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Submission date: 31-May-2026 10:51AM (UTC+0800)
Submission ID: 2972907392
File name: Article_Mario.docx (82.29K)
Word count: 2234
Character count: 11742

EFFECT OF TRAINING VARIATIONS ON TENNIS GROUNDSTROKE FOREHAND ABILITY FOR BEGINNER TENNIS

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Abstract
Forehand is the most basic and easiest stroke to teach in tennis. This study investigated the effect of variations in forehand training on the forehand groundstroke ability of beginner tennis athletes in padang. The sample was taken from beginner tennis athletes in padang, grouped according to their forehand groundstroke ability. Each group received forehand groundstroke training with different variations: fixed position and shifting position The results showed a significant effect of variations in forehand groundstroke training on forehand groundstroke ability in tennis. This was demonstrated by the t-test results, where t-test (9.237) > t-table (2.457). The t-test results revealed an effect of variations in forehand groundstroke training on the initial ability of beginner tennis athletes in padang. However, the study found that variations in forehand groundstroke training with fixed position were more effective than variations in shifting position on forehand groundstroke ability in tennis for beginner tennis athletes in padang.
Keywords: *Training Variations; Groundstroke Forehand; Beginner Tennis Athlete*

INTRODUCTION

Tennis is one of the most popular sports worldwide. It is a fine sport which requires the player to have certain basic abilities, such as strength, speed, endurance, and skill. Played at a professional level, tennis players can, and do earn much fame and money, however, as a recreational sport, tennis offers many players the opportunity to enjoy playing a satisfying match or even to take part in tournaments. In today's world, where the need for physical activity is of particular importance, many people consider that tennis is an excellent medium to remain active and maintain a good level of health (Smith et al., 2017; Vella et al., 2019). Furthermore, not only is it a wonderful way to meet new people in a pleasant social setting, but it is also a sport that can be played for life, irrespective of one's age (Baiget, 2018).

Groundstroke is a stroke performed on the ball after it bounces on the court. This stroke has two types: the forehand groundstroke and the backhand groundstroke (Kovacs et al., 2019). The forehand is the most common stroke in tennis. It is the most basic and easiest stroke to teach in tennis (Noddings, 2016; Vergauwen et al., 2014). Forehand is a stroke that is swung from the back of the

body to the front, with the front of the racket or palm facing the ball (Blackwell et al., 2015; Miles, 2024). Beginners can use the continental or eastern grip when holding a tennis racket. The foot position (stance) used is the closed stance, in which the body is perpendicular to the baseline or net (Martens, R., 2018; Pollard, 2022).

States that physical condition is a unified whole composed of components that cannot be easily separated, either in terms of improvement or selection. Some of the components of physical condition, are as follows: 1. strength, 2. endurance, 3. muscular power, 4. speed, 5. flexibility, 6. agility, 7. coordination, 8. balance, 9. precision, and 10. reaction. Tennis training is the most important aspect of any sport. Its goal is to develop physical fitness as a foundation for improving endurance, fitness, and efficiency. Regarding the importance of physical fitness components, several experts, such as (Siahaan,2018), state that success in sports often requires perfect skills under physical pressure. Physical fitness is crucial in improving athlete performance.

Hitting the ball is a fundamental skill that beginner tennis players must master. Tennis strokes are divided into three categories: groundstroke, volley, and overhead stroke (Yudoprasetio, 2018). Groundstrokes can be divided into several types, including: forehand drive, drop shot, backhand drive, and half volley. The basic strokes a tennis player must master include the serve, forehand drive, backhand drive, and volley (Stacey, E. ; Gerbic, P. 2018).

METHOD

This study used an experimental method with a pre-test and post-test group research design. The sample in this study were all second-semester students majoring in sports science who were divided into experimental groups 1 and 2. Experimental group 1 was the experimental group given a variation of the forehand drive front to back and experimental group 2 with a variation of the forehand drive fixed behind. The gradual variation of the front to back, namely the forehand drive exercise was carried out in stages. First, the drill was drilled with a standing position behind the service line. Second, the drill was drilled with a standing position behind the baseline to hit the ball and direct it to a predetermined area in the exercise. The exercises were carried out alternately and continuously in one stage of the exercise.

While the fixed behind drill, namely the forehand drive exercise was carried out with a fixed position behind the baseline to hit the ball and direct it to a predetermined area in the exercise.

The tool used in data collection is the ITN (International Tennis Number) (ITF, 2017; Shyi-Kuen et al., 2014). This groundstroke test is designed to be used as a grouping and leveling tool. The tennis court design used in data collection according to the test can be seen in Figure 1. On the court opposite the tennis player's position, it is divided into several areas, four areas (2, 3, 4) from the back court line with a width of 1.82m (6 ft), and the rest becomes area no. 1.

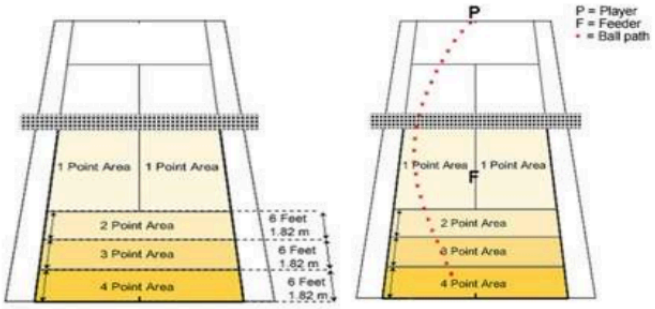

Figure 1. Normative Learning Outcomes for Basic Tennis Groundstroke Techniques

Groundstroke Forehand placement test: The player returns the ball with a forehand so that it passes over the net. The player (sample) stands at the intersection of the baseline (back line) and the center service mark. The serving position is at the intersection of the center service line and the service line. The player moves into the correct position to execute a groundstrokes forehand, hitting the ball over the net into the court area to score as many points as possible. The player selects 10 balls to return with a forehand groundstroke. The player's score is the sum of the points obtained from the 10 groundstrokes forehand.

In this study, the data obtained were statistically analyzed to determine the effect of training variations on groundstrokes forehand ability. Data obtained in the experiment were subjected to a t-test to determine the effect of fixed-position

training variations and changing-position training variations on the groundstrokes forehand ability of beginner tennis players.

RESULT AND DISCUSSION

The following data are the results of the basic tennis technical ability test, and the data were tested for normality using the Kolmogorov-Sminarnov test and the Shapiro-Wilk test using SPSS, before the t-test was carried out.

Table 1. Tennis Forehand Groundstroke Ability Results

Sample	Control Class		Sample	Experimental Class	
	Pretest	Posttest		Pretest	Posttest
X1	30	58	X1	35	85
X2	28	41	X2	30	89
X3	31	49	X3	28	87
X4	29	53	X4	31	89
X5	29	41	X5	35	83
X6	32	57	X6	29	85
X7	25	55	X7	32	87
X8	35	45	X8	25	78
X9	36	57	X9	35	85
X10	29	55	X10	39	89
X11	30	43	X11	29	89
X12	32	53	X12	32	83
X13	28	49	X13	30	83
X14	39	56	X14	28	79
X15	30	52	X15	31	85
X16	33	50	X16	29	81
X17	34	62	X17	30	85
X18	31	56	X18	28	91
X19	34	67	X19	31	85
X20	35	58	X20	29	81
X21	31	50	X21	29	83
X22	29	58	X22	30	87
X23	35	42	X23	28	89
X24	33	65	X24	31	93
X25	27	57	X25	29	79
X26	32	61	X26	29	81
X27	31	58	X27	32	83

X28	29	61	X28	32	79
X29	30	59	X29	35	83
X30	37	63	X30	36	85
Average	27	76	Average	29	84

The groundstrokes forehand test results were tested for normality using the Kolmogorov-Sminarnov and Shapiro-Wilk tests using SPSS before conducting a t-test. The following are the results of the SPSS data normality test.

Table 2. Tests of Normality of Tennis Forehand Groundstroke Ability Results

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Variasi	Statistic	df	Sig.	Statistic	df	Sig.
Result	Pre Fixed Position	.156	30	.057	.922	30	.027
	Fixed Position Post	.137	30	.169	.964	30	.378
	Pre Position Move	.124	30	.200*	.975	30	.711
	Post Position Move	.135	30	.163	.952	30	.196

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Based on the output of the data testing results above, both for tennis groundstroke forehand ability data, the significance value (sig.) for all data, namely the Kolmogorov-Smirnov test and the Shapiro-Wilk test > 0.05, it can be concluded that the research data is normally distributed. Next, a t-test was conducted. The following are the results of the t-test for the fixed position posttest and the moving position posttest.

Table 3. Group Statistics

	Variation	N	Mean	Std. Deviation	Std. Error Mean
Tennis Forehand Groundstroke Ability Results	Permanent Post	30	53.23	7.026	1.273
	Post Moved	30	85.67	3.782	.687

Based on the output results in the group statistics above, it can be seen that the average result of the tennis forehand groundstroke ability given the changing position variation training is = 85.67 and the standard deviation is = 3.782. And the

average result of learning the tennis forehand groundstroke ability with the fixed position variation training is = 53.23 with a standard deviation of = 7.026. This means descriptively the results of the tennis forehand groundstroke ability given the changing position variation training are better than those given the fixed position training.

Table 4. Descriptives of the Results of the N-Gain Score Test Calculation

Kelas			Statistic	Std. Error
NGain_Percen Experiment	Mean		86.6551	1.08268
	95% Confidence Interval for Mean	Lower Bound	84.4408	
		Upper Bound	88.8694	
	5% Trimmed Mean		86.4879	
	Median		86.2069	
	Variance		35.166	
	Std. Deviation		5.93007	
	Minimum		77.05	
	Maximum		100.00	
	Range		22.95	
	Interquartile Range		8.84	
	Skewness		.326	.427
	Kurtosis		-.527	.833
Control	Mean		37.1791	2.05257
	95% Confidence Interval for Mean	Lower Bound	32.9811	
		Upper Bound	41.3771	
	5% Trimmed Mean		37.4846	
	Median		39.9889	
	Variance		126.391	
	Std. Deviation		1.12424E1	
	Minimum		12.07	
	Maximum		55.93	
	Range		43.86	
	Interquartile Range		15.36	
	Skewness		-.589	.427
	Kurtosis		-.368	.833

Based on the output table of descriptives N-gain score on the data of learning outcomes of basic tennis techniques above, it shows that the average value of N-gain score for the experimental class is 86.65% included in the "Effective" category, with a minimum N-gain score of 77.05% and a maximum N-gain score of 100%. Meanwhile, the average N-gain score for the control class is 37.17% included in the "Less Effective" category with a minimum N-gain score of 12.07% and a maximum N-gain score of 55.93%.

CONCLUSION

Based on the research results, the following conclusions can be drawn: (1) There is a difference in the results of forehand groundstrokes before and after being given fixed position variation training and changing position variation training. (2) There is a difference in the results of forehand groundstroke training with fixed position variations and changing position variation training on the ability to perform forehand groundstrokes. (3) Forehand groundstroke training with changing position variations is better than fixed position variations on the ability to perform forehand groundstrokes.

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