2019) stated that the use of aids in children's swimming training is effective in gradually improving technical control without increasing the risk of excessive fatigue. The findings of this study are also supported by Nasional & Universitas (2022) who concluded that focused technique training with aids has a positive impact on improving swimming performance and movement consistency. Thus, the use of kickboards and pull buoys is an effective and relevant training method for increasing freestyle swimming speed in young children.

CONCLUSION

There was significant difference between the pretest and posttest results of freestyle swimming speed, as indicated by a decrease in swimming time in the posttest. The use of kickboard contributed to improvements in leg strength and kicking technique, which helped students increase forward propulsion while swimming. Meanwhile, the pull buoy improved arm movement technique and body position in the water, as well as enhanced breathing coordination. Overall, both the kickboard and pull buoy had a significant effect on improving freestyle swimming speed, however, the use of these two aids demonstrated fundamental differences in their effectiveness.

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