

Analysis of the Serve and Smash Abilities of Volleyball Athletes in the 2022 Proliga Final

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Abstract

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The research aims to analyze and reveal the serve and smash abilities of volleyball athletes in the 2022 Proliga final. This research is descriptive research. The population in this study were 65 athletes. The sampling technique in this research was purposive sampling and a sample of 24 people was obtained. Data collection techniques use observation by judges and video analysis. The data analysis technique used is descriptive with percentages. The research results show that the athletes' abilities in the 2022 Proliga final based on the movement phases, the serve and smash abilities of the men's and women's teams are categorized as good. Based on the assessment indicators, the serve that is effective and frequently used is the floating serve with a success percentage of 53.84% compared to a jump serve of 46.16%, a total of 189 serves on the men's team, on the women's team a total of 175 serves, a success percentage of 95.74% compared to a jump serve of 4.26%. An effective and frequently used smash is the open smash. In the men's match, the total smash was 230 with a success percentage of 67.89% compared to back attacks of 32.11%. The women's team match had a total of 256 smashes, with a success percentage of 86.41% compared to back attacks of 13.59%.

Keywords:

Ability, serve, smash, Proliga 2022

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INTRODUCTION

Sport is a means by which individuals and groups can actualize themselves with the aim of generating self-confidence and national pride (Lardika, R.A and Salam, 2019:25). Sport is also any activity or physical activity that actualizes oneself for physical fitness and developing the potential that exists within a person. In principle, sports development is based on three orientations, namely sports as education, sports as recreation, and sports for achievement.

To improve sports performance, continuous coaching is needed, one of the sports achievements in question is volleyball. Volleyball is a sport that has a game principle, namely keeping the ball from falling in your own court and dropping the ball in your opponent's court, thereby getting a point. The basic techniques in playing volleyball include: passing, serving, smashing and blocking. Serve and smash are basic techniques that produce a lot of points. Therefore, every athlete needs to be trained so that every athlete has good serve and smash technical skills to achieve achievements.

In volleyball there are many influencing factors. As expressed by Syafrudin (2017:39), there are four factors that influence an athlete's ability in a match or competition, basically

the factors that determine sports performance, namely: (1) Physical condition, (2) Technique, (3) Tactics, (4) Mental factors. This was also explained by Mulyadi, D.Y.N and Pratiwi, E. (2020) that "every athlete must have and master physical, technical, tactical and mental aspects in order to win. Technique is one aspect that needs to be mastered."

Volleyball is an Olympic sport in which athletes perform various complicated and technical movements, and is one of the sports achievements that is always competed in (Fuchs, P. one of the most successful, popular, competitive and fun sports. The movements are fast, tense and exciting. The basic techniques that must be mastered by players are serving, lower passing, upper passing, smash and blocking. This must be paid attention to because the basic techniques are important and influential factors in the game of volleyball".

Fernandez-Echeverria, et al., (2015) stated that "Serving, like attacking and blocking, has properties that are determined by goals and can determine team performance. The benefit of serving is not only the points you get immediately, serving also influences the development of the next game. This, it can be seen that the execution of a good serve (serve with strength or with tactical intent), influences the reception performance and attack options of the opposing team, reducing first tempo attacks and increasing second tempo attacks. This influence of serving on attack options leads to an increase in blocking performance, significantly increasing triple blocks, which will make it easier to defend."

Floating serve is a type of serve where the ball floats or does not contain spin. According to Erianti (2019) floating serve is the most popular type of serve and it is difficult to receive a floating serve because the ball is floating and does not travel in a straight path, the speed is irregular, the ball often goes left and right or up and down, This makes it difficult to predict the exact direction the ball will come from.

According to M.S Rifki, et al (2021), the jump serve is essentially the most difficult and complex technique to learn and perform of all the serving techniques in volleyball. To perform a jump serve, players need coordination, where coordination is the ability to carry out movements quickly and efficiently at various levels of difficulty. Coordination is required from the start, the push, while hitting the ground. In other words, by having movement coordination and being supported by a good back formation, the jump serve that is performed perfects the expected results and is necessary for the effectiveness of the movement (Syafrizar, S. & Rifki, M. S., 2017).

Smash is a basic technique in the most dominant game of volleyball to get points by hitting the ball hard into the opponent's court. One technique that is very important for getting points is the smash (Arte, Y. B., et al., (2019). According to Mulyadi, D.Y.N & Pratiwi, E (2020) open spike is a normal smash with the situation of the ball soaring high on the right or left side the field, the player takes timing from outside the field line. Back attack is a type of smash that is carried out behind the attack line of the field which is a variation of attack to block a strong opponent.

The object of this research is Proliga 2022. The Indonesian Professional League (PROLIGA) is a volleyball competition that is held professionally under the auspices of PP PBVSI and is held regularly every year. From 1 February to 7 April 2002, the Proliga was first held in five cities, namely: Jakarta, Bogor, Bandung, Yogyakarta and Gresik with the final match being held in Jakarta, namely: at Istora Gelora Bung Karno.

Based on the description above, the author is interested in studying athletes' serve and smash abilities including: floating serve, jump serve, back attack and open smash abilities as well as their success rate in the 2022 Proliga final.

METHODS

Descriptive research is research that describes and interprets objects according to what they are (Sukardi, 2007:157). The population in this study was 65 athletes. The sampling technique in this research was purposive sampling and a sample of 24 athletes was obtained. The method used is the survey method, namely: an investigation conducted to obtain existing facts and symptoms and look for factual deficiencies (Arikunto, 2006:56). Data collection techniques use observation by judges and video analysis. The data analysis technique used is descriptive with percentages.

RESULTS & DISCUSSION

Results

1. Floating Serve

a. Initial Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	17	20	18.5	1.30	2	2	0	0
BL	18	20	19.25	0.96	2	1	1	0
BJB	14	16	15	0.89	2	2	2	0
GPP	15	16	15.6	0.55	3	0	0	2

b. Implementation Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability				
					Very Good	Good	Enough	Not Good	Very Less
SBS	13.42	15.17	14.65	0.83	0	1	2	1	0
BL	13.50	15.05	15	0.71	0	1	2	1	0
BJB	11.34	12.25	12.09	0.55	1	0	4	1	0
GPP	10.84	12	12.55	0.44	0	2	2	0	1

c. Last Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	18	20	18.75	0.96	1	1	2	0
BL	19	20	19.75	0.5	3	1	0	0
BJB	15	16	15.67	0.52	4	0	2	0
GPP	15	16	15.8	0.45	3	1	0	1

2. Jump Serve

a. Initial Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	19	20	19.5	0.71	1	0	1	0

BL	18	19	18.5	0.71	1	0	1	0
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Bandung BJB Tandamata team, after conducting analysis, it was seen that in the BJB team in the Proliga final match there were no athletes who used jump serves. The Gresik Petrokimia Pupuk Indonesia Team, in the initial phase, Jenifer Yanet Alvares Hernandes (3) received a total of 16 points with a percentage of 100%.

b. Ball Rolling Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	19	20	19.5	0.71	1	0	1	0
BL	19	20	18.5	0.71	1	0	1	0

The Gresik Petrokimia Pupuk Indonesia team, in the ball rolling phase, Jenifer Yanet Alvares Hernandes (3) got a total of 16 points with a percentage of 100%.

c. Jump Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	19	20	19.5	0.71	1	0	1	0
BL	19	20	18.5	0.71	1	0	1	0

Gresik Petrokimia Pupuk Indonesia Team, in the jump phase, Jenifer Yanet Alvares Hernandes (3) got a total of 16 points with a percentage of 100%.

d. Hitting Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	11.67	14.79	13.23	2.21	1	0	1	0
BL	12.25	14.3	13.28	1.45	1	0	1	0

Gresik Petrokimia Pupuk Indonesia Team, Jenifer Yanet Alvares Hernandes (3) hit phase got a total score of 11.7 with a percentage of 100%.

e. Fase mendarat

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	19	20	19.5	0.71	1	0	1	0
BL	19	20	19.5	0.71	1	0	1	0

The Gresik Petrokimia Pupuk Indonesia Team, in the landing phase, Jenifer Yanet Alvares Hernandes (3) received a total of 16 points with a percentage of 100%.

3. Open smash

a. Initial Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less

SBS	18	20	19	1	1	1	1	0
BL	19	20	19.67	0.58	2	0	1	0
BJB	15	16	15.68	0.58	2	0	1	0
GPP	14	16	15	1	1	1	1	0

b. Jump Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	18	20	19.34	1.16	2	0	1	0
BL	19	20	19.67	0.58	2	0	1	0
BJB	15	16	15.67	0.58	2	0	1	0
GPP	15	16	15.34	0.58	2	0	1	0

c. Hitting Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	14.9	16.65	15.54	0.97	1	1	1	0
BL	16.95	17.89	17.34	0.49	1	1	1	0
BJB	11.59	13.68	12.38	1.14	1	1	1	0
GPP	11.27	12.96	12.08	0.85	1	1	1	0

d. Landed Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability			
					Good	Enough	Not Good	Very Less
SBS	18	20	19.33	1.15	2	0	1	0
BL	19	20	19.67	0.58	2	0	1	0
BJB	15	16	15.67	0.58	2	0	1	0
GPP	18	20	19.33	1.15	2	0	1	0

4. Back attack

a. Initial Phase

Team	Lowest Value	Highest Value	Average	Standard Deviation	Ability		
					Good	Enough	Not Good
SBS	8	20	16	6.93	2	0	1
BL	16	20	18.67	2.31	2	0	1
BJB	15	16	15.67	0.58	2	0	1
GPP	12	16	14	2.83	1	0	1

b. Jump Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability		
					Good	Enough	Not Good

SBS	8	20	16	6.93	2	0	1
BL	16	20	18.33	2.08	2	0	1
BJB	15	16	15.67	0.58	2	0	1
GPP	12	16	14	2.82	1	0	1

c. Hitting Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability		
					Good	Enough	Not Good
SBS	7	17.3	13.43	5.64	1	1	1
BL	14	17.75	16.42	2.10	2	0	1
BJB	11.59	13.68	15.67	1.14	1	1	1
GPP	8.67	9	8.83	0.23	1	0	1

d. Landed Phase

Team	Lowest Value	Highest Value	Average	Standard deviation	Ability		
					Good	Enough	Not Good
SBS	8	20	16	6.93	2	0	1
BL	16	20	18.67	2.31	2	0	1
BJB	15	16	15.67	0.58	2	0	1
GPP	12	16	14	2.83	1	0	1

DISCUSSION

1. Volleyball athletes' floating serve ability in the 2022 Proliga final

To determine the ability of the floating serve, movement analysis is carried out based on the initial phase, implementation phase, final phase and assessment indicators. SBS Team, initial phase 49%, implementation phase 51.12%, final phase 48.70%. BL team initial phase 50.99%, implementation phase 51.12%, final phase 51.30%. BJB team initial phase 53.57%, implementation phase 55.66%, final phase 54.97%. GPP team initial phase 46.43%, implementation phase 44.33%, final phase 45.03%.

In the men's final match, 66.67% of athletes used the floating serve, namely 8 out of 12 people. In the women's final match, 91.67% of athletes used the floating serve, 11 out of 12 people. According to Muhajir in Bambang, S (2013) Floating Serve is a serve that is often used in volleyball games in every match. This was proven in the 2022 Proliga final match that the serve that was often used was the floating serve, of the 24 samples that used it, 19 people used it. The floating serve is most often used in volleyball matches, because this serve is floating, sharp and hard. If the ball placement is accurate it will disrupt the rhythm of the opponent's game (Dwi, A.Y (2020:33).

2. Jump serve ability of volleyball athletes in the 2022 Proliga final

To determine jump serve ability, an analysis of movement ability is carried out based on the starting phase, ball bounce, jump, hit and landing. The SBS team had a starting phase of 51.32%, a ball bouncing phase of 50%, a jumping phase of 50%, a hitting phase of 49.52% and a landing phase of 50%. BL team starting phase 48.68%, ball bouncing phase 50%, jumping phase 50%, hitting phase 50.08% and landing phase 50%. The BJB team, none of its athletes used jump serves during the final match. The GPP team's starting phase, ball bouncing phase, jumping

phase, hitting phase, and landing phase have a percentage of 100% and with a score of 16 in the starting phase, ball bouncing, jumping, a score of 11.17 hitting, and a score of 15 landing.

In the men's final match, 33.33% of athletes used jump serves, namely 4 athletes out of 12 athletes. In the women's final match, 8.33% of athletes used jump serves, 1 out of 12 athletes. 3 athletes' jump serve ability was categorized as good and 2 athletes as poor. Jump serve is an essential skill as a way to get the ball into the opponent's area. To perform a jump serve, players need coordination, where coordination is the ability to perform movements quickly and efficiently at various levels of difficulty. Coordination is required from the start, the push, while hitting the ground. In other words, by having movement coordination and supported by a good back formation, the jump serve performed will perfect the expected results and is necessary for the effectiveness of the movement (Syafrizar, S. & Rifki, M. S., 2017).

3. Open smash ability of volleyball athletes in the 2022 Proliga final

To determine jump serve ability, an analysis of movement skills is carried out based on the starting, jumping, hitting and landing phases. SBS team starting phase 49.14%, jumping phase 49.57%, hitting phase 47.28% and landing phase 49.57%. BL team starting phase 50.86%, jumping phase 50.43%, hitting phase 52.73%, and final phase 50.43%. BJB team starting phase 51.09%, jumping phase 50%, hitting phase 50.61% and landing phase 50.54%. Team GPP starting phase 48.91%, jumping phase 50%, hitting phase 49.39% and landing phase 49.46%.

In the men's final match, 4 out of 6 athletes used the open smash in the good-fair category. In the women's final match, 4 out of 6 athletes used the open smash in the good category. This can be seen based on the analysis of movement abilities based on the starting, jumping, hitting and landing phases. According to Nureza (2013: 111) Open spike is the type of smash that is most often done because of the development of modern volleyball which currently relies on power or strength. The open smash has a long ball trajectory, the speed and direction of the ball are easy for the opponent to read and anticipate, so the ball can be blocked and returned by the opponent (Prastya, R. A., & Sulistyarto, 2021: 167). To perform an open smash requires leg power to jump as well as eye-hand coordination when hitting the ball and requires a good level of confidence so that the ball can be easily directed (Zinat, 2016).

4. The back attack ability of volleyball athletes in the 2022 Proliga final

To determine jump serve ability, an analysis of movement skills is carried out based on the starting, jumping, hitting and landing phases. SBS team starting phase 46.15%, jumping phase 46.15%, hitting phase 45.08% and landing phase 46.15%. BL team starting phase 53.85%, jumping phase 53.85%, hitting phase 54.92% and final phase 53.85%. BJB team starting phase 62.67%, jumping phase 62.67%, hitting phase 67.75% and landing phase 62.67%, with 2 people in the starting phase good category, 1 person in the bad category, 2 people in the jumping phase in the good category, 1 person in the bad category, the hitting phase in 1 person in the good category, 1 person in the good category, 1 person in the good category, 2 people in the landing phase in the good category and 1 person in the not so good category. The GPP team had a starting phase of 37.33%, a jumping phase of 37.33%, a hitting phase of 32.25% and a landing phase of 37.33%

In the men's final match, the athletes who used the back attack were in the good category 4 out of 6 people. In the women's final match, the athletes who used the back attack were in the good category 3 out of 5 people. This can be seen based on the analysis of movement abilities based on the starting, jumping, hitting and landing phases and producing a lot of points during the match. Back attack is a type of smash done behind the attack line. The back attack becomes an important attack when the front smash variation is not optimal on the opponent's court. This smash is also useful for outwitting opponents who are ready to block.

5. Effectiveness and success rate of serves and smashes

In the men's and women's final matches, the serve that was often used and was effective was the floating serve with a percentage in the men's match of 53.84% compared to jump serve 46.16% and for the women's team 95.74% compared to jump serve 4.26%. According to Muhajir in Bambang, S (2013) floating serve is a type of serve that is often used in volleyball games in matches. The floating serve has better capabilities than the jump serve, because the floating serve has better ball feeling and timing compared to the jump serve (Fafourite, A. 2018). This was proven by Anjaswati, D.T (2018) that in the 2018 Proliga volleyball match, jump float serve was 56.77% more effective than floating serve 36.41% and jump serve 6.18%. In the 2022 Proliga volleyball matches, athletes were seen using the floating serve more and dominating it, especially in women's matches, where almost everyone used it. For the smash in the 2022 Proliga final match, from the results of the analysis it was found that the smash in the match that was more effective and frequently used was the open smash 162 times compared to the back attack 68 times in the SBS vs BL match, while in the BJB vs GPP match the open smash was used 222 times compared to back attacks 34 times. The success rate for open smashes in the SBS vs BL match was 67.89%, while in the BJB vs GPP match the percentage was 86.41%. Smash is one of the attacks in volleyball that dives sharply and is fast and the deadliest (Nasuka. 2019).

CONCLUSIONS

Based on research results from the analysis of the serve and smash abilities of volleyball athletes in the 2022 Proliga final, it can be concluded that based on the movement phases, the serve and smash abilities of the men's and women's teams are categorized as good. Based on the assessment indicators, the serve that is effective and frequently used is the floating serve with a success percentage of 53.84% compared to a jump serve of 46.16%, a total of 189 serves for the men's team, while for the women's team, a total of 175 serves, a success percentage of 95.74% compared to a jump serve of 4.26%. For smashes based on assessment indicators, the effective and frequently used smash is the open smash. In the men's match, the total smash was 230, the percentage of success was 67.89% compared to back attacks of 32.11%. In the women's team match, the total smash was 256, the success percentage was 86.41% compared to back attacks of 13.59%.

Suggestion

Based on the conclusions from the research results of the analysis of athletes' serve and smash abilities in the 2022 Pro League final, the following things need to be considered: (1) for researchers, the results of this research can be used as a guide to increase knowledge and insight about serves and smashes, especially regarding ability. Proliga athletes 2022. (2) for athletes, knowledge about serving and smashing needs to be improved, so that they can improve their ability to serve and smash. (3) for other researchers, the results of this research can be used as additional knowledge regarding serve and smash abilities with other similar titles but with different variables.

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