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The impact of competitive drills on the development of the hand-off and screen offense skill and jump shooting from inside the arc for basketball players under 18 years old

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Abstract
The significance of this research lies in the development of exercises that emulate game scenarios, with the objective of enhancing the proficiency of (handoff + screen offense) and the jump shot (jump shoot 2 point) for players under the age of 18. These exercises are derived from actual situations that occur in matches, with each situation having a specific objective that is achieved through the provision of sufficient time and repetition. This objective is pursued by means of training units. The research problem is represented by the weakness among players in various skills, including complex skills that may not receive adequate time during training sessions. Moreover, there remains a reliance on conventional training programs that do not allocate sufficient time for competitive exercises. Moreover, disregarding this approach has a deleterious effect on players, as this type of skill is performed in challenging situations with a close defender. The objective of the present study is to ascertain the impact of competitive exercises on the development of the (handoff + screen offense) skill and the jump shot. The researcher employed an experimental method with two equivalent groups (experimental and control) with pre-test and post-test assessments, as this approach is suitable for the nature of the research. The research sample consisted of 12 players from Al-Rawdhatain Sports Club who participated in the activities of the Iraqi Basketball Federation during the 2024-2025 sports season. The participants were randomly divided into two groups, with six players in each group. The preliminary assessments for the research sample were administered on Saturday, September 28, 2024, at 3:00 PM in the Indian Hall for Sports Games, located in Karbala Governorate. The implementation of the competition-based exercises, which were prepared by the researcher, commenced on Wednesday, October 2, 2024, as part of the primary component of the training unit. The exercises were completed on Sunday, November 10, 2024. The training program spanned a duration of six weeks, with three training units being delivered per week. Furthermore, the researcher employed suitable statistical methodologies to examine the data derived from the pre- and post-tests, yielding the ensuing conclusions: The present study examined the efficacy of a series of competitive exercises in enhancing the skills of handoff and screen offense, in addition to the proficiency of shooting from a jump shot within the designated area.

Keywords: Competition drills, the skill of (handoff + screen offense), shooting from a jump inside the arc.

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1- Definition of the Research

1-1 Introduction

Basketball is regarded as one of the most popular and well-followed team sports on a global scale. In a number of countries, it has become the most widespread sport. This is due to its unique combination of technical performance and fast-paced rhythm, as well as the interchange of roles between the two teams in both offensive and defensive aspects.

Therefore, mastering all defensive and offensive skills by players has become the primary concern for those involved in this sport. It is widely accepted that improving players' training levels, whether physically, skillfully, or strategically, cannot be achieved without mastering the technical performance of all the fundamental skills of the game.

The process of mastering these skills enables players to fulfill all the responsibilities required by the coach on the court. Consequently, most teams and national squads have turned to training using situations and exercises that resemble game scenarios. Most of these exercises consist of a combination of various skills, such as passing, receiving, transitioning to screening, receiving the ball, dribbling, and shooting.

This approach was adopted in the preparation stage of the exercises for this research, which encompass a synthesis of handoff and screen offense skills, in conjunction with the jump shot (2-point shot) technique. The objective of this skill is twofold: first, to create space for the player after receiving the ball from a teammate, and second, to identify the optimal moment for a successful shot from within the designated area. These exercises and situations, which are analogous to game scenarios, in conjunction with repetitive training of compound skills, contribute to the development and enhancement of players' technical and physical performance. Furthermore, these techniques have been shown to enhance the efficacy of various shooting techniques, including jump shots from within the designated area. The implementation of targeted shooting angles and the employment of a progressive shooting method have been demonstrated to enhance the velocity and precision of the shot. Concurrently, an enhancement in the elements of accuracy and concentration among players results in attaining a phase of precise coordination, thereby elevating the success rates in shooting.

Therefore, the importance of this type of exercise lies in its significant role in elevating players' skill levels. This objective is realized through the continuous training process, whether conducted individually or collectively. Therefore, the significance of these exercises cannot be overstated, as they are indispensable to contemporary offensive team play, which relies heavily on them in the offensive build-up and the movements of players on the court.

Attaining the highest levels of proficiency in this sport necessitates the implementation of contemporary training methodologies that encompass all the requisite skill and physical demands of the sport. Concurrently, the playing style is regarded as a training method that is both efficacious and conducive to the development of these skills. This is due to the fact that it emphasizes specificity in the execution of diverse skills and movements, akin to those observed in gameplay and competitive settings on the field. Additionally, it involves training players to enhance their performance in matches.

The significance of this research lies in the preparation of exercises that emulate game situations, with the objective of developing the skill of (handoff + screen offense) and the skill of shooting from a jump (jump shoot 2 point) for players under 18 years of age. These exercises are meticulously designed to mirror the scenarios that arise during actual matches. Each of

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these training scenarios has a specific objective that is aimed to be accomplished by allocating sufficient time and repetitions during training sessions.

1-2 Research Problem:

Basketball today heavily relies on statistics and percentages for all measurable skills during games. This includes shooting skills of various types, which help determine the percentages for each player. Additionally, it provides insights into the overall team statistics, allowing for an assessment of players and the team from all aspects.

As the researcher is a basketball player and an avid follower of the sport, after reviewing the statistical forms of some clubs, it was observed that players exhibit weaknesses in various skills, including compound skills (handoff + screen offense). Moreover, there is a lack of sufficient practice time for jumping shots from within the area, which may not receive adequate focus during training sessions, or there is still reliance on traditional training programs that do not allocate enough time for competitive exercises. This neglect adversely affects players, as these types of skills are executed in challenging situations with close defenders. Consequently, this impacts the success rate of shooting, which in turn affects the outcome of the game.

Therefore, the researcher decided to undertake this study by developing competitive-style exercises that incorporate multiple skills and training scenarios that simulate game situations. This approach occurs in a competitive nature to ensure that players do not feel bored during training sessions.

1-3 Objectives

The research aims to:

1. Develop competitive exercises to enhance the skills of handoff and screen offense, as well as jumping shots from within the arc for basketball players under 18 years old.
2. Identify the impact of competitive exercises on the development of handoff and screen offense skills, as well as jumping shots from within the arc for basketball players under 18 years old.

1-4 Hypotheses

- Competitive exercises have an effect on the development of handoff and screen offense skills, as well as jumping shots from within the arc for basketball players under 18 years old.

1-5 Scopes

1-5-1 Human Scope: "Players of Al-Rawdhatain Sports Club under 18 years old participating in the activities of the Iraqi Central Basketball Federation for the sports season 2024-2025."

1-5-2 Temporal Scope: From (September 10, 2024) to (December 26, 2024)

1-5-3 Spatial Scope: Al-Hindiya Indoor Sports Hall / Karbala Governorate.

2- Methodology and Field Procedures

2-1 Method

An experimental method with a two-group design (experimental and control) and pre- and post-tests has been employed, which is suitable for the nature of the problem.

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Table (1). Illustrate the experimental design of the research sample.

Groups	Pre-test	Experimental treatment	Post-test
Experimental group	Skill of (handoff + screen offense) + jump shot (2 points)	Competition drills were prepared by the researcher.	Skill of (handoff + screen offense) + jump shot (2 points)
Control group	Skill of (handoff + screen offense) + jump shot (2 points)	Drills prepared by the coach.	Skill of (handoff + screen offense) + jump shot (2 points)

2-2 Research Community and Sample

The community involved players are affiliated with Al-Rawdatain Sports Club, with a total of 12 players. Participants were randomly assigned to either the experimental or control group, with a total of six players in each group.

2-3 Tools, Instruments, and Devices Used in the Research

2-3-1 Data Collection Methods

The researcher utilized the following methods to collect data:

1- Observation.
2- Statistical forms.
3- Interviews.
4- Testing and measurement.
5- Arabic and foreign references and sources.
6- The Internet.

2-3-2 Equipment Used in the Research

The researcher utilized various tools that assisted in obtaining the required data, including:

1- One electronic calculator (laptop) of type (Lenovo).
2- One handheld calculator of type (Casio).
3- Two electronic stopwatches of type (Diamond).
4- Fifteen plastic markers of different heights.
5- Ten official basketballs of type (Molten).
6- Two whistles of type (Dolphin).
7- Five pens in different colors.
8- One measuring tape of length (7) m.
9- Adhesive tape in different colors.

2-4 Field Research Procedures

After reviewing numerous scientific sources and previous studies, the researcher identified the tests and presented them to the esteemed experts in the field of (sports training - basketball), and obtained their unanimous approval.

2-4-1 Performance Endurance Test of the Hand Off Skill with Offensive Screening *(Nasser, 2021)*

- **The objective of the test**: To measure the performance endurance of the Hand Off skill with offensive screening.

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- **Equipment and Tools**: Basketball court, 2 official basketballs, adhesive tape, 5 markers, whistle, and stopwatch.
- **Performance Description**: Player number 2, positioned at the three-point line, executes the V-Cut maneuver while facing defensive pressure. Subsequently, he receives the ball from teammate number 3, who is stationed at the three-point line. This player number 3 executes the Hand-Off skill, subsequently taking a shot at the basket. The performance is sustained at the same basket as illustrated in Figure 1.
- **Scoring Method**
  - If the skill is performed correctly with offensive screening and creates an easy shooting opportunity (ending in a successful score), the tester is awarded two points.
  - If the skill is performed correctly with offensive screening and creates an easy shooting opportunity (ending in a failed attempt), the tester is awarded one point.
  - If the defender successfully gets past the offensive screen and prevents the shooter from scoring, the tester is awarded zero points.
  - If time expires before completing the attempt, one point is awarded for the skill that was performed.

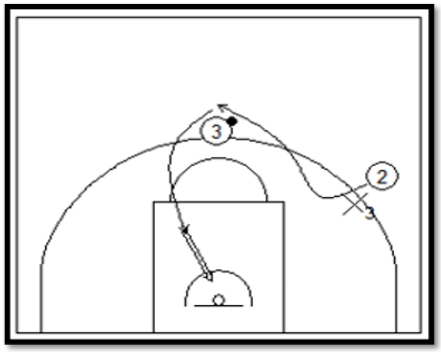

Figure (1). The performance endurance test of the Hand Off skill with offensive reservation.

2-4-2 Jump Shot Test from Different Locations within the Arc (2 Points) *(Ahmed & Jaro, 2020)***.**

- Test Name: Jump Shot Test from Different Locations within the Arc (2 Points).
- **Purpose of the Test**: To measure the speed and accuracy of jump shots taken from different locations within the arc.
- Tools and Equipment: Basketball court, 7 official basketballs, adhesive tape, and markers to designate shooting spots on the ground, measuring tape to measure distances.
- **Procedures**: Refer to Figure 2.
  - Identify a central point under the basket to mark the main scoring points.
  - From the central point, designate 7 points as follows:
    - From the central point, draw three points (1, 4, 5) at a distance of 5 meters.
    - From the central point, draw points (2, 3, 6, 7) at a distance of 5 meters.
- **Performance Description**: The player starts from point (1) to take a jump shot (one repetition), then moves to point (2), and continues to the next area without stopping.

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- Test Instructions

- The player is given 7 repetitions from the 7 designated spots, with one repetition at each point.
- The time is recorded from the moment the player receives the ball for the first shot until the moment the ball leaves the player's hands for the last shot.

- Test Management

- **Recorder**: Calls out the names first and records the jump shot results second, with another recorder for the time.
- **Team**: Prepares the basketballs in their designated areas (closest and farthest from the basket).

-Scoring Calculation:

- Two (2) points are awarded for any field goal made from within the arc, and zero (0) points are awarded if the ball only touches the board or does not enter the basket.
- The total score for the points counted is fourteen (14) points.
- The number of points scored is divided by the time taken to obtain the final score for the test according to the law (fit-1945) as cited by (Abdul Hussein and Muteb, 2013, p. 121).

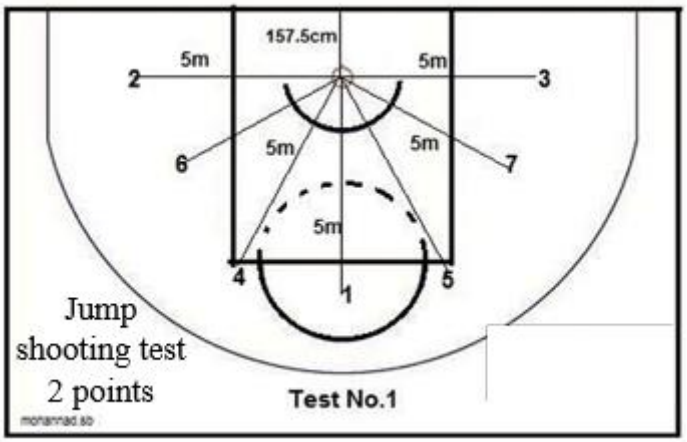

Figure (2). The jump shooting test from various locations within the arc (2 points).

2-5 Pilot Study

Before conducting the main experiment, it was necessary to carry out a pilot study on a small sample from the research population consisting of four (4) players. This was conducted on Thursday, September 12, 2024, at 3:00 PM in the Indian closed sports hall. The purpose was to understand the scientific foundations of the tests, evaluate the research tools, assess the time required to conduct the tests, and evaluate the competence of the supporting team, as well as to practice competition exercises and how to apply them in training units.

2-6 Main Experiment

2-6-1 Pre-tests

The researcher conducted the pre-tests for the research sample on Saturday, September 28, 2024, at 3:00 PM in the Indian sports hall in the holy city of Karbala, with a sample size of twelve (12) players divided into two groups: the experimental group and the control group, with six (6) players in each group.

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2-6-2 Competitive Exercises

The implementation of the competitive exercises prepared by the researcher began on Wednesday, October 2, 2024, and was conducted as part of the main section of the training unit, concluding on Sunday, November 10, 2024, at the Indian Sports Hall in Karbala Governorate, as follows:

- The duration of the exercises using the play method lasted for (6) weeks.
- The number of training units per week reached (3) units, represented by the days (Wednesday, Friday, Sunday).
- The total number of exercise units was (18) training units.
- The execution time for the exercises ranged between 30 and 35 minutes in the main section of the training unit.
- The researcher used the play method (competitive style) in performing the exercises with a training intensity reaching 90%-100%.
- The number of exercises for the experimental group was (3-4) exercises in each training unit and in part of the main section.
- All of the researcher's training was during the special preparation period and the semi-competitive period.

2-6-3 Post-Tests

After completing the competitive exercises, the researcher began conducting the post-tests on Sunday, November 17, 2024, at 3:00 PM at the Indian Sports Hall in Karbala Governorate, taking into account the same conditions and circumstances under which the pre-tests were conducted.

2-7 Statistical Methods

The researcher used the following statistical methods:

1. Percentage.
2. Arithmetic mean.
3. Standard deviation.
4. T-TEST.

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3-Presentation, Analysis, and Discussion of Results

3-1 Presentation of the results of the (handoff + screen offense) skill tests and jump shot from inside the area (2 points) for the experimental group:

Table 2 shows the obtained results.

Table (2). The values of the means, standard deviations, and the calculated (t) value for the research variables (handoff skill and jump shot skill from inside the arc) for the pre-test and post-test of the experimental group

Research Variables	Unit of Measurement	Pre-test	Post-test	Calculated t	Significance
Test of handoff + screen offense skill	Score	5.66 (±1.36)	9.16 (±1.64)	5.21	p = 0.003 (Significant)
Test of jump shot skill	Score	0.14 (±0.072)	0.25 (±0.075)	7.34	p = 0.00 (Significant)

Significance level = (0.05) with degree of freedom 5.

An examination of Table 2 reveals the means and standard deviations for the research variables (i.e., handoff skill, screen offense skill, and jump shooting skill from inside the arc) for both the pre-tests and post-tests of the experimental group. The table also presents the calculated (t) value for these variables. This analysis indicates significant differences between the pre-test and post-test results, suggesting that the post-test values are higher than the pre-test values.

The researcher ascribes this development to multiple factors, including the quality of the exercises utilized, as well as the manner in which they were implemented through the training method employed with regard to intensity, volume, and density. The development of the handoff skill and jump shooting from within the area was influenced by these factors. Furthermore, the consistent attendance of players at training sessions was found to be a crucial factor.

The implementation of competitive exercises has been demonstrated to exert a substantial and efficacious influence on the cultivation of these two competencies. Competitive play exercises have been shown to develop technical, physical, and psychological aspects in a simultaneous manner. These exercises integrate these aspects into a cohesive performance, while also maintaining and enhancing the relationship between training components.

Furthermore, the competitive element incorporated into these exercises has been shown to enhance the training condition by reducing the training pressures that arise from increased training intensity. The presence of a competitive environment has been shown to elicit heightened levels of determination and will among players, thereby facilitating more expeditious recovery from fatigue in comparison to alternative training methodologies. Competitive exercises have been demonstrated to facilitate the integration of the various components of a training program, thereby accelerating the adaptation of the athlete's technical, physical, and psychological aspects (Nasif, 1987).

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3-2 Presentation of Results for the Handoff + Screen Offense Skills Test and Jump Shooting from Inside the Area (2 Points) for the Control Group.

Table 3 shows the obtained results.

Table (3). The means, standard deviations, and the calculated t-value for the research variables (handoff skill and jump shooting from inside the arc) for the pre-test and post-test of the control group.

Skill Performance	Unit of Measurement	Pre-test	Post-test	Calculated t	Significance
Test of handoff + screen offense skill	Score	4.16 (±1.94)	8 (±1.41)	4.6	p = 0.004 (Significant)
Test of jump shot skill	Score	0.12 (±0.04)	0.18 (±0.03)	6.15	p = 0.001 (Significant)

Significance level = (0.05) with degrees of freedom 5.

By reviewing Table (3), which presents the means, standard deviations, and the calculated t-value for the research variables (handoff + screen offense skill and jump shooting from inside the arc) for the pre-test and post-test of the control group, we find that there are differences between the pre-test and post-test in favor of the post-test, indicating the significance of the differences. The researcher attributes this development to the training program implemented by the coach, as well as the players' commitment and regular attendance in training sessions.

3-3 Presentation of the results of the tests for the skill of (handoff + screen offense) and jump shooting from within the area (2 points) for the experimental and control groups:

Table 4 shows the obtained results.

Table (4). The values of the means, standard deviations, and the calculated (t) value for the research variables (handoff skill and jump shooting skill from within the arc) for the post-tests of the experimental and control groups

Research Variables	Unit of Measurement	Experimental Group	Control Group	Calculated t	Significance
Test of handoff + screen offense skill	Score	9.16 (±1.94)	8 (±1.41)	5.12	p = 0.000 (Significant)
Test of jump shot skill	Score	0.25 (±0.075)	0.18 (±0.03)	2.68	p = 0.000 (Significant)

Significance level = 0.05 with degrees of freedom 10.

Upon reviewing Table (4), which illustrates the values of the means, standard deviations, and the calculated (t) value for the research variables (handoff + screen offense skill and jump shooting skill from within the arc) for the post-tests of the experimental and control groups, we

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find that there are significant differences between the two groups in favor of the experimental group.

3-4 Discussion of Results

An examination of Table above (4) reveals the statistical significance of the observed variations in the post-test outcomes for the study's independent variables, namely handoff skill, screen offense, and jump shot skill from inside the arc. This analysis was conducted on both the experimental and control groups. This data demonstrates a clear preference for the experimental group. The researcher ascribes this enhancement in outcomes to the efficacy of competitive exercises, which were formulated on the basis of scientific principles suitable for the members of the experimental group. The objective of these exercises was multifaceted, aligning with the training load appropriate for this level.

The objective of the researcher's endeavor was to enhance the appeal and engagement of the competitive exercises for the players. These exercises were derived from training scenarios analogous to those that might arise during actual matches. This preparation enables players to identify suitable solutions if such situations arise in a game.

The researcher ascribes the enhancement in the competencies of handoff, screen offense, and jump shot from inside the arc to the fact that the competitive drills utilized in the study were executed with the ball and incorporated defenders, enabling players to adapt to handling the ball under pressure. Additionally, the training exercises highlighted the importance of effective communication among players to ensure successful execution of passes and receptions, thereby creating opportunities for shooting. Furthermore, the percentage of successful shots increased due to the players' enhanced ability to shoot accurately, even in the presence of defenders.

The researcher's objective was twofold: first, to augment the number of repetitions for this particular skill, and second, to ensure that the skill was presented and linked in the most effective manner. It is imperative that players of this age group develop a high level of proficiency in as many complex skills as possible, particularly those that require collaboration with teammates. This is of paramount importance for the success of the team's offensive tactics and to avoid difficulties in harmony and understanding tactical movements. These are challenging issues that young players may encounter during the transition to playing at the advanced level.

A notable advantage of training that emulates gameplay is that it introduces players to a diverse array of scenarios that apply the exercise. This dynamic fosters a sense of collective engagement, wherein all players are actively engaged in performing the skill effectively. Furthermore, it furnishes players with cognitive and physical knowledge regarding the playing environment and competition, thereby instructing them to adapt their performance to suit the playing context. The impact of this type of competitive training on the development of these two skills is positive (Gubace, 1999).

The utilization of training that aligns with the nature of performing specialized skills has been demonstrated to yield superior outcomes (Fattah, 2003).

Furthermore, competitive exercises are particularly advantageous, especially in sports that demand jumping strength and speed. These exercises encompass the comprehensive regulations of the game and employ them in authentic gameplay scenarios. Competitive exercises are of paramount importance in the realm of contemporary basketball training, as

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they emulate the authentic conditions of actual games. Moreover, they contribute to the development of not only pure skill aspects but also cognitive aspects, decision-making, and the ability to perform under pressure.

4- Conclusions and Recommendations

4-1 Conclusions

1- The effectiveness of competitive exercises in this study in developing the skills of (handoff + screen offense and jump shot) from inside the arc.

2- A notable distinction emerged in the developmental progression of the skills associated with handoff, screen offense, and jump shot, demonstrating a clear advantage for the experimental group within the context of the study.

4-2 Recommendations

1- Adopt competitive exercises as they are characterized by excitement and enthusiasm in training units while simultaneously developing the skill and tactical aspects of the players.

2- Focus on training complex skills that involve linking multiple skills together in situations that closely resemble those that can occur in matches.

3- The exercises prepared in this study can be used by basketball coaches due to their positive impact on developing modern offensive skills.

4- It is necessary to conduct more studies related to competitive exercises for other age groups.

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