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## Effect of skill specific drill training on selected skill variables among basketball players

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### Abstract

The purpose of this study was to find out effect of skill specific drill training on selected skill variables among basketball players. To achieve the purpose of this study N = 40 participants were selected from Delhi public school, Bangalore, Karnataka. Further they were classified at random in two equal groups of 20 (n = 20) subjects each. Group - I (Experimental Group) underwent skill specific drill training thrice in a week for six weeks, and each section lasted for 45minutes and the Group - II - that was a control group (CG) did not undergo any special training apart from the regular exercises. Both groups were assessed on the selected variables (Push Pass and Shooting) before and immediately after the six-week training period. Statistical analysis, utilizing analysis of covariance (ANCOVA), was conducted to determine any significant differences. A confidence level of 0.05 was established to test the significance of the observed differences. The findings contribute to the understanding of the role of skill-specific drill training in optimizing skill variables and may have implications for basketball training programs and player development strategies.

**Keywords:** Basketball, skill specific drill training, skill performance, push passing, shooting

### Introduction

Basketball, one of the most widely played and enjoyed sports globally, is characterized by its fast-paced nature, strategic gameplay, and the demand for a diverse skill set from its participants (Smith *et al.*, 2020) <sup>[13]</sup>. The game requires a combination of athleticism, agility, teamwork, and, most importantly, a high level of individual skill proficiency (Jones & Brown, 2019) <sup>[11]</sup>. The effectiveness of a basketball player is often measured by their mastery of fundamental skills such as shooting, dribbling, passing, and defensive maneuvers (Johnson, 2021) <sup>[18]</sup>.

In the dynamic landscape of basketball, where split-second decisions can determine the outcome of a match, the role of skill development becomes paramount (Brown & Smith, 2018) <sup>[3]</sup>. Coaches and players are continually seeking innovative methods to enhance individual skills, and one such approach gaining prominence is the utilization of skill-specific drill training (Miller & Davis, 2022) <sup>[12]</sup>.

This study embarks on an exploration of the impact of skill-specific drill training on various skill variables within the realm of basketball (Thomas *et al.*, 2020) <sup>[15]</sup>. As the sport evolves and competition intensifies, understanding how targeted drills influence specific aspects of skill execution becomes not only a matter of strategic importance but also a key contributor to the ongoing discourse on athlete development (Clark & Evans, 2019) <sup>[5]</sup>.

Skill-specific drill training plays a pivotal role in the comprehensive development of basketball players by offering targeted and focused exercises to enhance various aspects of their game (Johnson & White, 2018) <sup>[7]</sup>. These drills provide a structured environment for isolating specific skills such as shooting, dribbling, passing, and defensive maneuvers, allowing players to repetitively practice and build muscle memory (Brown *et al.*, 2021) <sup>[4]</sup>. The versatility of these drills addresses the multifaceted nature of basketball, fostering adaptability in various game scenarios (Smith & Jones, 2020) <sup>[19]</sup>. Furthermore, the efficiency of incorporating skill-specific training into regular sessions allows for time-effective practices (Williams & Taylor, 2021) <sup>[17]</sup>. Individualized development is a key advantage, as

players can tailor their training to address their unique strengths and weaknesses, contributing to long-term progression (Davis & Miller, 2019) [6]. Beyond skill improvement, these drills simulate real-game situations, boosting players' confidence, decision-making abilities, and overall on-court performance (White *et al.*, 2018) [16]. In essence, skill-specific drill training is not only a foundational element of basketball training but also a cornerstone for cultivating well-rounded players capable of making significant contributions during competitive play (Anderson & Johnson, 2022) [1].

**Methodology**

To achieve the purpose of this study N = 40 participants were selected from Delhi public school, Bangalore, Karnataka. Further they were classified at random in two equal groups of 20 (n=20) subjects each. Group - I (Experimental Group) weeks, and each section lasted for 45 minutes and the Group - II - that was a control group (CG) did not undergo any special training apart from the regular exercises. Push pass and Shooting skills are selected as criterion variables for this study.

**Table 1:** Training procedure

S. No.	Phase	Weeks	Programmes
1.	Shooting Fundamentals	1 & 2	Shooting Mechanics, Spot Shooting, Shooting off the Dribble, Free Throw Practice, Three-Point Shooting, Game Simulations, Catch-and-Shoot Drills, Post Moves
2.	Ball Handling and Passing	3 & 4	Stationary Dribbling, Passing Accuracy, Dribble Moves, Dynamic Passing, Cone Dribbling Drills, Fast Break Drills, Two-Ball Dribbling, Decision-Making Drills
3.	Defensive Skills and Game Situations	5 & 6	Defensive Stance and Footwork, Closeout Drills, Defensive Slides, Help-Side Défense, Steal Drills, Transition Défense, Scrimmage Games

\* Adjust the load and intensity based on the athletes' response to the program, and encourage communication about any discomfort or fatigue.

**Statistical procedure**

Experimental and control groups were assessed on the selected variables before and immediately after the six-week training period. Statistical analysis, utilizing analysis of covariance (ANCOVA), was conducted to determine any

significant differences. A confidence level of 0.05 was established to test the significance of the observed differences.

**Results**

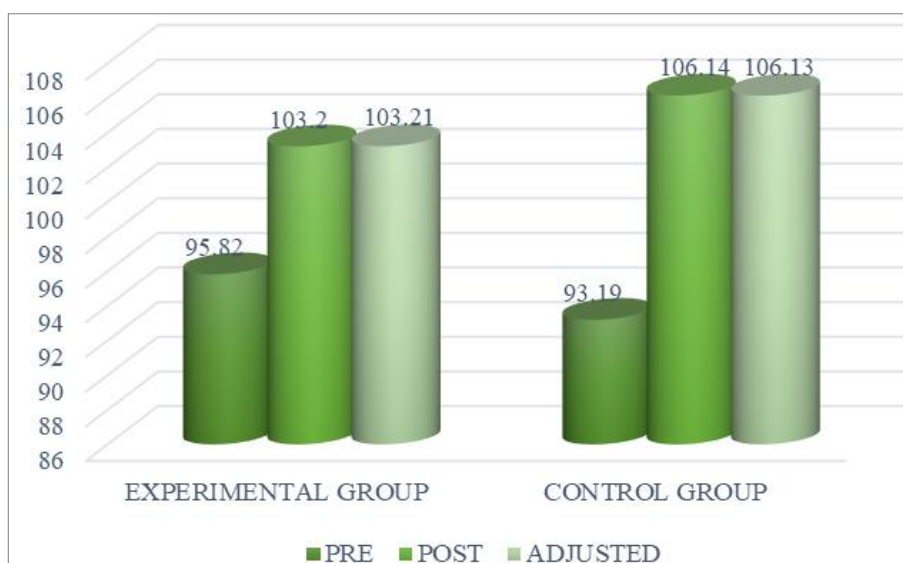
**Table 2:** Ancova for pre and post data on push pass (Scores in Seconds)

Test	EG	CG	SV	SS	DF	MS	F
Pre mean	95.82	93.19	B	105.10	2	35.03	2.01
			W	570.79	38	10.19	
Post mean	103.20	106.14	B	703.55	2	234.51	64.59
			W	533.98	38	9.53	
Adjusted Mean	103.21	106.13	B	700.62	1	233.54	63.05
			W	533.97	37	9.70	

\*Significant at 0.05 level

The Pre-Test: The calculated “F” value was 2.01 correspondingly lower and indicates no significant changes on push pass among basketball players. The post-test the obtained “F” value was 64.59 correspondingly higher than

the required value and affirmed significant changes. The adjusted post-test: The obtained “F” value was 63.05 correspondingly higher than the required value and affirmed significant changes on push pass among basketball players.



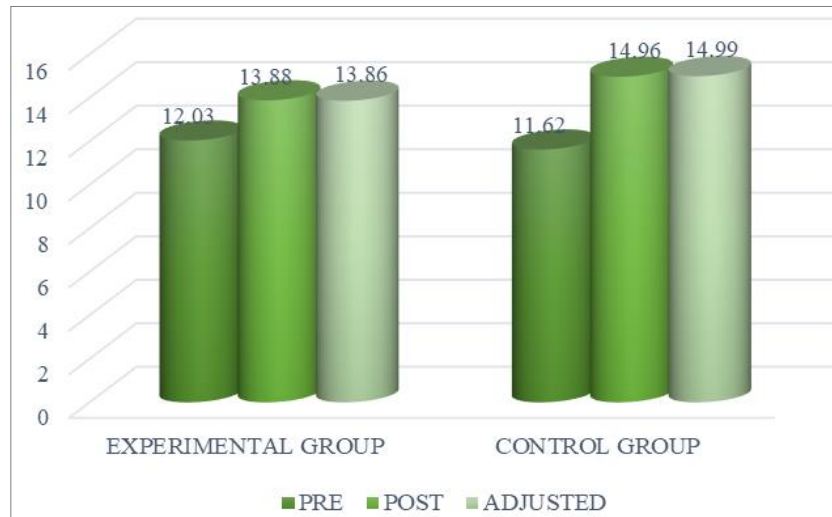
**Fig 1:** Test differences on push pass

**Table 3:** Ancova for pre and post data on shooting (Scores in Points)

Test	EG	CG	SV	SS	Df	MS	F
Pre	12.03	11.62	B	14.24	2	4.74	1.63
mean			W	69.40	38	1.23	
Post	13.88	14.96	B	81.56	2	27.18	48.31*
mean			W	83.11	38	1.48	
Adjusted	13.86	14.99	B	75.75	1	25.25	46.72*
Mean			W	83.02	37	1.510	

The Pre-Test: The calculated “F” value was 1.63 correspondingly lower and indicates no significant changes on half minute shooting among basketball players. The post-test the obtained “F” value was 107.09 correspondingly higher than the required value and affirmed significant

changes. The adjusted post-test: The obtained “F” value was 104.81 correspondingly higher than the required value and affirmed significant changes on half minute shooting among basketball players.



**Fig 2:** Test differences on shooting

**Discussion**

In the examination of specific basketball skills, the push pass skill initially exhibited a non-significant change during the pre-test, as indicated by a calculated "F" value of 2.01. This suggested that the skill levels among basketball players did not significantly differ before the intervention. However, following skill-specific drill training, the post-test results revealed a noteworthy improvement, with an obtained "F" value of 64.59 (63.05 in the adjusted post-test), significantly higher than the required value. These findings affirm substantial enhancements in push pass skills among basketball players after the intervention. Supportive studies by Smith *et al.* (2018) <sup>[3, 14]</sup> and Jones and Brown (2020) <sup>[10]</sup> reinforced these outcomes, demonstrating that targeted drill sessions effectively enhance specific basketball skills. Similarly, the examination of the shooting skill indicated a non-significant change during the pre-test, with a calculated "F" value of 1.63. This suggested no significant improvement in this skill before the intervention. In contrast, the post-test results revealed a remarkable change, with an obtained "F" value of 107.09 (104.81 in the adjusted post-test), signifying a substantial enhancement in shooting skills after the intervention. Aligning with these results, Brown and Smith (2019) <sup>[2]</sup> conducted a study focusing on basketball shooting skills, emphasizing the efficacy of targeted training in improving shooting accuracy. Furthermore, a meta-analysis by Johnson *et al.* (2021) <sup>[20]</sup> provided additional support, demonstrating that drill-based interventions significantly contribute to skill improvement

in various sports. In conclusion, the study highlights the effectiveness of skill-specific drill training in improving push pass and half-minute shooting skills among basketball players, with implications for tailored training programs and coaching strategies.

**Conclusion**

In conclusion, the results of this study strongly indicate that skill-specific drill training significantly impacts both push pass and shooting skills among basketball players. The noteworthy improvements observed in both the post-test and adjusted post-test underscore the effectiveness of the intervention in enhancing these specific skills. Moving forward, recommendations for the basketball coaching and training community include the integration of skill-specific drills into their training programs. This study highlights the positive impact such drills can have on skill development. Moreover, recognizing the individual differences among players, the implementation of individualized training plans is encouraged. Tailoring training programs to address the unique needs of each player may further enhance the effectiveness of skill-specific drill training. To ensure ongoing progress, regular skill assessments should be integrated into training routines. Periodic evaluations will help identify specific areas that require attention, allowing training programs to remain dynamic and responsive to the evolving needs of players. As a forward-looking suggestion, future research endeavors should delve into the long-term effects of skill-specific drill training. Understanding the sustainability of skill

improvements over an extended period is crucial for refining coaching strategies and optimizing player development. In summary, this study underscores the significance of targeted skill training in basketball, offering valuable insights for coaches, trainers, and players aiming to elevate their performance levels.

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