Predict the Scoring Accuracy in Terms of the Based Foot Direction for Young Footballers

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ABSTRACT

There is no need to say the scoring accuracy performance relies on the based foot taking the proper position means that the body is at good scoring position .Identify the connection between the accuracy of scoring at far distances and the based foot direction for the sample of the research. Determine how very much the direction of the based foot can improve the accuracy of the scoring from far distances.Predict the scoring accuracy from far distances in terms of the direction of the based foot. The researchers used the survey approach of descriptive method and then analyze the results. The research community was 24 footballers of Al Diwaniya team . The test of the scoring accuracy has been used as a main tool for the research, after making sure of its validity; the researchers began using video imagining. The results have statistically analyzed. The a predicted equation has formed by the predicting the accuracy of the scoring in terms of the angle of the based foot, the researchers also find that the accuracy of the scoring has real connection with the direction of the based foot.

Keywords: Scoring accuracy, Position and direction of the based foot, Scoring position.

1. Introduction

Biomechanics researches deal with kinetic analysis to conduct the perfect physical performance. Regarding the human quality that affects on the movement and the conditions which affect the performed movement. It has been noticed such researches allow to assess the type of the performed movement from all its sides. This is so significant in terms of theoretical or practical   learning kinetics. So studying the relations and mechanical factors that affect on the accuracy of the performance enable the player to achieve the perfect performance. Kinetics analysis is one the most important thing that should be regarded when conduct studies about skills.

So the use of different approaches and. Kinetics analysis-the scoring accuracy-identifying the variables means that affect on like based foot-will improve those skills. Scoring in Soccer is one of the important fundamental issues that must be well done by the players. The scoring is the final destination of the all players' efforts. It reflects the success and effectiveness of the performance of the other skills of the game. It is the crucial factor in determining the match result and determining the winning or losing a game. Therefore any preparation for a match without leading to successful scoring is useless. It is so clear that defending skills and plans are developing too, and the developing of goalkeeper's performance as well. And the use of the scoring - thought out motion or free kicks - which is characterized by sudden precision and the element of surprise, in a difficult way for defenders and the goalkeepers to deal with it, one of the most important elements to cope with this development and to overcome it.

 In spite of the scoring of the ball is done by one foot (kicker foot), in fact scoring requires other physical parts of the body with its different variables. The based foot effectively takes part in scoring process besides kicker foot. The change of the direction of the based foot relates with principles of the learning kinetically. Taking a good position for the based foot means the body is in best position during the scoring. So we find that there is an urgent need to determine the best direction of the based foot during the kicking the ball. Also we find a great importance to predict the accuracy of the scoring. Hence the problem of this study, the importance of this study may be through the development of a knowledge framework for coaches about the importance of accurately predict the scoring far distance for football players, in terms of the based foot.

Allowing the opportunity for them to pick talented players (specialists) to take the free kicks. The findings and recommendations may help to answer some questions about the feasibility of accurately predicting scoring by the direction of the based foot. And setting goals and appropriate means which contribute to the development of the scoring performance, reaching to the best direction based foot during performing scoring, and open new horizons for other research dealing with angles, variables, and other categories.

2. Methodology

The researchers use a descriptive approach - the study of relational relations - since it is fit for the study nature and objectives.

2.1 Participates

The research community was 24 footballers of Al Diwaniyah team in Iraq.

2.2 The research procedures

To achieve the objectives of the research that researchers wanting to reach, they had to follow certain basic steps to get to the desired level, as well as some detailed steps. These steps are:

2.2.1 Select the test that measure the accuracy of scoring

The researchers determine their borders of the study by skill variable (accuracy of scoring), and bio mechanical variable (based foot direction). In order to select the test that measures the accuracy of scoring, a Conducted survey of the relevant and scientific sources resulted in selecting a single test to measure the accuracy of scoring. The researchers distributed forms to explore opinions of 5 experts and specialists in this field. After gathering data, the researchers used chi Square test, the results showed that accepting the selected test, results to achieve value (5.000), which is greater than the value of (chi Square) Tabulated $ (3.84), when the degree of freedom (1), and the level of significance (0.05).

2.2.2 Characterization test (accuracy of scorning in the distance)

- The purpose of the test: measurement accuracy of scoring

- Tools: Pitch, 8 balls, small goals, measurement tape, wall Gypsum

- Description of the test: a ball is positioned 20 yard far from the goal, a wall is positioned before the player 10 yard long. The player kicks the ball on the target – the goal has been divided into four zones - two on the left of the goalkeeper and was named High (a) and lower (b) and two on the right of the goalkeeper and was named high (c) and lower (d)

Recording: each player had given 8 attempts, two on each target, it is pointed as followed

- ➢ Given (zero) if the ball hits the wall. Or the ball kicked out of the goal.
- ➢ Given (one point) , if the ball scored or it hits the goal bars.
- ➢ Highest point given to the player if is 8, the lowest point is zero.
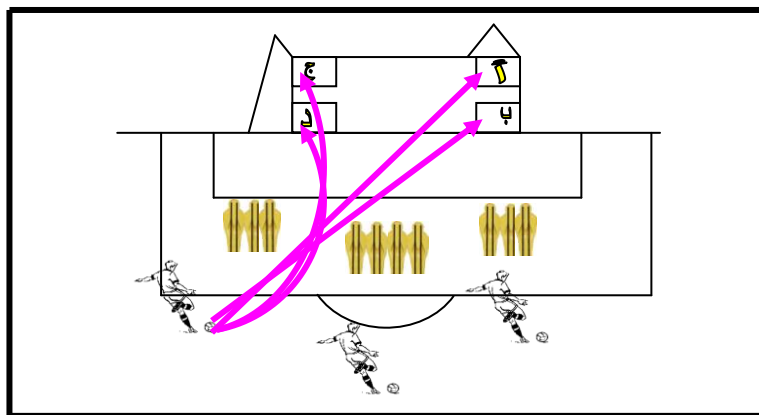
Figure (1) showed the test of accuracy of scoring through free kicks

2.2.3 Video imaging (determine where to place the camera)

The camera vertically placed above the player and the ball. It was at high (2.40 m) of the lens to the ground and (zero) of the player.

2.2.4 Exploratory experience

It is so important to verify the integrity of the procedures for test the accuracy of scoring, video imaging and availability of their own conditions, therefore there was a conducting exploratory study on (25/8/2012), on a sample of (6), and players were selected randomly, from the research community.

2.3 Scientific fundamentals of testing the accuracy of scoring far from the goal

First: credibility

The researchers have deduced the credibility, which based on. I've deduced Researchers Believe content (content), which is based on how much the test, measures the phenomenon (accuracy of scoring far from the goal). Through a questionnaire distributed to (5), specialists consider (3.3.1), and who pointed the validity of the test through the following: (The test is valid if achieved (100%) of the total views of experts to agree on the representation of the test that measures the phenomenon). After data is collection and using Test (chi Square), results showed the acceptance of the tests which achieved values greater than the value of (chi Square) Tabulated $ (3.84), at the degree of freedom (1), and the level of significance (0.05). Table (1) shows the validity of tests.

Table (1)
Shows the validity of tests

Test	Key answers		chi Square		Significant difference
	Suitable	Not suitable	Calculated	Tabulated	
Scoring accuracy of in the distance	5	-	5	3.84	

To confirm the validity of the test, there have been the researchers of credibility (virtual), by specialists' assessment who pointed the validity of tests through: (test relationship in terms of accuracy of the scoring), the nature of the test, instructions test and procedures and time for the test).

Second: Stability

Researchers tried finding reliability factor of the test in question (accuracy of scoring in the distance), by finding the correlation between the results, the results of second image to test the equivalent *, meaning the use of method (images equivalent). the value of the correlation coefficient (Spearman), is between the scores of the two tests by (0.81), to confirm the Test (accuracy correction in the distance), a high degree of stability, because the value of the square correlation is above by (0.66), and this means that the correlation is high

Table (2)

Shows the reliability coefficient for the test (accuracy of scoring in the distance), applied to the sample exploratory experiment

tests		Reliability coefficient	Square of the correlation coefficient	Statistical significance
First image	**Second image**			
The scoring accuracy in the distance	Scoring at nested rectangles painted on the wall	0.81	0.66	Significant

2.4 Ability to test the accuracy of the scoring in the distance

Detection capability discriminatory test under discussion: (scoring accuracy in the distance), the researchers conducted a comparison between the test results of a sample experiment reconnaissance and (6) players, use the test (Mann-Whitney) *, to calculate the coefficient of discrimination test, when compared to the value (Mann-Whitney) calculated\$ (0.000) tabular value of \$ (0.005), when the sample (n = 6 1, n 2 = 6), and the level of significance (0.05), (Mann-Whitney), the function statistically significant indication of the discrimination test.

Table (3)

Shows the value (Mann-Whitney), calculated and tabular values and statistical significance of the test (scoring accuracy in the distance)

Variable	Value (Mann - Whitney)		The level of significance	Statistical significance
	Calculated	**Tabulated**		
throwing the Medical ball	zero	0.005	0.05	Significant

2.5 Main experience

The researchers began filming the rest of the football players of Diwaniyah Club / Iraq, during their performing the testing, on (5/9/2012).

2.6 Video analysis

Variables were analyzed under study using the software for kinetic analysis,

- ➢ Adobe Bremer of Adobe Premiers (film processing)
- ➢ Auto CAD AutoCAD 2000 (to extract the raw data)
- ➢ Dart Fish

2.7 Statistical analysis

Researchers used statistical program (SPSS), for data processing and showing results, the following presentation of the statistical procedures used:

3. Results and Discussion

Table (4)

Shows the arithmetic mean and standard deviations for the research community of the surveyed variables

variables	Unit measurement	The arithmetic mean	Standard deviation
Scoring accuracy in the distance	number	5.745	2.558
Based foot direction	degree	13.691	4.335

Table 4 showed that the arithmetic mean of the variable (scoring accuracy in the distance), came by (5.745), and a standard deviation of (2.558), while the arithmetic mean of the variable (based foot direction), came by (13.691), and a standard deviation of (4.335). According to this, goals (I and II) of the study have been achieved.

Table (5)

Shows the value of the coefficient correlation between the scoring accuracy, and the based foot direction for the members of the research community

Variables	The coefficient correlation	Nature of the correlation	T value		Statistical significance
			Calculated	Tabulated	
Scoring accuracy, based foot direction	0.33	simple	4.716	1.980	Significant

After reviewing the results of the table above, we find that the value of the coefficient correlation between the variables of search (scoring accuracy), and (the based foot direction), stood at (0.33). To achieve the significant correlation, we use the second principle, value (T), calculated by (4.716), which is greater than the value spreadsheet of (1.980), at the degree of freedom (182), and the level of significance (0.05), which confirms the significant correlation and reality between variables (scoring accuracy), and (the based foot direction).

According to this the third goal of the research has been achieved, and prove the first hypothesis which confirms the significant correlation and reality between variables (scoring accuracy), and (the based foot direction). Generally, the simple linear regression model must achieve assumption that there is a linear relationship between the independent variable (the based foot direction), and the dependent variable ((scoring accuracy)), this means maintaining a variable-speed motor, within the model to achieve this requirement.

Table 6
Shows Quality indicators as the linear regression equation model

Variables		contribution rate (coefficient interpretation)	Value F		Statistical significance
Independent	Dependent		Calculated	The level of significance	
Based foot direction	Scoring Accuracy	0.109	4.845	0.039	Significant

Table (6) showed the value of the coefficient of interpretation (contribution rate), has reached (0.109), and this indicates that the value of the variable (the based foot direction), explains what $ (10.9), (scoring accuracy). This means that the prediction of scoring accuracy far from the goal), not only depends on (the based foot direction), but also on other factors. And this has been achieved the fourth goal of the research. It also indicates the same table to the value of (F), the calculated amount of (4.845), and the level of significance of (0.039), to the model of simple linear regression, so the model represents the relationship between the two variables under (scoring accuracy), and (the based foot direction).

Table (7)
Shows the special values of the coefficients and significant regression equation

Fundamentals		Value T		Statistical significance
Nature of factor	Factor value	Calculated	The level of significance	
Fixed amount (a)	6.714	5.253	0.000	Significant
Fixed amount (b)	0.297 −	2.203	0.039	Significant

Table 7 referred to the significant factor intersection (a), as well as the coefficient regression (b), where the values of (v), calculated for them, running by (5.253, 2,203), at levels of significance (0.000, 0.039), respectively, indicating a coefficient significant (a, b), to simple linear regression, that the equation model regression does not pass a point of origin, and the value of the regression coefficient is not equal to zero. as the teacher tendency indicate that the small value of the independent variable (angle direction of the based foot), leads to increase the value of the dependent variable (scoring accuracy) and therefore researchers found the predictive equation is as follows:

> **Value of based foot direction (r) = fixed amount (a) + fixed amount (b) x scoring accuracy value (Q).**

4. Conclusion

Study concluded that exercises similar to performance have positive affect in changing supporting foot position and direction what significant differences refer to, in biomechanical variables part, and exercises similar to performance have positive affect in development shooting accuracy through supporting foot position and direction. In addition, every biomechanical chaining in supporting foot position and direction clearly effect on other body part then on accuracy of shooting.

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