

Evaluation Model for Passing and Shooting Skills of Futsal Female Players

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Abstract

The importance of the research lies in identifying the reality of the skillful performance of female players in the middle Euphrates clubs in futsal football, as well as deriving standards and setting standards for the skillful performance of futsal female players.

As for the research problem, through the researchers' follow-up of most futsal tournaments for female players, they noticed a clear weakness in the skillful performance of this game and without the level of ambition, and this came as a result of selection based on the experience of the training process, and it may be accompanied by randomness in choosing without relying on evaluation evidence that helps in selecting the female athletes, which is what urged researchers to study this phenomenon and stand on its true reality and delve into this matter and find the correct scientific evidence based on the correct scientific foundations for the skills of passing and scoring in futsal football, which is a scientific attempt in order to contribute to the Iraqi feminist sport.

Key Words: Evaluation model, passing and shooting, futsal.

Introduction

The process of reaching higher levels and achieving superiority and achievement over sports teams and at various levels is no longer easy, whether this excellence is individual or collective, in terms of the sporting ¹ level now and for most sporting events have reached advanced stages that cannot be bypassed by traditional training methods, this requires the use of many measuring methods and tests, through which the evaluation is done based on the results of these tests, and futsal is one of the games that is popular for children and adults, regardless of age and gender, as it depends on basic skills as an important base for progression so that coaches spend most of the time ² training on the performance these skills are taught and given a greater share in training programs, with the aim of developing the skillful performance of futsal female players for passing and shooting skills, so the researcher believes that standing on the real levels of the players will help coaches to monitor the negative aspects that accompany

work and review their vocabulary by setting standards and standards for female players in the middle Euphrates clubs in order to find out what they enjoy It has skillful capabilities through which we can monitor the future picture of what events will be like in the coming days, depending on the available procedures and capabilities. Hence the importance of the current study on the method of studying the offensive skills of passing and shooting skills for futsal female players in order to fulfill the requirements of the game in the hope of reaching the higher levels ³.

Research Problem :

Through the researchers' follow-up of most futsal tournaments for female players and his belief in the adoption of appropriate testing and evaluation tools to reveal the characteristics and capabilities of the female players of the Middle Euphrates clubs that qualify them to excel in all matches and to reach good levels of sports skills performance, they noticed a clear weakness in the skillful performance of this game and below the level

of ambition, and this came as a result of the choice based on the experience of the training process, and it was accompanied by randomness in choosing without relying on evaluation evidence that helps in selecting the players, which prompted the researcher to study this phenomenon and to stand on its true reality and go into, in this matter and the creation of an evaluation evidence based on the correct scientific foundations for the skills of passing and scoring in futsal, it is a scientific attempt to contribute to it in the service of Iraqi women's sport.

Research objective:

- Identify to the reality of the skillful performance of female futsal players from the Middle Euphrates clubs in futsal football in (2020-2021).
- Deriving standards and setting standards for the skillful performance of female futsal players.

Research hypotheses:

- There is a positive significance relationship of passing and shooting skills for the skillful performance of female futsal players

Research fields:

The human field: Female players from the central Euphrates provinces (Babil, Karbala, Kufa) for the 2019-2020 sports season.

Time field: from 24/12/2021 to 10/3/2021.

Spatial field: Halls and stadiums of the Middle Euphrates clubs covered by the study.

Research methodology and field procedures:

Research Methodology:

The researcher used the descriptive approach - survey and correlational studies, in order to suit it with the aim of the study..

Community and sample research:

The research community consists of female futsal players in the clubs of the central Euphrates governorates (Al-Hillah, Al-Baladi, Al-Jamhour, Al-

Ghadriyah, Al-Fatat), of which there are (85) players..

Tools and equipment used in the research:

Scientific Research Tools : Accordingly, the researcher has used the following research tools:

- Questionnaire.
- Observation.
- The interview.

The devices used:

- Electronic stopwatch.
- Legal footballs.
- Whistle type (FOX).
- Plastic inserts and cones.
- A textile tape measure (50 m) in length.
- Colorful adhesive tapes.
- Electronic calculator (laptop) type (DELL).
- Hand Calculator (Casio).
- Forms for recording test results.

Field research procedures:

Determining the tests concerned with measuring passing and shooting skills.

There is no doubt that the tests themselves are not an end, but rather a means to achieve the purpose for which these tests were developed, which is to measure the characteristic to be measured and identify the factors affecting them, so the selection and selection of the tests should be done very carefully so that they can achieve the desired goal. In order to filter the tests that express the measurement of the skills concerned with the current research and in light of the required specifications.

Exploratory experience:

Reaching an objective scientific formula for evaluation comes through reliable results, and achieving this requires adopting recognized scientific contexts

when conducting tests on the current research sample whose skill capabilities should be measured, and from these contexts:⁽¹⁾

- Ensure the validity of the tests and their suitability for the research sample.
- Availability of tools and capabilities.
- Experimenting with all the possibilities and circumstances surrounding the work to reach the optimal formula and the most successful organizational style.
- Identify negatives to avoid them when conducting the main work of research.

The scientific basis for the tests:

In order for the tests to be considered and give an objective and accurate picture of the characteristic to be measured, the two variables (the two skills) should have certain specifications, and given the variety of tests that measure skill abilities, the chosen person must have certain characteristics without which it is difficult to rely on them in making sound decisions related to among the tested, and among the most important of these characteristics are the scientific foundations, which among its conditions are (validity, reliability, and objectivity):

Validity :

It is known that honesty always pertains to a specific use, and accordingly, validity should not be understood as a general characteristic of the measuring instrument, just as it is my position (a qualitative character) with respect to the purpose for which it was prepared, and accordingly the researcher used three types of honesty according to the purpose for which it was prepared.

The researcher used to calculate the validity of skill tests (associative validity), which is one of the types of validity in which the scores that represent the current performance of skills are related to the scores obtained from the tests, where the correlation coefficient calculated between the test scores and test scores indicates the relevance of the test, all skill test validity coefficients came with statistical significance at significance levels (3,4), and the researcher notes that he had used trainers' estimates as criteria for calculating associative validity.

Where the experimental validity coefficient for testing the accuracy of scoring feet on the overlapping rectangles to measure the accuracy of scoring was (0.440), while the level of significance was (0.015), and the experimental validity factor was to test the rebound pass to a target drawn on a wall 5 m away for a period of (20) seconds to measure the accuracy of the quick pass is (0.701), and the level of significance is (0.000), which indicates the significance of the two tests.

Reliability

In calculating the reliability factor of the form, the researcher relied on the method of analysis of variance and the Hoyt equation. This equation in calculating reliability depends on the amount of variance between individuals and the variance of error.

To achieve this, the researcher used the analysis of variance for repeated measurements of the degrees of the questionnaire, for the sample of the pilot experiment, and from the results of the analysis of variance referred to in table (1), the stability coefficients were calculated with the (Hoyt) equation.

Table (1) Shows The results of the analysis of variance for the repeated measurements, the reliability factors and the sensitivity index of the form for the tests:

N	Tests	Contrast source	Total squares	Freedom degree	Middle squares	Reliability coefficient	Interpretation coefficient
1	Foot shooting accuracy test on overlapping rectangles to measure shooting accuracy.	Between individuals	1.702	29	49.360	0.88	0.77
		Interact (error)	0.212	29.000	6.150		
		Interact (error)	42.350	29.000	1.460		
2	Test the return pass to a target drawn on a wall away (5 / m) for (20 seconds) to measure the accuracy of the fast pass.	Between individuals	67.150	29	2.316	0.92	0.85
		Interact (error)	5.683	29.000	.1960		

And since the reliability coefficient is a correlation coefficient of some kind - the reliability coefficient in its reality is the test correlation coefficient with itself - and since the coefficients of the common interpretation of reliability mentioned in table (4) are greater than (50%) therefore, the reliability coefficients of the form are considered good, as the coefficient of consistency is reliability is good if its common interpretation coefficient is greater than (50%)⁽²⁾

Objectivity:

The researcher extracted the objectivity coefficient for the tests by finding the correlation relationship between the results of two judgments, where the objectivity factor for testing the accuracy of foot scoring on the overlapping rectangles was (0.997) and the value

of the aggregate significance of the distribution of (T) was (0.000). The statistical significance was significant. As for the return pass to a target drawn on a wall 5 m away for a period of 20 seconds, the objectivity coefficient was (0.931) and the value of the aggregate significance of the (T) distribution was (0.000), the statistical significance was significant.

The final implementation of the performance tests:

After extracting the results of the exploratory experiment and confirming the validity of the skill tests as well as the performance evaluation form, the researcher proceeded to apply the tests and measure the skill performance on the remainder of the research community (the model building sample, the application sample).

Table (2) Shows the procedures for performing the skill performance and the biological and skill tests

Day	Date	Club	Governorate	Purpose	Place implementation
Thursday	15/10/2020	Hillah	Babylon	Performance photography - application of skill tests	Hall of the martyr Hamza Nuri
Friday	16/10/2020				
Sunday	18/10/2020	Al-fetat	Najaf	Performance photography - application of skill tests	The closed hall - College of Physical Education and Sports Sciences - University of Kufa
Monday	19/10/2020				
Tuesday	20/10/2020	Al-balady	Babylon	Performance photography - application of skill tests	The closed hall - Faculty of Physical Education and Sports Sciences - University of Babylon
Wednesday	21/10/2020				
Saturday	19/12/2020	Al-jemaheer	Kerbala	Performance photography - application of skill tests	Kerbala Olympic Hall
Sunday	20/12/2020				
Saturday	19/12/2020	Al-gatherea	Kerbala	Performance photography - application of skill tests	Kerbala Olympic Hall
Sunday	20/12/2020				

Statistical means: The researcher used the statistical package (SPSS) to process the data and show the results. The following is a presentation of the statistical methods used:

- Mean.
- Standard deviation.
- Standard error.
- Test (Klimangov - Smirnov).
- Simple correlation coefficient (Pearson).
- (K^2) test.
- Analysis of variance for duplicate measurements.
- Multiple linear regression.
- Equations.
- Loach equation.
- Hoyt equation.

Statistical description of the distributions of the search variables for the model building sample:

Table (3) shows the mean, standard deviations, standard error, and the value of (Kolmogorv Smirnov) test for the sample building model in the searched variables.

Variables	N	Tests	Mean	Std. Deviations	Difference of standard deviations	K2	
Basic skills	1	Shoot	8.5800	1.51082	.163870	.0680	.0930
	2	Pass	6.3215	2.09050	.226750	.2000	.0780

The results of Table (3) indicate the good spread of the scores of the model building sample at the two research variables (skill performance), as the values of the level of significance associated with the calculated values of the (ks) test, which all came greater than the value of the significance level (0.05), indicated that the two variables achieved the equilibrium curve. The matter did not stop at this point, as the small standard error values (zero) confirm their good choice and validity in representing the studied society, who are the players of the middle Euphrates football clubs.

Evaluation of the biological abilities and basic skills of the research sample:

In order to develop the scientific formula for evaluating the completion of the research sample (female futsal players) and thus building the evaluation model, the researcher will deal with it according to the following:

- Setting standards related to skill indicators for the sample under investigation.

- Building a model to evaluate the skill indicators of the sample, in light of the standards and ratios under the achieved curve.

- Conducting evaluative comparisons between what the researched sample has achieved according to the studied variables and using the standard scores achieved and those who represent the club players of the central Euphrates governorates.

Building criteria for my skills (passing and scoring) for the research sample:

The researcher tried to derive the skills-related criteria from the scores of the main experiment sample (building the model), so the researcher intended to derive the (standard T) scores, where (Saad Abdel-Rahman 2003)⁽³⁾, indicates that these grades are normalized grades converted to an average distribution (50) and its deviation (10), which differs from the modified standard grades, as it converts the distribution of raw degrees to a moderate distribution, from this the necessary standard tables were built that accommodate (99.73%) of the sample individuals, and it can be seen in table (4).

Table (4) standard scores and corresponding raw scores and their frequencies of the research sample results in the shoot skill and passing skill test, respectively.

Standard scores and the corresponding raw scores and their frequencies of the results of the research sample in the shooting skill test						
Skill	Grades rough	Repetition	Cumulative redundancy	Adjusted cumulative frequency	Percentage	Standard score
Shooting	10	15	85	77.5	91.1	63
	9	33	70	53.5	62.9	53
	8	21	37	26.5	31.1	45
	7	10	16	11	12.9	38
	6	6	6	3	3.5	32
Standard scores and the corresponding raw scores and their frequencies of the results of the research sample in the pass skill test						
Skill	Grades rough	Repetition	Cumulative redundancy	Adjusted cumulative frequency	Percentage	Standard score
Passing	17	1	85	84.5	99.4	75
	16	1	84	83.5	98.2	71
	15	4	83	81	95.2	67
	14	14	79	72	84.7	60
	13	14	65	58	68.2	55
	11	17	51	42.5	50	50
	10	15	34	26.5	30.5	45
	9	13	19	12.5	14.7	39
	8	6	6	3	3.5	32
	6	1	85	84.5	99.4	75
	5	1	84	83.5	98.2	71
	4	4	83	81	95.2	67
	3	14	79	72	84.7	60

Standard levels of my skills (passing and scoring) for the research sample:

The method of plotting the (standard) levels according to the equilibrium distributions - using the natural curve - is one of the most appropriate methods for setting standard levels, as levels are based on units of standard deviation from the mean of those distributions, in light of the percentages concerned with these deviations (they represent the limits of confidence in the circles Arithmetic), in a moderate distribution, the data are distributed as follows:

- (27,68%) of data between (Mean + Std. Deviations 1).
- (44,95%) of data between (Mean + Std. Deviations 2).
- (73,99%) of data between (Mean + Std. Deviations 3).

In order for the researcher to have an opportunity to interpret the results of the players in the variables under consideration, and to make objective comparisons, at each level, between what was actually achieved at that level and that was supposed to be achieved, the ideal levels were derived.

For the purpose of comparing the ratios achieved in the normal distributions with the ideal ratios in the equilibrium distribution, and in light of the specified standard levels concerned with the research sample, and for all the variables examined, the researcher will present them in light of the table concerned with the ranges achieved for each standard level according to the applicable classifications, and shown in table (5).

Table (5) shows the ideal levels, numbers and percentages achieved for the vocabulary of the research sample in the test of shoot skill and passing skill

The ideal levels, numbers and percentages achieved for the vocabulary of the research sample in the shoot skill test					
Skill	Ideal		Verified		K2
	The ideal percentage	The ideal number	The viewer	Viewer percentage	
Shooting	0.0204	2	15	17%	101.49
	0.2276	19	33	39%	0.15
	0.5034	43	21	25%	11.09
	0.2276	19	10	12%	4.51
	0.0204	2	6	75%	10.49
	Total				
The ideal levels, numbers and percentages achieved for the vocabulary of the research sample in the passing skill test					
Skill	Ideal		Verified		K2
	The ideal percentage	The ideal number	The viewer	Viewer percentage	
Passing	0.0041	1	1	1%	1.22
	0.0263	2	1	1%	0.68
	0.1107	9	4	5%	3.10
	0.2143	20	14	16%	0.97
	0.2886	20	14	16%	4.52
	0.2243	21	17	20%	0.22
	0.1007	9	15	18%	4.84
	0.0263	2	13	15%	51.83
	0.0041	1	6	7%	91.64
	Total				

Table (5) shows a comparison of the percentages achieved for the scores of the research sample (futsal players) in skill performance and at each (standard) level with similar percentages in light of the ideal distribution. We find that the above percentages vary and differ from the ideal proportions of the area under the curve Moderation, and from this we find that the distribution of the sample vocabulary did not match what it is supposed to be

To verify this matter, the researcher tested this distribution statistically by testing (K^2), and from it the results were confirmed for what he reached, as the value of (Ca_2) calculated by (127.73) was greater than the tabular amount of (9.49) at the degree of freedom (4) and with the level of significance (0.05) and this indicates that the two distributions (spectator and ideal) mismatch of shoot skill.

The researcher also tested the distribution statistically by testing (chi square), and from it the results came to confirm what he reached, as the value of (Ca_2) calculated by (159.02), which is greater than the tabular amount (15.51) at the degree of freedom (8) and at the level of significance (0.05). Indicates the mismatch of the two distributions (scenes and ideal) of passing skill.

Prototype application:

Application of the model for the shooting skill :

After the researchers realized that the model is able to predict the skill of scoring well, it will apply the model to make some predictions, where the model will take the following form:

Non-Standard Equation:

$$S = A + B_1 \times C_1 + B_2 \times C_2$$

Whereas:

S= Score Value (shoot skill performance).

A,B= Constant magnitude.

C= The value of predictive variables (force characterized by velocity - translational velocity - muscle capacity).

Standard equation:

$$S = B_1 \times C_1 + B_2 \times C_2$$

Now, predictions about the performance of the scoring skill can be made, by replacing the strength characteristic with velocity - translational velocity - muscle capacity with the values we want, without measuring the scoring skill.

$$S = 10.910 + (-0.950 \times 40) + 0.056 \times 6 + 0.968 \times 2 = 24818$$

$$S = (-0.595) \times 5 + 0.259 \times 20 + 0.132 \times 7 = 3.129$$

Application of the model for the passing skill :

Non-Standard Equation:

$$S = A + B_1 \times C_1 + B_2 \times C_2$$

Whereas:

S= Score Value (shoot skill performance).

A,B= Constant magnitude.

C= The value of predictive variables (force characterized by velocity - translational velocity - muscle capacity).

Standard equation:

$$S = B_1 \times C_1 + B_2 \times C_2$$

Now, predictions about the performance of the scoring skill can be made, by replacing the strength characteristic with velocity - translational velocity - muscle capacity with the values we want, without measuring the scoring skill.

$$S = 19.005 + (-2.103) \times 4 + (-0.110) \times 30 + 0.533 \times 1.70 = 8.1991$$

$$S = (-0.824) \times 4 + (-0.107) \times 30 + 0.046 \times 1.70 = -6.4678$$

A form for evaluating the skill preparations for the research sample:

In order to clarify the evaluation process by the model, by identifying the strengths and weaknesses of the variables searched for futsal players, the researcher

selected five players randomly, and the researcher will try to shed light on the evaluation of the basic skills of these players, while reviewing the mechanism of the model in the evaluation and comparison as a figure (1).

Tests	Levels													
	First	second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	eleventh	Twelfth	Thirteenth	fourteenth
Shoot	▲■	◆★		●										
Pass					■	●★		▲◆						

Figure (1)

The player’s evaluation is shown according to their standard levels in the variables under study

- The first player.
- The second player.
- ▲ The third player.
- ◆ The fourth player.
- ★ The fifth player.

In order to evaluate the results of the (first) player for the Hilla club through the model, it appears that there is a discrepancy in some levels that this player has in the skill tests, where the results of the tests for the skill (scoring) came within the (fourth) level. As for the test results for the skill (passing), they came within level (Six).

When studying these results, we find that there is a weakness in the two indicators (passing and shoot) and that they need to be developed, and accordingly, we must focus on them through exercises that work to develop them.

As for the (second) player, the Baladi club player, evaluating her results through the model shows that the first player is generally better than the second player, and through the model it appears that there is a discrepancy in some levels that this player has in the skill tests, where the results of a skill test (shoot) within the (first) level, while the test results for the skill (passing) came within

the (fifth) level.

As for the (third) player, evaluating her results through the model shows that the first player and the second player are generally better than the third player, and through the model it appears that there is a discrepancy in some levels that this player has in the skill tests, where the results of the skill test (shoot) Within the (first) level, as for the test results for the (passing) skill, they came within the (eighth) level

Upon studying these results, we find that there is a weakness in the variable (passing) and that it needs to be developed, and therefore we must focus on them through exercises that work on their development.

As for the (fourth) player, evaluating her results through the model shows that the first player and the second and third player are generally better than the fourth player, and through the model it appears that there is a discrepancy in some levels that this player has in the skill tests, where the results of a skill test came (shoot) within the (second) level, as for the test results for the (passing) skill, they came within the (eighth) level.

When studying these results, we find that there is a weakness in the variable (passing) and that it needs to be developed, and therefore we must focus on them through exercises that work on their development.

As for the (fifth) player, evaluating her results through the model shows that the first player and

the second player are generally better than the fifth player, and through the model it appears that there is a discrepancy in some levels that this player has in the skill tests, where the results of the skill test (scoring Within the (second) level, as for the test results for the (passing) skill, they came within the (sixth) level.

When studying these results, we find that there is a weakness in the variable (passing) and that it needs to be developed, and therefore we must focus on them through exercises that work on their development.

In summary of this evaluation model for female players, we find that the (second) player has clearly outperformed the players (first, third, fourth and fifth) and that her cuff is the most dominant in the variables under consideration.

Conclusions

- The test criteria used in the research represent a reliable evaluation and interpretation method for evaluating the level of achievement of the player, by comparing her level with her peers from among the players.

- There is a match in the achieved levels with what the results of the achievement (skill) of the research sample are supposed to be in the researched skill classifications.

- The results proved that the ideal proportions do not match the observed ratios.

- The results proved the correctness and accuracy of the basic skills evaluation guide.

- The results demonstrated the possibility of selection using the model for basic skills.

- The results confirmed the knowledge of the strengths and weaknesses through the evaluation guide for basic skills.

Recommendations:

- It is very necessary to use objective methods in the evaluation process, in any studies and research related to this matter.

- The necessity to conduct such studies periodically, because of their importance in developing the (skillful) performance of the club players in the Middle Euphrates provinces.

- Encouraging the conduct of studies and similar research on samples represented by age groups, clubs and other sporting events.

- It is important to evaluate the general and specialized situation of the players using the (Personal Profile) method as a method to reveal their strengths and weaknesses.

- Developing programs and implementation plans that affect basic futsal skills.

- The use of all available methods and means, which guarantee the development of basic skills performance for female club players in the central Euphrates provinces.

- Adopting the tests used in this study as one of the criteria for evaluating the level of performance (physical, skill) of soccer players and for different age groups after being legalized.

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Conflict of Interest: None to declare.

Ethical Clearance: "All experimental protocols were approved under the Faculty of Physical Education and Sports Sciences were carried out in accordance with approved guidelines".

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