

Box drill training as an effective method to improve agility in futsal players

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Abstract

Research Problems: This research aims to determine the effect of box drill exercises on agility ability in futsal extracurricular activities at state primary school 58 Lubuk Linggau. **Research Objectives:** This research aims to determine the effect of box drill exercises on agility ability in futsal extracurricular activities at state primary school 58 Lubuk Linggau. **Methods:** The method used in this research is quasi-experiment. Using a research design, namely a one-group pretest-post-test design. The research sample was 30 students at state primary school 58 Lubuk Linggau. The research location was conducted at state primary school 58 Lubuk Linggau. **Results:** Data from the pretest results obtained from 20 students obtained the poor category, and the students who received the very few categories were 10 students. Data from the posttest results were obtained from thirty students in the good category. The value obtained by the Independent Sample Test count was 1.474. The research results have an effect if $1.474 > 0.05$ then H_a is accepted. After conducting the hypothesis testing criteria using the t-test, there is $t_{count} 5.896$ and $t_{table} 1.69$, then $t_{count} > t_{table}$ with a confidence level of 0.95 ($\alpha: 0.05$) with a sample size of (N: 30). **Conclusion:** It was explained that there was a significant difference, which means (H_a) there was an influence of box drill exercises on agility ability in futsal extracurricular activities at state primary school 58 Lubuk Linggau.

Keywords: Agility; Box Drill Training; Futsal.

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INTRODUCTION

Sport is an exercise program designed to improve physical fitness and produce a variety of health benefits for the body and mind and can affect mental, physical, and emotional aspects (Anderson-Butcher et al., 2016). Exercise a significant role in maintaining general health and physical fitness (Saputra et al., 2023). Sport is a necessity for human life, because if someone does exercise regularly it will have a good influence on their physical development. Exercise has a positive impact on the growth of the respiratory system and the efficiency of the body's internal organs (Attansyah et al., 2023). Sports coaching is important in improving the quality of human life (Ricky, 2020). The first sport can be defined as

activities that improve or maintain performance in performance sports, mass sports, school sports, physical fitness sports, as well as preventive and rehabilitative sports (Narlan et al., 2020).

As time progresses, sports have undergone a transformation from sporadic creative activities to activities that have many goals (Luahambowo, 2022). Futsal has undergone significant evolution over time, making it more attractive and prominent in the sports community (Prasyahaja et al., 2024). The rapid development of futsal sports is evidenced by the many futsal clubs in cities and regions that provide facilities such as futsal fields, and the inclusion of extracurricular activities for both male and female students at elementary, middle, and high school levels. Futsal has seen many changes over time. The current era shows that interest in futsal is increasing, as can be seen from the development of futsal facilities such as fields in schools (Rohaedi et al., 2020). The development of futsal is driven by society's need for physical health. Health needs are the reason for playing futsal, apart from improving performance and recreational purposes. Futsal is popular in various parts of the world, including Indonesia. In Indonesia, futsal is experiencing rapid growth with various futsal leagues and tournaments being held, such as amateur futsal leagues across regions in Indonesia, international tournaments, and inter-school tournaments (Raibowo et al., 2021). Better implementation of training can significantly improve a person's abilities (Mulyawan et al., 2016).

Training comes from several meanings: practice, practice, and practice (Wati & Jannah, 2021). The definition of word practice is an activity to improve sports skills by using various equipment in accordance with the goals and needs of the sport. The definition of exercise from the word gymnastics is the main tool in the daily training process to improve the functional quality of the human body's organ systems, making it easier for athletes to perfect their movements. The definition of training from word training is the implementation of a plan to improve sports abilities which includes theoretical and practical material, methods, and implementation rules in accordance with the goals and objectives to be achieved (Utamayasa et al.,

2020). Exercise is defined as a systematic, methodical process whose goal is to increase body strength through gradually increasing resistance to exercise. In other words, exercise should not only be done once or twice a week but rather requires consistency and time to provide the best results (Shabih et al., 2021). Training is a process that needs to be done every day with the aim of obtaining a stable income. Training should be increased gradually because it has systematic characteristics and must be completed methodically. This process is important for the development and improvement of athlete energy. Consistent work also plays a role in evaluating athlete performance, including their physical attributes and abilities. It is important to ensure that training is conducted with focused attention and progressive strengthening so that athletes can achieve optimal results and consistently improve their physical and mental health (Prasetiyo et al., 2022).

Based on field observations, when students took part in futsal extracurricular activities at state primary school 58 Lubuk Linggau, the results of observations showed that students had mastered basic futsal techniques. However, their agility is still lacking in the game because many students walk and easily lose the ball to the opponent, so the opponent can score a goal without much resistance. Extracurricular activities involving thirty students, where each training session only focuses on basic techniques, playing strategies and attacking formations, resulting in a lack of dexterity in the physical components. Therefore, researchers suggest that dexterity training, especially box drill training, is very suitable for increasing students' dexterity in futsal extracurricular activities at state primary school 58 Lubuk Linggau.

METHOD

Research Design

This type of research is experimental, specifically quantitative research. Research methods based on the philosophy of positivism are considered scientific methods because they fulfil scientific principles in a concrete or empirical manner, are objective, measurable, rational, and systematic. A

variation of experimental research that uses experimental design is the experimental method that most closely follows procedures and meets the criteria. This study aims to determine the effect of box drill training on agility in futsal extracurricular activities at state primary school 58 Lubuk Linggau.

Participants

population in this study were all male students who took part in the futsal extracurricular at state primary school 58 Lubuk Linggau. To be able to determine or determine the right sample, researchers need a good understanding of sampling, both determining the number and determining which samples to take (Susanto et al., 2024). In practice, researchers determine the entire population to be used as research samples. Sampling was conducted using purposive sampling, which means "the determination is based on certain objectives or considerations". The sample in this study consisted of thirty male students who actively participated in futsal extracurricular activities at state primary school 58 Lubuk Linggau and were in grade 6 of elementary school.

Research Instruments

The research instrument was evaluated on 30 grade 6 students at state primary school 58 Lubuk Linggau. The instrument used to obtain information about futsal agility tests through box drill exercises includes the following steps: The teste stands ready and focused behind the starting line, the examiner gives the command "Go" while starting the stopwatch, after hearing the command "Go" and the whistle, the teste starts the test by running as fast as possible, moving past the cones following the designated square-shaped path, the timing starts with the stopwatch, next, the teste moves sideways, then the teste swings their leg backward, the final movement is to step sideways while extending both arms parallel to the shoulders (carioca). Finally, the teste runs backward to the finish line to complete the test, the test is conducted twice, the examiner records the time taken to complete the test, the teste is given a rest period of 4-5 minutes between each attempt, the examiner converts the test times against the test norms.

Table 1. Scoring and Test Norms

Man/Male		
Grade	Classification	T-Test
5	Excellent	≤ 00.10.00
4	Good	00.12.37-00.10.01
3	Currently	00.13.17-00.12.38
2	Less	00.14.75-00.13.18
1	Very Less	≥ 00.14.76

(Source: Ministry of Education TKSII Guide)

Data Analysis

By using SPSS, we can find out the average value, standard deviation, smallest score or largest score, data frequency, percentage, and present the data in a histogram or pie chart. SPSS can also look for the validity and reliability of research instruments, data normality, the relationship between two variables, mean differences, and factor analysis (Janna & Herianto, 2021).

RESULTS

Based on the results of the drill box test involving 30 male students, the data obtained came from the drill box test. Agility is needed in the game of futsal. Because agility really affects physical condition and gameplay. Considering the significant role of dexterity for futsal players, students' dexterity needs to be further improved so that they can play optimally and provide the best technical abilities. The results of measuring students' box drill tests show the distribution of measurements of box drill test results for futsal extracurricular students at state primary school 58 Lubuk Linggau which has a frequency, as follows:

Table 2. Pretest

	Interval	Frequency	Relative Frequency (%)
1.	≤ 00.14.76	10	33.33%
2.	00.14.75-00.13.18	20	66.66%
3.	00.13.17-00.12.38	0	0%
4.	00.12.37-00.10.01	0	0%
5.	≥ 00.10.00	0	0%
Total		30	100%

Based on the table above, the distribution of measurements of box drill test results for futsal extracurricular students at state primary school 58 Lubuk Linggau has a distribution list that can be seen as the frequency being 0

students who got a result $\geq 00.10.00$ with a percentage of 0% in the excellent category, 0 students who got the results $00.12.37-00.10.01$ with a percentage of 0% in the good category, 0 students who got the results $00.13.17-00.12.38$ with a percentage of 0% in the category moderate, 20 students who got results $00.14.75-00.13.18$ with a percentage of 66.66% in the poor category, and 10 students who got results $\leq 00.14.76$ with a percentage of 33.33% in the very poor category.

Based on the data above, it can be concluded that the box drill test results of futsal extracurricular students at state primary school 58 Lubuk Linggau are classified as "Poor".

Table 3. Post-test

	Interval	Frequency	Relative Frequency (%)
1.	$\leq 00.14.76$	0	0%
2.	$00.14.75-00.13.18$	0	0%
3.	$00.13.17-00.12.38$	0	0%
4.	$00.12.37-00.10.01$	30	100%
5.	$\geq 00.10.00$	0	0%
Total		30	100%

Based on the table above, it can be concluded that the distribution of box drill test results for futsal extracurricular students at state primary school 58 Lubuk Linggau has a distribution list that can be seen that the frequency is 0 students who got a result $\geq 00.10.00$ with a percentage of 0% in the very good category, 30 students who got the results $00.12.37-00.10.01$ with a percentage of 100% in the good category, 0 students who got the results $00.13.17-00.12.38$ with a percentage of 0% in the moderate category, 0 students who got results $00.14.75-00.13.38$ with a percentage of 0% in the poor category, and 0 students who got results $\leq 00.14.76$ with a percentage of 0% in the very poor category. Based on the data above, it can be concluded that the box drill test results of futsal extracurricular students at state primary school 58 Lubuk Linggau are classified as "Good".

The research results are significant if $t_{\text{count}} > t_{\text{table}}$ then H_a is accepted. After conducting calculations using the t-test, $t_{\text{count}} = 5.89$ and $t_{\text{table}} = 1.69$, so $t_{\text{count}} > t_{\text{table}}$ with a confidence level of 0.95 ($\alpha = 0.05$) with a sample size of ($N = 30$). This explains that there is a significant difference, meaning (H_a) which states "There is an influence of box drill exercises on agility ability in futsal

extracurricular activities at state primary school 58 Lubuk Linggau". The table presentation below represents pretest and post-test data which are statistically compared, as follows:

Table 4. Descriptive Statistical Data

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Experiment	30	13.58	1542.00	1128.81	585.89
Post-test Experiment	30	12.00	1235.00	926.26	472.36

Based on the above table, the following conclusions can be drawn descriptive statistics pretest score has a total of thirty students (n), a minimum score of 13.58, a maximum score of 1542.00, an average score of 1128.8160, and a standard deviation of 585.89. So, the post-test score has a number of students (n) of thirty, a minimum score of 12.00, a maximum score of 1235.00, an average score of 926.26, and a standard deviation of 472.36.

DISCUSSION

In conducting the agility test research at state primary school 58 Lubuk Linggau, the students were very enthusiastic about participating in the test stages provided by the researcher. The students really enjoy futsal extracurricular activities and there are many enthusiasts. To improve agility while playing futsal, students must train agility with various existing tests. The researcher chose a series of agility exercises using the box drill. Before conducting the box drill exercises, the researcher first performed a pretest and then a post-test. The pretest was conducted to determine the initial ability of the sample, and the post-test aimed to determine the final ability after the treatment given over 18 sessions (2 sessions for pretest and post-test) with a frequency of three times per week on Wednesdays, Thursdays, and Sundays, to see if there was any improvement in the samples given the treatment.

Box drill training is an agility training that involves movement. Each type of exercise has different goals and benefits (Pratami, 2023). One of the agility training methods recommended by the National Academy of Sports Medicine America. These exercises are intended to improve coordination, agility, and

speed by combining several types of movements into one exercise routine. The box drill consists of a square with sides 10 yards long (1 yard = 91.44 cm), so that each side of the square is approximately 9,144 meters long. Box drill training from four sides, the first side doing sprints, the second side moving sideways, the third side pedalling the legs backwards, participants doing backward movements from the starting point to the ending point on the third side, and the fourth side carioca (Pratami, 2023). It is essential to use proper and efficient training techniques to maximize an athlete's potential (Firmanda & Sugiarto, 2023).

There are several components included in agility, such as: Agility is very important in sports because it requires balance, strength, speed, and movement coordination (Veron et al., 2023). Agility is the ability to change the direction and position of the body quickly and accurately when changing positions also considering the potential for balance in the body (Narlan et al., 2020). Agility is needed in the game of futsal. Because agility really affects physical condition and gameplay. Considering the important role of dexterity for futsal players, students' dexterity needs to be further improved so that they can play optimally and provide the best technical abilities. Agility is one form skill movements that require high speed become explosive movements (Syafaruddin et al., 2021).

This research has shortcomings due to the lack of limitations on the authors, namely that this research is still unable to explain in detail the research process and methods used. This research has weaknesses due to the lack of limitations on the author, namely this research only uses a sample of 30, the small sample size causes the data obtained to be less representative and there is a lack of depth in data processing and comparison with theories that can strengthen the findings and research.

CONCLUSION

Based on the research results and data analysis, it can be concluded that there is an influence of box drill exercises on agility in futsal extracurricular activities at state primary school 58 Lubuk Linggau and the box drill exercises method is very effective in improving agility in futsal. Researchers

want to conduct further research to test theories from previous research results.

AUTHOR'S CONTRIBUTION

Dessy Ramadhanti: Writing - Review & editing. **Syamsuramel:** Methodology. **Ahmad Richard Victorian:** Software and Writing - Original Draft.

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