

Analysis Of Breaststroke Swimming Technique Among Age Group Iv Athletes At Everlana Waterpark Club, East Lombok

Diva Ismatul Azomi¹, *Baiq Satrianingsih²

*Corresponding Author: Baiq Satrianingsih, e-mail: baiqsatrianingsih@undikma.ac.id

¹Physical Education and Health Study Program, Faculty of Sport, Health, and Community Sciences, Universitas Pendidikan Mandalika, Mataram, Indonesia

Abstract

Objectives: This study aimed to analyze the suitability of breaststroke swimming technique among Age Group IV athletes at Everlana Waterpark Club, East Lombok, and to determine the category level of each movement phase in breaststroke swimming.

Materials and Methods: This study used a descriptive qualitative approach with a survey method. The participants were 10 Age Group IV swimming athletes aged 10–11 years at Everlana Waterpark Club, East Lombok. Data were collected through structured observation using a breaststroke movement assessment sheet. The assessment included five movement phases: gliding body position, arm movement, leg movement, breathing movement, and whole-body coordination. Each movement indicator was scored using a checklist system, where correct movement was given a score of 2 and incorrect movement was given a score of 0. The data were analyzed using descriptive statistics, frequency, and percentage.

Results: The overall analysis showed that 4 athletes were in the good category, 3 athletes were in the moderate category, and 3 athletes were in the poor category. No athletes were categorized as very good or very poor. Based on movement phases, breathing and coordination were the strongest components because all athletes reached the very good category. However, the gliding phase, arm movement, and leg movement still showed technical weaknesses that need to be improved.

Conclusions: The breaststroke swimming technique of Age Group IV athletes at Everlana Waterpark Club, East Lombok, was generally categorized as good. Nevertheless, coaches need to provide more specific technical training, especially in the gliding phase, arm movement, and leg movement, to improve movement efficiency and reduce water resistance during breaststroke swimming.

Keywords: breaststroke, swimming technique, movement analysis, Age Group IV, swimming athletes

Introduction

Swimming is one of the most popular sports among children and adolescents. This sport requires coordinated movements of the arms, legs, breathing, and body position to allow the swimmer to float, glide, and move efficiently through the water. In competitive swimming, technical mastery is one of the main factors that determines performance achievement.

Breaststroke is a swimming style performed with the chest facing the water surface. The movement consists of several important technical phases, including the start, body position during



gliding, arm movement, leg movement, breathing, and coordination of the whole movement. Proper coordination between these phases allows swimmers to move more efficiently and reduce resistance in the water.

In breaststroke, technical errors can greatly affect swimming speed and movement efficiency. Incorrect body position, ineffective arm pull, poor leg movement, and inaccurate timing of breathing may increase drag and reduce propulsion. Therefore, technical analysis is important, especially for young swimmers, because early correction can help athletes develop better swimming patterns.

Age Group IV swimmers are in an important stage of technical development. At this stage, athletes need to build correct movement patterns before entering more intensive performance training. If technical errors are not corrected early, they may become permanent habits that can affect future performance.

Initial observations at Everlana Waterpark Club, East Lombok, showed that several athletes still performed breaststroke movements with different body positions and technical patterns. Some athletes showed weaknesses in gliding position, arm movement, and leg recovery. Based on this condition, this study was conducted to analyze the suitability of breaststroke swimming technique among Age Group IV athletes at Everlana Waterpark Club, East Lombok.

Materials and Methods

Study Design

This study used a descriptive qualitative approach with a survey method. The study was designed to describe the suitability of breaststroke swimming technique among Age Group IV athletes based on structured observation.

Study Participants

The participants were 10 Age Group IV swimming athletes aged 10–11 years from Everlana Waterpark Club, East Lombok. Because the total population was relatively small, all athletes were included as research participants.

Study Organization

Data were collected through direct observation and video recording. The athletes performed breaststroke swimming movements, and the researcher assessed each movement phase using an observation sheet. The assessment focused on five phases: body position during gliding, arm movement, leg movement, breathing movement, and whole-body coordination.

The observation was supported by a camera, mobile phone with slow-motion video, writing tools, and a breaststroke movement assessment sheet. Video recording was used to make the analysis more

accurate because the researcher could observe movement details repeatedly.

Research Instrument

The instrument used in this study was a breaststroke movement skill assessment sheet. The instrument consisted of movement indicators related to five phases of breaststroke technique. Each indicator had two scoring options: correct and incorrect. A correct movement was given a score of 2, while an incorrect movement was given a score of 0.

Table 1. The total score was then classified into five categories:

Score	Category
>27	Very Good
24–26	Good
21–23	Moderate
18–20	Poor
<17	Very Poor

Statistical Analysis

The data were analyzed using descriptive statistics. The analysis included total score, mean, standard deviation, frequency, and percentage. The results were then classified into categories to describe the technical ability of each athlete and each movement phase.

Results

Participant Characteristics

Table 1. Characteristics of Age Group IV Swimming Athletes

No.	Athlete Name	Age	Gender
1	Lalu Afta	10	Male
2	Zalda Felicia	11	Female
3	Baiq Zanaa Pradia Z.	11	Female
4	M. Hairil H.	10	Male
5	Zyidan Maulana A.	11	Male
6	Baiq Shava Yudia R.	10	Female
7	Yuna	10	Male
8	Khahyang Ajeng R.	11	Female
9	Fairus Salim	11	Male
10	Lalu Aimar Virandra Nasri	10	Male

Descriptive Statistics of Breaststroke Movement Phases

Table 2. Descriptive Statistics of Breaststroke Movement Technique

Movement Phase	Minimum	Maximum	Mean	Standard Deviation	
Gliding phase	10	2	6	4.20	1.751
Arm movement phase	10	4	10	7.20	1.932
Leg movement phase	10	4	8	6.80	1.398
Breathing phase	10	2	2	2.00	0.000
Coordination phase	10	2	2	2.00	0.000

The descriptive data show that the highest consistency was found in the breathing and coordination phases. Meanwhile, the gliding, arm movement, and leg movement phases showed greater variation among athletes.

Individual Breaststroke Technique Scores

Table 3. Individual Scores of Breaststroke Technique

No.	Athlete Name	Gliding	Arm Movement	Leg Movement	Breathing	Coordination	Total Score	Category
1	Lalu Afta	2	8	6	2	2	20	Poor
2	Zalda Felicia	6	8	8	2	2	26	Good
3	Baiq Zanaa Pradia Z.	6	10	6	2	2	26	Good
4	M. Hairil H.	4	8	6	2	2	22	Moderate
5	Zyidan Maulana A.	2	10	6	2	2	22	Moderate
6	Baiq Shava Yudia R.	6	6	8	2	2	24	Good
7	Yuna	4	6	8	2	2	22	Moderate
8	Khahyang Ajeng R.	6	6	8	2	2	24	Good
9	Fairus Salim	2	4	8	2	2	18	Poor
10	Lalu Aimar Virandra Nasri	4	6	4	2	2	18	Poor

Distribution of Overall Breaststroke Technique Categories

Table 4. Overall Category of Breaststroke Technique

Category	Frequency	Percentage
Very Good	0	0%
Good	4	40%
Moderate	3	30%
Poor	3	30%
Very Poor	0	0%
Total	10	100%

The overall results show that most athletes were in the good category. However, the presence of athletes in the moderate and poor categories indicates that technical improvement is still needed.

Distribution by Movement Phase

Table 5. Category Distribution of Each Breaststroke Movement Phase

Movement Phase	Very Good	Good	Moderate	Poor	Very Poor
Gliding phase	0%	40%	30%	30%	0%
Arm movement phase	20%	30%	40%	10%	0%
Leg movement phase	0%	50%	40%	10%	0%
Breathing phase	100%	0%	0%	0%	0%
Coordination phase	100%	0%	0%	0%	0%

The results show that the breathing and coordination phases were the strongest technical components. Meanwhile, gliding, arm movement, and leg movement require more technical correction.

Discussion

The results of this study showed that the breaststroke swimming technique of Age Group IV athletes at Everlana Waterpark Club, East Lombok, was generally in the good category. Four athletes were classified as good, three athletes as moderate, and three athletes as poor. These findings indicate that most athletes already had basic breaststroke movement skills, but several technical aspects still need improvement.

The gliding phase showed that 40% of athletes were in the good category, while 30% were moderate and 30% were poor. This indicates that not all athletes were able to maintain an efficient streamlined body position. In breaststroke, the gliding phase is important because it reduces water



resistance and allows the swimmer to maintain forward momentum. Hermawan and Nurmasari (2020) stated that body position is an important component in breaststroke because incorrect body alignment can increase drag and reduce swimming efficiency.

The arm movement phase showed varied results. Two athletes were categorized as very good, three as good, four as moderate, and one as poor. This finding suggests that several athletes still made errors in the outward sweep, inward sweep, and recovery of the arms. Technical errors in arm movement may reduce propulsion and disturb movement rhythm. This is consistent with Ardha et al. (2019), who explained that biomechanical factors in breaststroke stroke movement influence swimming velocity. Therefore, arm movement correction is important to improve propulsion and swimming speed.

The leg movement phase showed that half of the athletes were in the good category, while the rest were moderate and poor. Breaststroke leg movement plays an important role in generating propulsion. Incorrect knee position, foot rotation, or kick direction can reduce the effectiveness of movement. Asri and Maidarman (2020) also reported that leg muscle endurance contributes to breaststroke performance, especially in maintaining movement power over distance. This shows that breaststroke athletes need both correct technique and sufficient leg strength to perform effective kicking movements.

The breathing phase showed the best result because all athletes were categorized as very good. This indicates that the athletes were able to perform breathing movements correctly during breaststroke. Proper breathing technique is important because it helps maintain rhythm, body balance, and oxygen supply during swimming. Solihin (2013) explained that swimming requires coordinated work of the muscles, lungs, and heart because the body must move against water resistance. Therefore, proper breathing technique supports movement efficiency and endurance in swimming.

The coordination phase also showed very good results, with all athletes categorized as very good. This means that the athletes were generally able to combine arm movement, leg movement, and breathing into a coordinated breaststroke pattern. However, good coordination does not automatically mean that every technical phase is already optimal. Some athletes still showed weaknesses in gliding, arm movement, and leg movement. Haryanto et al. (2021) emphasized that technical skill analysis is important in swimming because each movement phase contributes to overall performance.

Overall, the findings indicate that technical development among Age Group IV athletes should focus on improving movement quality rather than only increasing training volume. Coaches need to provide movement correction using video analysis, slow-motion observation, and repeated technical drills. This approach can help young athletes understand their movement errors and develop more efficient breaststroke technique.

These results are also in line with Maulidin et al. (2018), who explained that analysis of basic



breaststroke movement skills is useful for identifying technical strengths and weaknesses among swimmers. Therefore, systematic technique assessment should be carried out regularly in swimming clubs to support long-term athlete development.

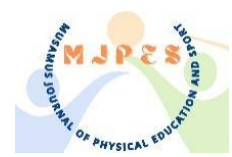
Conclusions

Based on the results of the study, the breaststroke swimming technique of Age Group IV athletes at Everlana Waterpark Club, East Lombok, was generally categorized as good. The overall results showed that 4 athletes were in the good category, 3 athletes were in the moderate category, and 3 athletes were in the poor category. No athletes were categorized as very good or very poor.

The strongest technical components were the breathing phase and coordination phase, where all athletes reached the very good category. However, the gliding phase, arm movement phase, and leg movement phase still need improvement. Therefore, coaches are advised to provide more specific technical training, especially in maintaining streamlined body position, improving arm sweep mechanics, and correcting leg kick movement.

References

- Ardiyanto, H. (2021). Meletakkan keterampilan mental dalam sepakbola pada konteksnya. *Sepakbola*, 1(2), 39–47. <https://doi.org/10.33292/sepakbola.v1i2.116>
- Atiq, A., Hartono, F. V., Ali, M., Suwanto, W., & Purwanto, D. (2024). Enhancing Elementary Students' Mastery of Basic Football Techniques Through Simulation and Role Play Methods. *AL-ISHLAH: Jurnal Pendidikan*, 16(4). <https://doi.org/10.35445/alishlah.v16i4.5994>
- Bailey, R. (2006). Physical Education and Sport in Schools: A Review of Benefits and Outcomes. *Journal of School Health*, 76(8), 397–401. <https://doi.org/10.1111/j.1746-1561.2006.00132.x>
- Duncan, M., Eyre, E. L. J., Noon, M., Morris, R., Thake, D., & Clarke, N. (2022). Fundamental movement skills and perceived competence, but not fitness, are the key factors associated with technical skill performance in boys who play grassroots soccer. *Science and Medicine in Football*, 6(2), 215–220. <https://doi.org/10.1080/24733938.2021.1910332>
- Duncan, M., Martins, R., Noon, M., & Eyre, E. (2022). Perception of Affordances for Dribbling in Soccer: Exploring Children as Architects of Skill Development Opportunity. *Sports*, 10(7), 99. <https://doi.org/10.3390/sports10070099>
- Kuswoyo, D. D. (2020). *Buku Ajar Sepak Bola*. Penerbit NEM.
- Kuswoyo, D. D., & Donggoran, M. F. (2019). Identifikasi Tingkat Kemampuan Dasar Permainan Sepak Bola Mahasiswa Penjaskesrek. *Musamus Journal of Physical Education and Sport (MJPES)*, 02(01), Article 01. <http://ejournal.unmus.ac.id/index.php/physica>
- Pizarro, A. P., Domínguez, A. M., Serrano, J. S., García-González, L., & Álvarez, F. del V. (2017). The



- Effects Of A Comprehensive Teaching Program On Dribbling And Passing Decision-Making And Execution Skills Of Young Footballers. *Kinesiology*, 49(1). <https://ojs.srce.hr/kinesiology/article/view/5322>
- Sarajärvi, J., Freitas, R., Elovaara, M., & Volossovitch, A. (2024). Skill-related studies from youth to high-performance football: A scoping review. *German Journal of Exercise and Sport Research*, 54(3), 341–353. <https://doi.org/10.1007/s12662-023-00910-w>
- Soniawan, V., Setiawan, Y., & Edmizal, E. (2021). An Analysis of the Soccer Passing Technique Skills: *Proceedings of the 1st International Conference on Sport Sciences, Health and Tourism (ICSSHT 2019)*. 1st International Conference on Sport Sciences, Health and Tourism (ICSSHT 2019), Padang, Indonesia. <https://doi.org/10.2991/ahsr.k.210130.005>
- Syahban, A., & Hasniah, H. (2024). Literature Study: Learning Methods And Models To Improve Elementary School Students' Football Learning Outcomes. *COMPETITOR: Jurnal Pendidikan Keperawatan Olahraga*, 16(3), 758. <https://doi.org/10.26858/cjpko.v16i3.60639>