

An analytical Study of the Reality of Legal Knowledge of Some Group Games among Physical Education Teachers in Babylon

Saddam Fakhri Barto¹, Husam Kadhim Jawad², Hayder Jasim Shaalan³

¹General Directorate of Education in Babylon / Ministry of Education, Iraq, ²General Directorate of Education in Babylon / Ministry of Education, Iraq, ³General Directorate of Education in Babylon / Ministry of Education, Iraq

Abstract

The research objectives to identify the level of legal knowledge of physical education teachers in Babylon governorate, as for the research methodology, the researcher used the descriptive approach in the style of survey studies because it is the best and easiest curriculum to reach the achievement of the objectives to be researched. The research community of physical education teachers in the Babylon education directorate for the academic year 2020-2021 has been identified, their number (699) distributed into four departments each: From (Al-Hilla Al-Markazi, Al-Mahawil District, Al-Hashemiya District, Al-Musayyib District), as for the research sample, it was determined randomly by (223) teachers and schools, and it formed a percentage of (31,90) of the research community. As for the most important conclusions, they were that the current scale is able to reveal the level of legal knowledge of physical education teachers, as the scale shows that there is a clear weakness in the legal knowledge of physical education teachers in some group games resulting from not following up on the amendments to the law of these games. As for the most important recommendations, they were as follows: Paying attention to the law for all games in a more serious manner by physical education teachers, it is also necessary to give part of the lesson time in which the legal aspect is addressed and to hold courses or training sessions to explain and interpret the articles of law for some group games, and also directing teachers by their supervisors upon their visits to a simplified explanation of the law during the implementation of the lesson plan, with the follow-up of sports activity through field visits to find out the legal level of physical education teachers, especially (female teachers).

Keywords: *analytical study, legal knowledge, physical education, Babylon*

Introduction

Physical education, with its various activities, is one of the important and vital aspects of the educational process in the school, as it is concerned with the teacher and student acquiring values by virtue of its nature and objectives because it participates in its various aspects of activities that deal with social life in addition to its concern for health, theoretical skills and physical abilities. Knowledge of sports, especially group games, is one of the important matters that physical education teachers, a practitioner or a spectator, should understand and absorb an appropriate and sufficient amount of them, an efficient physical education teacher is the one who combines information and practical skills, including legal knowledge, without the knowledge associated with it, it is a deficient process, the profession of a teacher is great because he is the person who carries out the

systematic teaching process, and which most groups of society go through, as every individual receives some kind of education, the major message of the teacher requires a great effort to develop and develop their information and acquire various skills and knowledge so that they can influence those who teach them and create positive interaction between them and the students. The importance of school sport, one can deny its importance as the basis for the development and success of any sports game, and over the course of the sporting process the school had an indispensable role in the development of Iraqi sports, and therefore we see that the physical education teacher is the cornerstone of all this development, get to school sports, on the other hand, we see today the physical education lesson as a neglected lesson in most schools and not given its importance, so there has become an urgent necessity for a teacher that

is constantly evolving in line with the spirit of the age to keep pace with development and meet the needs of the lesson. Here lies the importance of research by preparing several paragraphs that include legal knowledge of some of the groups games most practiced by the student and loved by students and teachers through which we can identify the information level, in terms of understanding and interpreting legal cases and the extent to which teachers enjoy them to put the results in the hands of officials to develop and evaluate the specialist .

Research problem:

The preparation of a physical education teacher project from the researchers' point of view starts from the school, so if there is a good teacher who has the ability to properly communicate the information to the student through the interpretation of cases in a good and correct manner based on scientific foundations free of errors, which leads to our obtaining a teacher project a successful person is aware of the important role he will play and demands to fulfill it, We know that the teacher is a role model for his students, and if the theoretical, cognitive and scientific level of this example is weak, it will definitely be a bad example that will reflect negatively on the student's desire to practice sports in the future, and vice versa, Researchers noticed during their participation, judging, and their attendance in school races held annually by the sports activity for schools and being federated for some team games, they found a clear weakness in the legal knowledge of most teachers of sports education, especially in groups games.

Research objective :

Identifying the level of legal knowledge of physical education teachers in Babylon governorate

Search fields :

- **The human field:** Physical education teachers in Babylon governorate, which constitute the governorate center of Al-Hilla, Al-Mahawil, Al-Hashemiya and Al-Museeb.
- **Time field:** From 1/11/2020 until 10/1/2021.
- **Spatial field:** The schools of the Babylon education directorate.

Terms used in the search:

Legal knowledge: The researchers defined it procedurally, which is the teacher's familiarity with the articles and vocabulary of law for all games, especially the group games most practiced and traded among students, and the interpretation of errors that occur in races and matches, and following up on all new amendments to the laws of games.

Research methodology and field procedures:

Research Methodology:

The nature of the research problem is aware of the great interest in legal knowledge of physical education teachers, so the researcher used the descriptive approach in the style of survey studies because it is the best and easiest method to reach the achievement of the objectives to be researched.

The survey "provides the researcher with information that enables analysis, interpretation and decision-making, and reveals for him the relationships between the studied variables" ⁽¹⁾.

Community and sample research:

Determining the research community is one of the important steps and stages in the process of conducting the research, as the researcher can deal with the whole community with research if this community falls within the limits of its capabilities and capabilities, and the research community knows "all the individuals, events, or things who represent the problem of research" ⁽²⁾, the research community included physical education teachers in the Babylon education directorate for the 2020-2021 academic year, their number (699) distributed into four departments (Hilla Al-Markaz, Al-Mahawil District, Al-Hashemiya District and Al-Musayyib District).

The research sample: The research sample was determined randomly by (223) teachers and schools, and it formed a percentage of (31,90) of the research community, as follows: Hilla (center), where the total number of the community was (304). As for the survey sample, it was (5) and the main sample was (97), with a percentage of (43.49), as for the district of Mahawil, the total number was (106), while the survey sample (5) and the main sample (39), with a percentage (17.48) as for

the Hashemite district, the total number was (172). As for the survey sample (5) and the main sample (47), with a percentage of (21.07), and the Al Musayyib district, the total number was (117). As for the survey sample (5) and the main sample (40), with a percentage of (17,93).

Devices, tools and methods used in the research:

Any research from the research is not without means to collect data that the researcher can use to solve a problem and achieve his goals, and based on the researcher's use of the following research methods:

Observation:

Through the researchers attending the training lessons, their participation in the school races held annually by the sports and scouting activity in the governorate, and because they are certified referees in the Iraqi central federation for team games (football, basketball and volleyball), they noticed a clear weakness in the legal knowledge of most teachers and physical education teachers, especially in differential games, and through it the problem of the present study was identified.

Interview:

The interview is defined as "a friendly dialogue between the researcher and one or more specialists to consult his specialist to provide information that the researcher can use in the diagnosis to determine the methods of guidance and means of treatment" ⁽¹⁾, The researcher conducted a dialogue with a professor at the College of physical education* to collect information on how to reach appropriate solutions to the research problem and what are the important procedures on how to place questions related to legal knowledge in its own form.

Scientific sources and references:

Researchers reviewed many scientific sources and references that dealt with legal knowledge of researched games, general psychology, sport psychology, and scientific research to support the research steps.

Tools and devices used:

- Calculator
- Stationery (papers - pens)

- DELL laptop.

Field research procedures:

Specify Team games to represent legal knowledge:

The researchers distributed questionnaires and questionnaires (9) from sports activity directors and supervisors of a sport education specialty, to show which of the differential games most participated by physical education teachers in the annual races held by the directorate of sports activity and Scouting in each of the sports activity departments affiliated with to the Babylon education directorate, as follows: Basketball, the number of agree were (9), the disagree was (0) and kai square was (9), and the level of significance was (0.001), and the significance of the differences was (sig), and football, the number of agree were (8), while the disagree (1) and kai square was (5,44), the level of significance was (0,000) and the significance of the differences was (sig), Track and field were the number of agree (3), the disagree were (6) and kai square was (1) and the level of significance was (0,411) and the significance of the differences was (non sig), and Futsal, the number of agree were (8). As for the disagree was (1), and kai square was (5,44), the level of significance was (0,000), and the significance of the differences was (sig), and handball, the number of agree were (4), the disagree were (5), and kai square was (0.05), the level of significance was (0.283) and the significance of the differences was (non sig).

Numbers of legal knowledge paragraphs:

After the group games that participated in the sports races held by the sports and scout activity for the academic year (2020-2021) were identified (basketball, volleyball and futsal), accordingly, it became necessary to define the legal paragraphs of those games, as researchers worked to prepare a questionnaire for each of the aforementioned games, as each questionnaire contains (15) questions from the law of the game to be measured and mentioned above, and the researcher put the answers in the form of choices and answered them by placing any a sign or indication of the correct choice after reading the question.

Find the validity of the paragraphs of legal knowledge:

In order to find the validity of the paragraphs, the researchers worked to present these paragraphs to the experts from the directors of the sports activities departments in Babil Governorate and the specialized supervisors for sports education, as follows:

Paragraphs (1,3,5,8,10,11,16,13,17,19,20,21,38, 78) were agree by (9) as for those who disagree (0) and the chi-square (9) and the indication significance of the differences (sig), as for the paragraphs (2,26,29,6,7,31, 32,35,39,42,43,41,36,24), those who agreed upon them (7) and disagree (2) and the Chi-square (4,5). And the significance of differences (sig), about the paragraphs (6,9,12,14, 15,18,25,34,35,45,44,2,23) were agree by (8) as for those who disagree (1) and the chi-square (5,44) and the significance of differences (sig).

Exploratory experience:

The researchers worked on conducting an exploratory experiment on Sunday 11/11/2020, on a group of (20) teachers and schools research sample for the purpose of knowing the time it takes to answer the scale and what are the difficulties and obstacles that may appear and work on how to overcome them. The results of these teachers.

The main experience:

The researchers conducted the main experiment on Sunday, 18/11/2020, on the research sample, whereby all schools in the governorate covered by the research were visited by the researcher personally according to the book on facilitating the task for the researcher to enter middle and middle schools issued by the directorate of preparation and training in Babylon, on Sunday 22/12/2020.

Correct legal knowledge test:

After completing the collection of the forms for the members of the research sample, their total score was

extracted, each game separately using the correction key, prepared for this purpose "because it is the tool with which the researcher reveals the answers that indicate the existence of the result that is being measured"⁽³⁾.

The testers were given one score on the correct answer and zero for the wrong answer, the process of correcting one questionnaire took (3 - 5) minutes, and the testers 'scores ranged from (10-25) degrees, with a mean of (19,311), and a standard deviation (4,379) the iterations distributions of the building sample's knowledge scores were as follows:

1- Category (15) had a iterations of (85) and its percentage (38.11%).

2- Category (10) had a iterations (5) and percentage (2,24%).

3- Category (20) had iterations (113) and percentage (50.67%).

4- Category (30-25) had a iterations (20) and percentage (8.96%).

Where the total number of iterations was (223).

Ease and difficulty extracting paragraphs:

The difficulty factor for the paragraphs is of special importance, which is the use of the degree of difficulty to find the test vocabulary. The easy questions most of the sample members can answer them and the difficult questions the majority of the sample members do not agree to answer, and to extract the difficulty factor, the difficulty factor index⁽⁴⁾ was used, the designers of tests and metrics recommend excluding items with difficulty coefficients less than (10%) or more than (90%)⁽⁵⁾ and did not exclude any paragraph of legal knowledge because the transactions are naturally difficult, as shown in the following table:

Table (1) shows the difficulty coefficients of the legal knowledge items for physical education teachers

N	Basketball		N	Volleyball		N	Futsal	
	Ease coefficients	Difficulty coefficients		Ease coefficients	Difficulty coefficients		Ease coefficients	Difficulty coefficients
1	0,46	0,54	1	0,41	0,59	1	0,41	0,59
2	0,49	0,51	2	0,33	0,67	2	0,29	0,71
3	0,43	0,57	3	0,32	0,68	3	0,43	0,57
4	0,51	0,49	4	0,51	0,59	4	0,51	0,49
5	0,56	0,44	5	0,45	0,55	5	0,55	0,45
6	0,32	0,68	6	0,53	0,57	6	0,46	0,54
7	0,35	0,65	7	0,39	0,61	7	0,61	0,39
8	0,39	0,61	8	0,32	0,68	8	0,51	0,49
9	0,43	0,57	9	0,33	0,67	9	0,34	0,66
10	0,41	0,59	10	0,41	0,59	10	0,36	0,64
11	0,31	0,69	11	0,52	0,48	11	0,43	0,57
12	0,47	0,53	12	0,43	0,57	12	0,45	0,55
13	0,48	0,52	13	0,45	0,55	13	0,31	0,69
14	0,35	0,65	14	0,43	0,57	14	0,35	0,65
15	0,41	0,59	15	0,32	0,68	15	0,34	0,66

Extract the coefficient of distinguish :

The discrimination coefficient means “the ability of the paragraph to distinguish between individuals with higher relationships and individuals with lower relationships” ⁽⁶⁾ , and to find the coefficient of discrimination ⁽⁷⁾ , the following was done:

1- The overall correction of the scale paragraphs was made to obtain the total score obtained by each individual on the test.

2- The overall scores are ranked from highest to lowest for PE teachers.

3- The total grades were divided into two parts by 27% of the research sample of 223, and by 60 teachers for the total of the higher and 60 teachers from the lower group.

4- Extracting the number of male and female

teachers who answered correct answers to the paragraph from the two groups, as for the (Abel)criteria that were used to distinguish.

The Abel criteria for comparing the discriminatory power of paragraphs were as follows:

1- 40% and above were very good paragraphs.

2- 0.30 - 0.39 paragraphs were reasonably good but could be subject to improvement.

3- 0,20 - 0.29 were marginal paragraphs that needed improvement.

4- 0.19 and fewer were weak paragraphs deleted or improved.

The researchers adopted the paragraphs whose indication of distinction is from (0.30) and above, so the higher the value of the discrimination factor, the better

in terms of quality, and no paragraph was excluded and the above, so the scale paragraphs made up of (45 paragraph) for physical education teachers, and as shown in the table below.

Table (2) shows the parameters of distinguishing the articles of legal knowledge of physical education teachers.

N	Basketball		N	Volleyball		N	Futsal	
	Discrimination coefficient	Evaluation Paragraph		Discrimination coefficient	Evaluation Paragraph		Discrimination coefficient	Evaluation Paragraph
1	0,40	Characteristic	1	0,43	Characteristic	1	0,63	Characteristic
2	0,40	Characteristic	2	0,66	Characteristic	2	0,36	Characteristic
3	0,43	Characteristic	3	0,36	Characteristic	3	0,42	Characteristic
4	0,50	Characteristic	4	0,34	Characteristic	4	0,33	Characteristic
5	0,50	Characteristic	5	0,37	Characteristic	5	0,38	Characteristic
6	0,50	Characteristic	6	0,36	Characteristic	6	0,52	Characteristic
7	0,46	Characteristic	7	0,46	Characteristic	7	0,43	Characteristic
8	0,36	Characteristic	8	0,43	Characteristic	8	0,46	Characteristic
9	0,34	Characteristic	9	0,45	Characteristic	9	0,50	Characteristic
10	0,30	Characteristic	10	0,60	Characteristic	10	0,39	Characteristic
11	0,35	Characteristic	11	0,41	Characteristic	11	0,45	Characteristic
12	0,39	Characteristic	12	0,36	Characteristic	12	0,33	Characteristic
13	0,32	Characteristic	13	0,50	Characteristic	13	0,36	Characteristic
14	0,44	Characteristic	14	0,30	Characteristic	14	0,53	Characteristic
15	0,50	Characteristic	15	0,47	Characteristic	15	0,40	Characteristic

Internal consistency:

Internal consistency is the most common type in the field of physical education, as it is achieved when the ability or the characteristic to be measured includes multiple tests and the sum of the scores of these sub-tests gives a picture of the test score as a whole, availability of internal consistency of the test, the sincerity of internal consistency may be achieved through the following indicators:

The correlation coefficient between the paragraph score and the sum total of the measure:

To find the validity of the internal consistency, the formula for the Point-Piseral correlation coefficient was extracted between the paragraph score and the total score of the scale, and for the members of the legalization community, who numbered (223) teachers and schools. The calculated value was greater than its tabular value of (2,312) at the degree of freedom (221) and the level of

significance (0.05), and the following table shows that.

Table (3) shows the correlation coefficient between the paragraph score and the overall score for the legal knowledge scale.

Paragraph number	Correlation coefficient	T test	Significance type	Paragraph number	Correlation coefficient	T test	Significance type
1	0,41	4,99	Sig	24	0,48	6,07	Sig
2	0,22	2,50	Sig	25	0,49	6,23	Sig
3	0,42	5,13	Sig	26	0,29	3,36	Sig
4	0,50	6,40	Sig	27	0,30	3,49	Sig
5	0,34	4,01	Sig	28	0,23	2,62	Sig
6	0,49	6,23	Sig	29	0,34	5,28	Sig
7	0,60	8,32	Sig	30	0,27	3,11	Sig
8	0,37	4,42	Sig	31	0,40	4,84	Sig
9	0,27	3,11	Sig	32	0,47	5,91	Sig
10	0,32	3,75	Sig	33	0,46	5,75	Sig
11	0,23	2,62	Sig	34	0,34	4,01	Sig
12	0,25	2,86	Sig	35	0,39	4,70	Sig
13	0,36	4,28	Sig	36	0,28	3,23	Sig
14	0,30	3,49	Sig	37	0,37	2,42	Sig
15	0,22	2,50	Sig	38	0,23	4,99	Sig
16	0,34	4,01	Sig	39	0,41	5,28	Sig
17	0,26	2,99	Sig	40	0,34	6,23	Sig
18	0,49	6,23	Sig	41	0,49	7,69	Sig
19	0,21	2,38	Sig	42	0,57	2,86	Sig
20	0,49	6,23	Sig	43	0,25	3,88	Sig
21	0,28	3,23	Sig	44	0,33	4,28	Sig
22	0,46	5,75	Sig	45	0,42	0,13	Sig
23	0,39	4,70	Sig				

Correlation coefficient between paragraph score and total sum of the field:

To find the validity of the internal consistency, the formula of point payseral correlation coefficient was

used between the paragraph score and the total sum of the field (where each game was considered a field in the scale), as shown in the table below:

Table (4) shows the correlation coefficient between the paragraph score and the overall score for the legal knowledge scale.

Paragraph number	Basketball field			Paragraph number	Volleyball field			Paragraph number	Futsal field		
	Correlation coefficient	T calculated	Significance		Correlation coefficient	T calculated	significance		Correlation coefficient	T calculated	significance
1	0,49	6,23	Sig	1	0,42	5,13	Sig	1	0,51	6,58	Sig
2	0,25	2,86	Sig	2	0,35	4,14	Sig	2	0,41	4,99	Sig
3	0,41	4,99	Sig	3	0,40	4,84	Sig	3	0,48	6,07	Sig
4	0,40	4,84	Sig	4	0,52	6,75	Sig	4	0,43	5,28	Sig
5	0,44	5,43	Sig	5	0,58	7,90	Sig	5	0,29	3,36	Sig
6	0,59	8,10	Sig	6	0,33	3,88	Sig	6	049	6,23	Sig
7	0,38	4,56	Sig	7	0,37	4,42	Sig	7	0,32	3,75	Sig
8	0,32	3,75	Sig	8	0,43	5,28	Sig	8	0,47	5,91	Sig
9	0,41	4,99	Sig	9	0,45	5,59	Sig	9	0,51	6,58	Sig
10	0,51	6,58	Sig	10	0,41	4,99	Sig	10	0,44	5,43	Sig
11	0,45	5,59	Sig	11	0,33	3,88	Sig	11	0,44	5,43	Sig
12	0,34	4,00	Sig	12	0,35	4,14	Sig	12	0,36	4,28	Sig
13	0,34	4,00	Sig	13	0,38	4,56	Sig	13	0,33	3,88	Sig
14	0,35	4,14	Sig	14	0,44	5,43	Sig	14	0,42	5,13	Sig
15	0,44	5,43	Sig	15	0,29	3,36	Sig	15	0,28	3,23	Sig

Correlation coefficient between the field score and the total sum of the scale:

To find the validity of the internal consistency, the formula for the Point-Piseral correlation coefficient between the degree of the field and the subject of the scale was used for the scale and for the members of the legalization community, which numbered (223). Greater than its tabular value of (2,312) at the degree of freedom (221) and the level of significance (0.05). As shown in the table below:

Table (5) shows the relationship of the field to the total score of the scale.

N	Field name	Correlation coefficient	T calculated	Significance type
1	Basketball field	0,731	4,531	Sig
2	Volleyball field	0,881	4,331	Sig
3	Futsal field	0,767	4.321	Sig

The scientific foundations of the scale of legal knowledge:

The conditions for building the scale are of great importance in confirming the safety and process of this construction, and the general conditions for measuring tools are of great importance for the success of the measurement process, and the most important of these conditions are the purpose, stability and objectivity of the measurement tool ⁽⁸⁾, in what follows, explain to that:

Validate the scale:

The degree of validity is the most important factor for the tests' quality and scale tests. Validity is defined as "a test that measures with sufficient accuracy and the phenomenon that it is designed to measure and does not measure anything in place of it or in addition to it" ⁽⁹⁾. The more evidence the researcher provides of the validity of his scale, the greater the confidence used in his being really measuring what he intended to measure.

As for the validity of the content, it means (the degree to which the test measures and what it is designed to measure in society), and it is considered one of the most important types of validity in achievement tests and is related to the answer to the question.

And for the validity of the hypothetical formation, it is also called the validity of the construct or the validity of the concept, because it depends on investigation and experimentation of the extent to which the degrees of the scale correspond to the concepts that the researcher relied on in constructing it, and it is one of the most important types of honesty in the stages of building the scale, because it constitutes the theoretical framework of the scale and its calculation is considered More complex than other types of honesty because it depends on theoretical assumptions that are verified experimentally ⁽¹⁰⁾.

Stability of scale:

"It is the test that gives results of an approach or the same if applied more than once in similar circumstances." ⁽¹¹⁾, it is distinguished by a high degree of accuracy, proficiency, consistency and objectivity, and the concept of consistency indicates that the grades are not affected by the irregular errors that have multiple sources, some

of which relate to the measuring tool or procedures for applying and correcting the test, and others relate to the tested individuals⁽¹²⁾.

Halftone segmentation method:

It is one of the most used methods of stability, due to its economy in effort and time (1), and the paragraphs were divided into even (22) and individual items (23), and to confirm the homogeneity of the two halves of the physical education teachers scale, the (F) test was used and its calculated value was (1,371), with a degree of freedom (221) and a level of significance (0,05), which is less than the tabular amount of (2,223).

The simple correlation coefficient between these two halves was used and its amount was (0.791), and this value indicates the stability of the half of the test, and the (Spearman - Brown) equation was used ⁽¹³⁾, to find the reliability coefficient, the test as a whole, and the reliability coefficient as a whole was (0.883), which is a good indicator of the reliability of the scale.

Statistical means: The researcher used the SPSS statistical bag to access the research results.

- Chi-squar.
- Percentage .
- Correlation coefficient.
- T calculated.

Conclusions

Based on the research results reached within the limits of the research community, the following conclusions have been reached:

- 1- The current scale is able to reveal the level of legal knowledge of physical education teachers.
- 2- The scale shows that there is a clear weakness in the legal knowledge of physical education teachers in some group games.
- 3- Failure to follow up on amendments to the law of these games.

Financial Disclosure: There is no financial disclosure.

Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Ministry of Education and all experiments were carried out in accordance with approved guidelines.

References

1. Hussein MS. College of Physical Education and Sports Sciences, University of Karbala, Federal Judge of Basketball.
2. Khair El, Din A A. A Guide to Scientific Research, Cairo, The Arab Thought House, 1999.
3. Salah El-Din M. Educational Measurement and Evaluation, Its Basics, Applications and Contemporary Directions, 1st Edition, Cairo, Arab Thought House, 2000.
4. Amer S A. Building a measure of aggression against athletes, codifying it on soccer players, determining its levels, and comparing it according to the Play Center, PhD thesis, University of Baghdad, College of Physical Education, 2002.
5. Ayed K. Predicting the level of legal knowledge in terms of intellectual footprint and image memory for students of colleges and departments of Sports Education, PhD thesis, University of Babylon, College of Physical Education, 2011.
6. Ayed K A. Building Knowledge Scale for Sports Law for Students of Sports Education / University of Babylon, Journal of the Tenth Scientific Conference of the University of Babylon, 2008;39.
7. Abdullah A, Maher A. Psychological and Educational Assessment and Evaluation between Theory and Practice, 1st Edition, Amman, Wael Publishing House, 2004.
8. Muhammad H A, Muhammad N R. Educational psychology. 1st Edition. Amman: Maisarah House for Publishing, Distribution and Printing, 1998.
9. Muhammad S H. Measurement in Physical Education and Sports, Volume 1, 4th Edition, Cairo, House of Arab Thought, 2001.
10. Muhammad A, Hussein M. Advanced Statistics in Educational Sciences and Physical Education with SPSS Applications, 1st Edition, Amman, Al-Warraq Foundation for Publishing and Distribution, 2006.
11. Muhammad A F A. Scientific Research, Applied Guide for Researchers, 1st Edition, Amman, Wael for Publishing and Distribution, 2002.
12. Mustafa M, others. Evaluation and Measurement, Baghdad, Dar Al-Hikma for Printing and Publishing, (BS).
13. Nader F Hisham A. Principles of Measurement and Evaluation in Education, 3rd Edition, Amman, Dar Al-Fikr, 2005.
14. Wajih M. The Origins of Scientific Research and Its Curriculum: 2nd Edition, Amman, House of Approaches for Publishing and Distribution, 2005.