The Impact of Playing Style on the Development of Certain Aspects of Attention and Shooting Accuracy in Youth Football

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Abstract

The research highlights the significance of using play methods to enhance attention and precision in football shooting skills among young players. This, in turn, may lead to accelerated and more effective learning, benefiting coaches and optimizing time and effort. The research aims to explore the impact of play methods on developing attention and shooting accuracy in youth football. The research sample was selected from young players at the specialized center in Al-Batha district, affiliated with the Sports and School Activities Directorate in Thi Qar for the year 2022-2023. The researchers employed the experimental method with two control and experimental equivalent groups.The key findings indicated the superiority of the experimental group, which utilized play methods, over the control group that followed the traditional coaching method in developing attention and shooting accuracy in youth football. The researchers recommend conducting further studies and research using play methods and comparing them with other educational approaches in individual and team sports activities.

Keywords: *Playing Style, Attention Aspects, Football Shooting.*

1. Introduction

1.1 Background and Research Significance

Learning through play is a psychological approach that engages learners actively in the educational or training unit, fostering positive roles as active elements. This method involves interaction between the coach and players and among players themselves, promoting competition through organized educational games and activities. Play is an engaging learning method that enhances learners' desire to participate in education, allowing them to develop cognitive, physical, and motor skills. Football, being a popular sport worldwide, requires attention, especially in dynamic situations with multiple defensive and offensive strategies. Scoring goals, a fundamental skill in football, depends on players' attention to teammates, opponents, and the ball.

Given the above, the research emphasizes the importance of using play methods to develop attention and shooting accuracy in youth football. This contributes to faster and more significant progress in learning, benefiting coaches and optimizing time and effort.

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1.2 Research Problem

The acquisition of basic football skills, including shooting accuracy, depends not only on technical performance but also significantly on cognitive aspects. The researchers observed that the development of these skills, particularly shooting accuracy, might not align with the rapid evolution of the game due to a lack of emphasis on methods or exercises that enhance cognitive abilities during training sessions. Attention, a crucial cognitive aspect, plays a vital role in basic football skills, particularly in shooting. Players must maintain continuous attention and accurate observation of teammates and the ball to succeed in scoring. The absence of attention and the inability to observe players lead to wasted effort and plan failure. Therefore, the researchers aimed to enrich the skill learning process in football by using play methods to enhance attention and shooting accuracy among youth players, ultimately assisting coaches in achieving better results.

1-3 Research Objectives

1. To investigate the impact of the play method on developing certain aspects of attention and shooting accuracy in youth football.
2. To determine which method (play method vs. conventional method) is more effective in developing attention and shooting accuracy in youth football.

1-4 Research Hypotheses

1. Both the play method and the conventional method have a positive impact on developing certain aspects of attention and shooting accuracy in youth football.
2. The play method is superior in developing certain aspects of attention and shooting accuracy in youth football.

1-5 Research Domains

1-5-1 Human Domain: Youth football players aged (15-16 years) in Thi Qar Governorate/Al-Batha District.
2-5-1 Temporal Domain: The period from June 1, 2023, to July 23, 2023.
3-5-1 Spatial Domain: The football field at the Champion Ahmed Ghani Stadium in Al-Batha District.

1-6 Definition of Terms

1-6-1 Play Method: "A set of organized and directed activities performed by the learner within a specific educational or learning plan to achieve specific educational goals" (139:2).

2- Methodology and Field Procedures

2-1 Research Method

The researchers used the experimental method with two equivalent groups (control and experimental) to align with the nature and objectives of this study.

2-2 Research Population and Sample

The research population was identified as young players at the specialized center in Al-Batha District, affiliated with the Sports and School Activities Directorate in Thi Qar for the year 2022-2023. The total number of youth players in this center was (40), aged between (15-16

years). After homogeneity and equivalence assessments, the researchers conducted their field experiment on a sample of (24) players, representing (60%) of the original population. They were randomly divided, using a lottery method, into control and experimental groups, with (12) players in each group. The experimental group implemented their educational units using the play method, while the control group followed the conventional method of the coach. The researchers conducted homogeneity and equivalence tests for the research sample using the variance ratio and independent samples t-test, as shown in Tables (1, 2).

Table (1): Illustrates the Descriptive Statistics, Standard Deviations, and Skewness Coefficients.

#	Statistical Analysis Variables	Measurement Unit	Mean (μ)	Standard Deviation (σ)	Median (M)	Skewness Coefficient (λ)
1	Length	m	162	3.23	161.17	0.278
2	Age	(years)	15.61	0.72	15.54	0.291
3	Mass	(kg)	60.87	2.96	60.51	0.364

All skewness coefficients were within the range of (±1), indicating homogeneity among the sample individuals in the above-mentioned variables.

Table (2): Demonstrates the Equivalence of the Two Research Groups in the Study Variables.

#	Statistical Analyses Variables	Measurement Unit	Control Group		Experimental Group		t-value	Significance Level	Statistical Significance
			Standard Deviation (σ)	Mean (μ)	Standard Deviation (σ)	Mean (μ)			
1	Attention Concentration	Degree	7.632	0.984	7.486	0.822	0.394	0.698	Insignificant
2	Attention Switching	Degree	3.176	0.806	3.294	1.124	0.294	0.771	Insignificant
3	Shooting Skill أعلى النموذج	Degree	9.750	3.306	10.166	2.249	0.361	0.722	Insignificant

* Significant at a Significance Level < (0.05) With Degrees of Freedom (22)

Through Table (4), it is evident that the calculated t-values for all research variables are at a significance level greater than (0.05), indicating a lack of significant differences. This suggests equivalence between the two research groups in all study variables.

2-3 Data Collection Methods

2-3-1 Data Collection Sources

Arabic and foreign literature, the internet, personal interviews, scientific observation, tests, and measurements.

2-3-2 Tools and Devices Used

Medical scale, measuring tape (linen) quantity (1), Dell laptop, electronic stopwatch, adhesive

tape, whistle, 15 footballs, markers.

2-4 Identifying Some Aspects of Attention and Defining Study Variables' Tests

Some aspects of attention were identified through the opinions of a group of expert professors and specialists to determine their importance and relevance to youth players aged (15-16). The agreed-upon aspects included attention concentration and attention diversion. The research then proceeded to conduct tests for each aspect of attention and football shooting accuracy skills, chosen based on previous studies and reviewed by experienced experts. Their approval was obtained with a 100% agreement rate, ensuring the apparent validity of the tests. Despite the scientific validity of the tests in the Arab and Iraqi context, the researchers conducted a survey experiment on a sample not included in the research sample, consisting of (8) youth players, to verify the stability of the tests through application and reapplication. Additionally, the researchers ensured the objectivity of the tests by having two assessors independently record test scores and then calculate the correlation coefficients between them. The correlation coefficients were high, ensuring stability and objectivity, as shown in Table (3).

Table (3): Illustrates the Reliability and Validity Coefficients for the Tests of Motor and Skill Abilities.

#	Test Name	Reliability Coefficient	Significance Level	Objectivity Coefficient	Significance Level
1	Test of Attention Concentration	0.89	0.000	0.96	0.000
2	Test of Attention Switching	0.88	0.000	0.97	0.000
3	Test of Shooting Skill أعلى النموذج	0.85	0.000	0.92	0.000

* Significant at a significance level < (0.05)

2-5 Test Specifications

2-5-1 Bourdon-Wiersma Test for Measuring Attention Aspects (248:3)

The researcher used the Bourdon-Wiersma test to measure aspects of attention. This test, an adapted and standardized tool for the Iraqi context, is outlined in appendix (4). The test is designed for athletes and measures five aspects of attention: intensity, stability, concentration, distribution, and diversion. It consists of a sheet containing 31 lines of Arabic numerals distributed in groups, with each group containing 3-5 numbers. Each line has 10 groups, and the total number of numbers is 40 per line. Therefore, the test comprises 310 groups, totaling 1240 numbers. The numbers in the test are carefully arranged in a non-uniform and non-equal distribution to prevent memorization by the subject.

First: Attention Concentration Test

Test Execution Method

Upon hearing the word "start," the player flips the sheet when starting the timer and begins searching and crossing out, for example, the number (97) line by line from left to right for one

minute only. Upon hearing the word "stop," the player places a vertical mark next to the numbers reached.

After The First Minute, the Same Test Is Repeated for Another Minute, but with a Correction Method and Result Calculation (for the First Minute)

The following indicators are extracted:

A = (General volume), the number of numbers the player looked at from the beginning of the test until the word "stop."

b = The number of structures supposed to be crossed out on the test sheet from the beginning until the word "stop."

B = The total number of errors (the number of incorrectly crossed-out structures plus the number of correct structures not crossed out).

E = The accuracy coefficient of task execution in the test.

$$\frac{b - B}{B}$$

u1 = A x E

4-1 Presentation and Analysis of Results for the Experimental and Control Groups

After completing the first minute of the attention concentration test, the same test was repeated for an additional minute, but this time with the presence of an auditory-visual stimulus. A device emitting a regular sound at a rate of one beep per second was activated, accompanied by a visual signal every five seconds. The device was placed within the player's field of view at a distance of 1 meter from their seating position.

Correction Method and Result Calculation (for the Second Minute)

The same indicators as before were extracted, i.e., A, b, B, and E. Additionally, a new variable u2 was calculated using the equation u2 = A x E. Subsequently, the attention concentration was determined using the equation K = u1 – u2.

Secondly, the Diverted Attention Test

This test lasts only two minutes, during which the numbers 47 and 96 are crossed out. The test involves an auditory-visual stimulus. The correction method and result calculation involve determining the difference in productivity for the first 30 seconds (M = U1 – U2), the difference in productivity between U2 and U3 (H = U2 – U3), and the difference in productivity between U3 and U4 (O = U3 – U4). The conversion of attention is then calculated.

2-5-2 Scoring Test

Test Name: Accurate Scoring Toward a Divided Goal (80:1).

Purpose: Measuring accuracy in scoring towards the goal.

Tools Needed: 6 footballs, tape to define the scoring area for the test, a football goal, a football field.

Procedure: Six footballs are placed on the penalty area line, 18 yards away from the goal. The player stands behind ball number 1, and upon receiving the start signal, they score in the

marked areas according to their importance and difficulty in a sequential manner, one after the other, until the sixth ball. Shooting is done with the front of the foot.

The test starts from ball number 1 and ends at ball number 6.

An attempt is considered successful only if three goals are scored from each side and the middle goal.

Scoring: The number of hits that enter or touch the sides of the four specified goals on each side and the middle goal are counted. Each ball is scored as follows:

- 4 points for scoring in area number 4.
- 3 points for scoring in area number 3.
- 2 points for scoring in area number 2.
- 1 point for scoring in area number 1.
- 0 points for a failed attempt.
- Each player is given one attempt consisting of six balls.
- The highest score a player can achieve is 24 points.

2-6 Field Research Procedures

2-6-1 Preliminary Tests

The researchers conducted preliminary tests on the main research sample on Sunday, June 18, 2023, at the Champion Ahmed Ghani Stadium in Al-Batha'a.

2-6-2 Main Experiment

- The main experiment started on Saturday, June 24, 2023, and ended on Thursday, July 7, 2023.
- The educational units included six instructional units, with three units per week for each group.
- The duration of each instructional unit was 90 minutes.

  - The educational units were applied to both research groups during the week:
  - Control Group: Educational method by the coach.
  - Experimental Group: Educational method by playing.

- The experimental group implemented the educational method by playing for a total of 90 minutes per unit, distributed across its sections. The preparatory section took 15 minutes, consisting of general warm-up exercises for eight minutes and specific warm-up exercises with the ball for seven minutes, serving the purpose of the instructional unit.

  - The main section lasted for 65 minutes, with 15 minutes allocated to explaining how to execute the exercises prepared by the researcher and 50 minutes for applying these exercises using the playing method. The number of exercises in one instructional unit was five, with each exercise lasting nine minutes. One minute was allocated for rest between exercises.
  - The concluding section lasted for 10 minutes, during which the players were given a small game that served the required skill, relaxation exercises, and calming activities to return the body to its normal state.

2-6-3 Post-Tests

The post-tests were conducted on Saturday, July 8, 2023, and the researchers ensured that the conditions were similar to the pre-tests in terms of location, time, and the presence of the assisting team. The same steps were used in the post-test as in the pre-test.

3-7 Statistical Methods

The researchers used the Statistical Package for the Social Sciences (SPSS) to extract statistical results based on the following statistical laws: mean, standard deviation, skewness coefficient, Pearson correlation coefficient, t-test for paired samples, and t-test for independent samples.

4- Presentation, Analysis, and Discussion of Results

The presentation and analysis of the results for both the experimental and control groups will be discussed in the next section.

Table (4): Displays the Descriptive Statistics, Standard Deviations, and Calculated T-Values for Pre and Post-Tests for Both the Control and Experimental Groups.

Group	Statistical Analyses Variables	Pre-tests		Post-tests		Calculated t-value	Significance Level	Significance Type
		Standard Deviation (σ)	Mean (μ)	Standard Deviation (σ)	Mean (μ)			
Control	Concentration of Attention	7.632	0.984	11.229	1.980	6.353	0.000	Significant
	Attention Switching	3.176	0.806	5.354	1.233	4.627	0.001	Significant
	Shooting Skill	9.750	3.306	14.583	3.528	6.959	0.000	Significant
Experimental	Concentration of Attention	7.486	0.822	14.364	1.728	14.469	0.000	Significant
	Attention Switching	3.294	1.124	6.873	1.010	8.412	0.000	Significant
	Shooting Skill أعلى النموذج	10.166	2.249	18.250	2.632	11.899	0.000	Significant

* Significant at a Significance Level < (0.05) With Degrees of Freedom (11).

Table (4) illustrates the descriptive statistics, standard deviations, and the calculated t-values between the pre and post-test results for some aspects of attention and accuracy in football shooting skill for both the control and experimental groups. The results in the table show that the calculated significance level is less than the significance level (0.05), indicating statistically significant differences between the pre and post-tests in favor of the post-tests for both groups.
4-2 Presenting and Analyzing the Post-Test Results for the Experimental and Control Groups:

Table (5): Displays the Descriptive Statistics, Standard Deviations, and Calculated T-Values for the Post-Tests for Both the Control and Experimental Groups.

Analyses Skills	Pre-tests		Post-tests		Calculated t-value	Significance Level	Significance Type
	Standard Deviation (σ)	Mean (μ)	Standard Deviation (σ)	Mean (μ)			
Concentration of Attention	11.229	1.980	14.364	1.728	4.130	0.000	Significant
Attention Switching	5.354	1.233	6.873	1.010	3.300	0.003	Significant

Shooting Skill أعلى النموذج	14.583	3.528	18.250	2.632	2.889	0.009	Significant

* Significant at a Significance Level < (0.05) with Degrees of Freedom (22).

Table (5) presents the descriptive statistics, standard deviations, and calculated t-values for the post-tests results regarding some aspects of attention and accuracy in football shooting skill for both the control and experimental groups. The results in the table show that the calculated significance level is less than the significance level (0.05), indicating statistically significant differences between the post-tests for both groups and in favor of the experimental group.

4-3 Results Discussion

Through the presented results in Tables (4), which indicated significant differences between pre-test and post-test results in some motor skills, handling, and football shooting skills, in favor of the post-test results for both control and experimental groups. The researchers attribute the differences in the control group to the adequacy and impact of the educational unit's vocabulary, including exercises that demonstrated effectiveness in terms of allocated time, organization, and implementation in developing aspects of attention (focus and attention shift), and the accuracy of football shooting skills. This was achieved through explanation, presentation, exercises, repetitions, sequencing, and accompanying feedback provided by the coach to the control group members. Additionally, the regular attendance and commitment of the control group to training sessions have undoubtedly contributed to enhancing their capabilities and learning some skills. The learning and training process works to improve both cognitive and motor processes and the level of skill performance alike (188:4(

As for the development of the experimental group in the study variables, the researchers attribute it, in addition to what was mentioned earlier, to the application of the play-based learning method by the individuals of this group. The continued performance and changes in playing positions within the learners' capabilities and abilities have contributed to the development of attention aspects (focus and attention shift) and the accuracy of shooting skills. The play-based method stimulated and intrigued them, providing motivation to perform the required motor skills. One of the main goals of educational units is to bring learners to a state similar to real play, whether through using the play-based learning method or any other educational method. At the same time, it increases their understanding and awareness while performing skills in the play situation, guiding them to develop, stabilize, and retain these skills for the longest possible period. This aligns with the notion that play-based learning is a "state of guiding skillful learning, aiming to teach the learner to perform play that requires a combination of awareness, comprehension, and perception to know the planning and execute the skill" (6:7).

As shown in Table (5), the experimental group outperformed the control group in some aspects of attention and accuracy of football shooting skills. The researchers attribute the superiority of the experimental group to the effectiveness of the play-based method and the exercises it included, which contributed tangibly to the development of these variables in young football players. The application of these exercises has concretely contributed to developing aspects of attention (focus and attention shift) better than the control group. This has led to a clear and tangible improvement in the level of shooting accuracy, as evident in the results of post-measurements between the two groups. Skillful performance cannot evolve and be characterized by good performance unless there is a strong foundation to build upon. This

foundation is represented by cognitive processes, including attention aspects. The role of cognitive processes in skillful performance and strategic situations is fundamental. The harmony and interaction between higher cognitive abilities, which, in turn, lead to possessing the specific motor abilities involved in these situations, are vital. Attention aspects play a role to varying degrees in these situations. "The difference in the high tactical level is due to how the game is followed with attention. The player can indeed determine his position on the field and what he should do. Attention during the game has an intentional nature, where the player focuses his attention away from consciousness in playing operations, isolates himself from all surrounding influences, and attention features are constantly changing because they are linked to changing situations and the factors involved in them. Sometimes it is characterized by intensity, and at other times by dispersion. In many cases, directing attention and dispersing attention to different goals in all directions can lead to very easy technical and tactical mistakes" (101:5).

The play-based method implemented by the experimental group stimulates learners' cognitive processes through the diversity of performance requirements and numerous and varied response options. This leads to using cognitive skills and developing them. The exercises with the play-based method applied by the experimental group are skillful exercises similar to the conditions and course of competition. Exercises that resemble the conditions and course of play make the player accustomed to the conditions of competition. This aligns with what Biran Mackenzi mentioned, that "the movements performed by the program should be as close as possible to the movements the player will face during competitions" (68:6)

5 -Conclusions and Recommendations

5 -1 Conclusions

1. The use of the play-based method has a positive impact on developing some aspects of attention and the accuracy of football shooting skills in young players.
2. The experimental group that implemented the play-based method showed superiority over the control group that followed the traditional method in some aspects of attention and the accuracy of football shooting skills in young players.
3. The excitement, fun, and competition inherent in the play-based method increased the motivation of young players to perform exercises and facilitated the development of some aspects of attention and the accuracy of football shooting skills.

5-2 Recommendations

1. It is essential to use the play-based method in educational and training curricula to develop aspects of attention and basic football skills in young players, including shooting skills, tailored to the type of skill, its category, and the context of its performance.
2. Emphasis should be placed on developing cognitive abilities, including attention in its various aspects, for young football players.
3. It is necessary to focus on introducing modern teaching methods in learning in general and teaching basic football skills in particular.
4. Conduct further research and studies using the play-based method and comparing it with other educational methods in individual and team sports and activities.

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