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INFLUENCE OF BASKETBALL SPECIFIC SKILL TRAINING ON SELECTED SKILL PERFORMANCE VARIABLES AMONG BASKETBALL PLAYERS

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ABSTRACT

This study aimed to investigate the influence of basketball specific skill training on selected skill performance variables among basketball players. The primary objective was to enhance players' skill development through a structured training program. A total of thirty (N = 30) male basketball players from Department of Physical Education, Bharathiar University and Dr. SNS College of Arts & Science Coimbatore District, Tamil Nadu, India, aged between 18 and 23 years, were randomly selected as subjects. They were equally divided into two groups: an experimental group and a control group, each comprising fifteen (n-15) players. The skill performance variables assessed were passing, shooting and dribbling, measured by using Johnson Basketball Test. The data collected were statistically analyzed by paired t test, which was used to find out the significant improvements on selected skill performance variables among selected basketball players. Findings revealed that twelve weeks of basketball specific skill training produced significant improvements in the experimental group compared to the control group. The results of the study indicated that the selected skill performance variables were improved due to the twelve weeks among basketball specific skill training.

KEYWORDS: Basketball players, basketball specific skill training, skill performance variables, passing, shooting and dribbling.

INTRODUCTION

Basketball is a dynamic and fast-paced sport that requires players to integrate multiple physical and technical abilities. Performance in basketball is strongly influenced by the mastery of fundamental skills such as dribbling, shooting, passing and defense which form the foundation for effective offensive and defensive play (**Conte** *et al*., **2023**). Among these, passing and shooting are considered essential, as they directly contribute to scoring opportunities and overall game success. For college athletes, who are at a crucial stage of skill acquisition and performance refinement, structured training interventions play a significant role in improving their technical proficiency. Basketball specific skill training is a targeted approach that emphasizes repeated practice of basketball-related tasks under controlled conditions, ensuring that improvements in technique translate into competitive performance. Recent studies have shown that focused skill-based interventions can significantly enhance both technical execution and decision-making under pressure (**Cao** *et al*., **2025**). Furthermore, when combined with appropriate training loads and progressive drills, skill training not only improves motor coordination but also develops the ability to perform consistently under fatigue, a key requirement in competitive basketball (**Farhani** *et al*., **2021**). Given the increasing competitiveness of college-level basketball, there is a growing need to explore effective training strategies that improve player's core skills. Therefore, this study investigates the influence of basketball specific skill training on selected variables passing, shooting and dribbling of basketball players. The findings are expected to provide valuable insights for coaches and educators in designing evidence-based training programs tailored for young athletes.

Research Methods

The purpose of this experimental study was to examine the influence of basketball specific skill training on selected skill performance variables among basketball players. A total of thirty (N = 30) male basketball players from Department of Physical Education, Bharathiar University and Dr. SNS College of Arts & Science Coimbatore District, Tamil Nadu, India, were randomly chosen as subjects. Subjects were assigned in two groups, with fifteen (n = 15) players in each group. The control group continued with their routine regular activity program, whereas the experimental group underwent a structured basketball specific skill training intervention.

Training Sessions:

The basketball-specific skill practice sessions were conducted one and half hours, three alternative days per week, morning session for a period of twelve weeks. Each session lasted 90 minutes and included a 15-minute warm-up, 60 minutes of basketball-specific skill training and a 15-minute cool-down. To ensure overload progression, the training intensity was gradually increased each week, with an altering the difficulty of exercise and skill training.

Sequence of Training:

Each training session commenced with a 15-minute warm-up and orientation, followed by 60 min specific basketball training and concluded with lead-up activities and a 15-minute cool-down. The training programme was systematically organized into three progressive phases to ensure gradual skill development and performance enhancement. During Phase I (Weeks 1–4), the focus was on developing fundamental basketball skills through a structured sequence of basic drills. The exercises were designed to enhance coordination, control and technical proficiency. The experimental group performed three sets of 10 repetitions for each exercise during this phase. In Phase II (Weeks 5–8), the training intensity and complexity were progressively increased by incorporating advanced drills alongside the fundamental exercises from Phase I. These drills emphasized game-like situations and improved skill execution under dynamic conditions. The number of sets was maintained at two, while the repetitions were increased to 12 to enhance the training load and endurance. Finally, in Phase III (Weeks 9–12), the training focused on advanced skill execution and performance optimization. High-intensity, sport-specific drills were employed to refine technical efficiency and decision-making abilities in competitive scenarios. During this phase, the training volume was further increased, with four sets of 12 repetitions performed for each exercise.

Testing Procedure

The pre and post testing measurements were conducted on before and after training. The selected variables passing, shooting and dribbling was measured by Johnson Basketball Test.

Data Collection

The subjects, divided into two equal groups are control group and an experimental group. Pre-tests was conducted prior to the intervention and the scores were recorded as baseline measurements. Following the completion of the twelve-week intervention, post-tests were administered to both groups to measure changes in the selected skill performance variables

among basketball players. The collected data were subsequently subjected to statistical analysis to determine the influence of the basketball specific skill training on selected skill variables passing, shooting and dribbling among basketball players.

Statistical Technique

Statistical analysis of the data was performed for each group using the mean, mean difference and standard mean error. Paired t test was used to compare the pre-post test training values of both groups. The P≤0.05, criteria was used for establishing significances P value of lesser than 0.05 was accepted as indicating significant difference between the compared values. The derived results are discussed as follows Table I.

Table 1: Statistical analysis of pre-test and post test scores and means on selected skill performance variables of the control and experimental groups.

Group	Variables	Pre Test Mean	Post Test Mean	MD	SME	t
Experimental Group	Passing	18.26	20.20	1.93	0.45	**4.27***
	Shooting	10.40	12.06	1.66	0.41	**4.06***
	Dribbling	8.94	10.57	1.63	0.48	**3.96***
Control Group	Passing	18.33	17.20	1.13	0.59	1.91
	Shooting	10.06	10.93	0.86	0.56	1.52
	Dribbling	8.57	9.39	0.82	0.55	1.24

Significance level at 0.05, with df 1 and 14 required table value is 2.14.

Table 1 presents the statistical analysis of pre-test and post-test mean scores on selected skill performance variables such as passing, shooting and dribbling revealed notable differences between the experimental and control groups. In the experimental group, significant improvements were observed in all three variables. The calculated *t*-values for passing (4.27), shooting (4.06) and dribbling (3.96) were higher than the required table value of 2.14 at the 0.05 level of significance (df = 14). This indicates that the improvements in skill performance were statistically significant. The mean differences also show substantial gains, suggesting that the training intervention had a positive effect on the development of basketball skills. In contrast, the control group did not show significant improvement in any of the selected variables. The obtained *t*-values for passing (1.91), shooting (1.52) and dribbling (1.24) were all lower than the required table value of 2.14. Although slight improvements in mean scores were observed, these changes were not statistically significant and may be attributed to random variation rather than any systematic training effect. Based on these findings, it can be concluded that the experimental training programme was effective in significantly improving

the selected skill performance variables among basketball players, whereas the control group showed no meaningful progress.

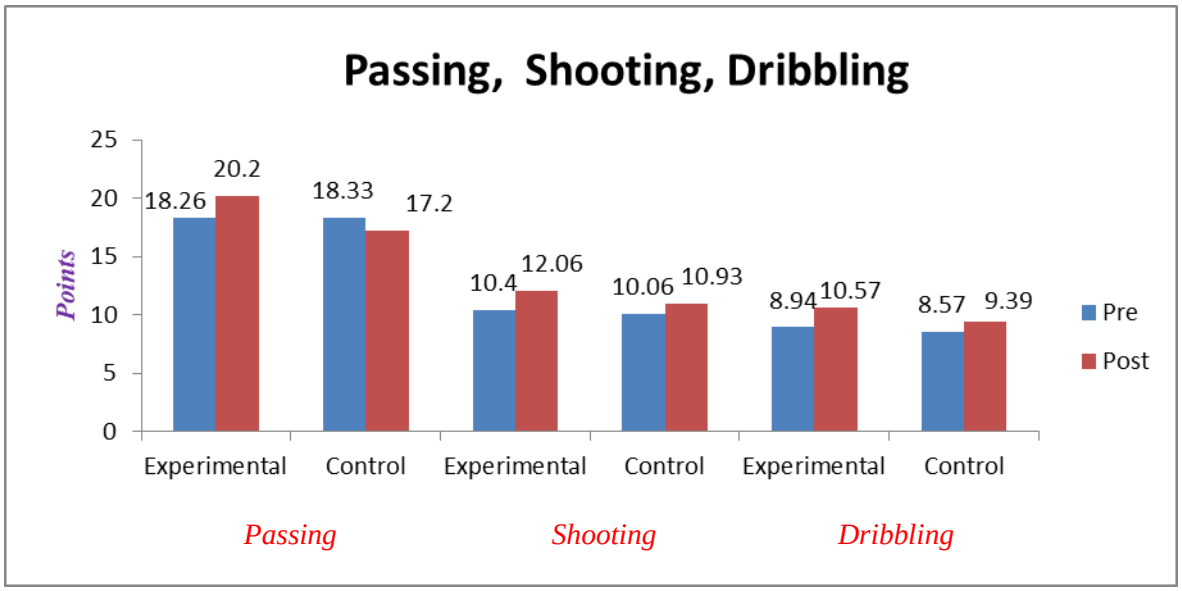

Figure: The bar diagram shows the mean pre- and post-test values of skill variables passing, shooting and dribbling for the experimental and control groups.

DISCUSSION ON FINDING

The present study revealed that twelve weeks of basketball-specific skill training significantly improved passing, shooting and dribbling performance among basketball players. These findings are consistent with earlier studies indicating that targeted skill-based interventions enhance technical proficiency and efficiency in basketball-related tasks (**Al-Samarrai & Hussein, 2023**; **Milić & Aleksić**, **2021**). Passing, shooting and dribbling are fundamental skills that directly influence offensive performance and their improvement enables players to execute game strategies more effectively under dynamic conditions. The enhancement in these selected skill performance variables can be explained through their close association with physiological and neuromuscular factors such as motor coordination, reaction time, muscular strength, speed and proprioceptive control. Effective performance in basketball requires the integration of the central nervous system and the musculoskeletal system to ensure precise timing, force regulation and movement accuracy. **Schmidt and Lee** (**2011**) stated that improvements in motor skill performance are primarily due to better motor program organization and sensory feedback mechanisms rather than structural physiological changes. The adaptive changes observed in the experimental group may also be attributed to improved intentional resource allocation and faster stimulus discrimination. Repeated

practice enables players to focus on relevant game stimuli, such as ball trajectory and opponent movement, thereby enhancing decision-making and execution speed. **Magill (2014)** emphasized that with continued practice, skills become more automatic, reducing cognitive load and improving performance efficiency. Furthermore, improvements in performance can be linked to neuromuscular adaptations. Neuromuscular activity is controlled through motor unit recruitment, firing frequency and synchronization. Skill-specific training enhances these mechanisms, resulting in better coordination and movement efficiency. **Enoka (2008)** reported that early training adaptations are largely neural in nature, involving improved motor unit activation rather than muscular hypertrophy. The repeated execution of basketball-specific drills enhances proprioceptive feedback and intermuscular coordination, leading to smoother and more economical movements. **Zatsiorsky and Kraemer (2006)** noted that such training improves the efficiency of neuromuscular pathways, including timing and sequencing of movements. Similarly, **Schmidt and Wrisberg (2008)** highlighted that practice strengthens perception-action coupling, enabling faster and more accurate responses during gameplay. The significant improvements observed in the experimental group can also be attributed to the structured and progressive nature of the training programme, which emphasized repetition, correct technique, and game-like situations. Recent studies support that even short-duration, focused skill training can produce measurable improvements in performance (**Cao** *et al*., **2025**; **Hassan**, **2025**). In contrast, the control group did not show significant improvements, indicating that general training alone may not be sufficient to enhance specific skill performance (**Farhani** *et al*., **2021**). Overall, the findings of the study highlight the effectiveness of basketball-specific skill training in improving passing and shooting performance. The results emphasize the importance of incorporating structured, skill-focused training into regular practice sessions. Such an approach not only enhances technical abilities but also contributes to improved decision-making, coordination and overall game performance. These findings provide practical implications for coaches and physical educators in designing evidence-based and time-efficient training programmes for basketball players.

CONCLUSION

The findings of the study indicate that basketball specific skill training has a significant positive effect on passing, shooting and dribbling variables of basketball players. The experimental group, which participated in a structured basketball specific skill training program, demonstrated notable improvements compared to the control group, emphasizing the effectiveness of targeted and repetitive practice in enhancing technical proficiency. These

results highlight the importance of integrating skill-focused interventions into regular basketball training to develop both precision and consistency under game-like conditions.

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