



The relationship of scientific knowledge with some special leadership styles for teachers of physical education

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Abstract

The importance of the research was represented in identifying the relationship between scientific knowledge and some special leadership styles of physical education teachers, as well as identifying the pioneering leadership style of physical education teachers in the Karbala governorate through preparing a questionnaire for the special leadership styles of physical education teachers in the holy Kerbala governorate. As for the research problem, it was found that there are a number of fellow physical education teachers who do not pay attention to the required extent of the limits of scientific mathematical knowledge, while the research sample consisted of physical education teachers in Kerbala for the academic year 2022–2023. The most important conclusions reached by the researcher are that physical education teachers who have high scientific knowledge always tend to use leadership styles (behavioral – democratic – and human). . As for the most important recommendations that the researcher recommends, it is the need to provide schools with the laws of modern games and scientific sources, which would increase the scientific knowledge of physical education teachers, because of their role in using the optimal leadership style with students.

Keywords: Scientific knowledge, special leadership styles, physical education.

1. Introducing the research:

1.1. Introduction:

Scientific knowledge is one of the important goals of most physical education and fitness programs and their activities for those in charge of them, whether they are teachers or teachers. It is necessary for the professional work of this segment to have complete and renewed scientific knowledge of laws, rules, performance methods, competitions, terminology, plans, and their participation in sports activities and games. All sports, so that he can, through these activities, possess a base of scientific knowledge, which qualifies him to lead this generation and provide him with the knowledge of these activities, in addition to teaching them the foundations, steps, and methods that guarantee the maintenance of acquired skills, the level of performance, and the detection of talents. The teaching profession requires, in addition to the cognitive characteristics, certain skills and competencies that the teacher must possess in order to be an effective teacher.

Among these skills is (leadership), which is considered one of the main pillars for the success of the teacher in managing his educational profession, this task that goes beyond the limits of providing students with specific skills and technical information that leads to the development of the student's personality in all aspects. The teacher's acquisition of the qualities (efficient and distinguished leader) is one of the main factors constituting success in the educational institution, and the leader's job includes many components, including: defining goals, defining basic programs and plans, And the availability of the necessary tools, competition management at various levels, as well as guidance, control, follow-up, and performance evaluation, which is the driving force to reach the goals by the best means and the lowest costs and within the limits of the available capabilities and resources. Among the important and multiple factors that must be available in the behavior that the teacher takes in the recipient is the leadership methods used. It is known that leadership appears through several methods, and each of them succeeds in achieving the goals. According to the situations and individuals who are dealt with, as well as the teacher's enjoyment of his knowledge in using these methods, he facilitates his task and achieves his goals. Hence the importance of research in studying the relationship of scientific knowledge with some special leadership styles for physical education teachers.

1.2. Research Problem:

Within the knowledge limits of the researcher being one of the teachers of physical education in the Iraqi Ministry of Education, it was found that there are a number of colleagues teachers of physical education who do not pay attention to the required extent of the limits of scientific mathematical knowledge, and that the scientific stock of games and applied sports activities, and we know that mathematical sciences are constantly renewable sciences, And the laws of different games occur in which continuous changes occur, as the teacher of physical education must follow these changes and keep pace with them, and renew his scientific

knowledge, as well as the appropriate ability to use the optimal method of leadership in work for various activities that should be appropriate for each stage and for each activity.

1.3. Research objective:

- Preparing a questionnaire for the special leadership styles of physical education teachers in Kerbala Governorate.
- Identifying the relationship between scientific knowledge and some special leadership styles of physical education teachers in Kerbala Governorate.
- Identifying the pioneering leadership style of physical education teachers in Kerbala Governorate

1.4. Research hypotheses:

- There are significant differences of statistical significance between the pre- and post-tests and in favor of the post-test.
- There are significant differences of statistical significance between the control and experimental groups in the post-tests and in favor of the experimental group.

1.5. Research fields:

1.5.1.The human field: Physical education teachers in the holy city of Kerbala for the academic year 2022-2023..

1.5.2.Time field: From 20/9/2022 to 20/1/2023.

1.5.3.Spatial field: Intermediate and preparatory schools of Kerbala Governorate Center.

Theoretical studies:

The physical education lesson is known to be one of the important methodological lessons, and its objectives are achieved correctly and the general benefit of society is achieved, as long as we are able to properly plan our lessons, we will make our students enjoy good physical fitness, and they possess sports skills and information that will benefit them in their daily lives, and the implementation of the physical education lesson is one of The most important duties of physical education teachers, as physical education is characterized by its comprehensiveness and integration, and it must be taken care of and given a distinguished position and a prominent role in schools.

And that this matter is necessary and required despite the lack of serious and tangible interest in the educational aspects and everything related to it, but through the lesson of physical education we seek to build a balanced and independent personality for the student by developing and developing physical, motor, cognitive, and moral qualities, and stems from the importance of physical education a number of The goals that we seek to achieve through physical education lessons, including raising the functional efficiency of the various body systems, developing skills, and providing them with general knowledge, information, and mathematical concepts.

And that cognitive measurement in the mathematical field, the measurement process of scientific knowledge may face many difficulties, because knowledge is an intangible thing, so it cannot be estimated or weighed by mechanical devices, which indicates that the measurement of knowledge is indirect, and objective measurements of knowledge in the mathematical field can be considered one of the most important types of measurement, as

they are among the main perspectives in our field, as they advance the educational process, and it can be said that practical and theoretical information is an important part of the completion of applied units, and that a successful physical education teacher is the one who is interested in providing the student with theoretical knowledge and information related to the activity he studies.

There are also many difficulties facing the process of measuring knowledge, including:

- The process of building standardized cognitive tests requires great efforts in terms of material and moral.
- Most of the standardized cognitive tests in the field of physical education are not published in books, magazines, or the like, meaning that they are not available to researchers in this field.
- Questions or paragraphs of a good knowledge test require great skill in preparing or selecting them.
- Increasing the difficulty of questions or cognitive test items to show that physical education is not easy.

Leadership has been cared for by human societies since ancient times, recognizing its importance in achieving the group's hopes and aspirations, and this can only be done through conscious leadership that enjoys a high degree of efficiency and effectiveness, in order to help achieve the well-being of community members and achieve goals, as the basic function of leadership is Working with the group and for its benefit in a mutual social interaction process between the leader and his followers that is needed by every group that wants to achieve its goals, so leadership has become one of the greatest facts of political, economic and social life in all countries of the world.

As it is relied upon to achieve the goals that are the aspiration of all societies, and influences all development, so leadership is considered a creative act concerned with achievement, achieving goals, and leadership as a social phenomenon found in every social situation, as it confirms the activity of individuals and different groups, as it is a form of Social interaction between the leader and the members of his group, in addition to being a behavior carried out by the leader to help achieve the goal to be achieved on the one hand, and to improve interaction between members and maintain their cohesion on the other hand. The physical education teacher in the school is also a leader, as he directs and guides the students and tries to influence their behavior and equip them with different mathematical skills and educational qualities through the physical education lesson. Also, the team leader acts as a leader for his colleagues and is the link between the coach and the players, with certain characteristics that qualify him to lead his colleagues in the game.

2. Research methodology and field procedures:

2.1. Research Methodology:

The researcher used the descriptive approach using the survey method and correlational relations, because it is the most suitable method for the nature and objectives of the research..

2.1. Research community and sample:

The research community included teachers of physical education for intermediate and preparatory schools, distributed among the schools of the Holy Karbala Governorate.

The research sample included (304 male and female teachers) with a ratio of (42.16) out of the total number of male and female teachers of (721), as they were chosen randomly from the center of the Holy Karbala Governorate.

2-3 Methods and tools used in the research:

2.3.1. The researcher used the following necessary means:

1. Arabic and foreign sources and references.
2. The International Information Network (the Internet).
3. Personal interviews.
4. Field observation.
5. The measure of scientific knowledge.
6. The questionnaire for the questionnaire of leadership styles.
7. The special form for collecting data and information.
8. The special form for emptying the data. 9- The work team is assistant.

2.3.2. Devices and tools used in the research

1. A personal computer (laptop) type (Dell).
2. Canon manual calculator.
3. Various office tools such as (dry pens - pencils - and a metric tape measure).

2.4. Determine search parameters:

The (Ayed, 2007) scale was used to obtain information and data on scientific knowledge, and it is a scale prepared by (Ayed Karim Abd Aoun) to measure practical knowledge based and standardized on teachers of physical education in the governorates of the Middle Euphrates, and it included (5) games to represent the scale of scientific knowledge. Including (Football - Volleyball - Handball - Basketball - Square and Field).

The scale consisted of (76/ paragraphs) that were formulated in a style (multiple choice, true and false, complement, shapes and images), and distributed in five domains, which are (general information, games and arbitration law, psychological preparation, physical fitness, and teaching methods). As for the method of correcting the scale, (1 point) was determined for the correct answer, and (zero) for the wrong answer, and the highest score for the scale is (76 / degree).

2.5. The exploratory experiment of the scientific knowledge scale:

The researcher conducted the exploratory experiment on a group of testers, to learn about:

- The opinion of the testers on the scale instructions, and the detection of weaknesses in them in terms of wording, content and soundness of language. □
- Ensure the appropriateness of the paragraphs of the scale used and the ease of answering its paragraphs.
- Knowing the difficulties and problems facing the researcher in terms of time and effort.
- The time taken for the test.
- Collaboration of the assistant team.

2.5.1. Steps to build a leadership style questionnaire:

In order to use a tool to measure the leadership styles of physical education teachers, the researcher built a questionnaire according to the following steps:

2.5.2. Determine the areas of leadership style identification:

1. For the purpose of defining the areas of leadership styles, the researcher looked at scientific sources and references and similar studies related to the subject of the research, and benefited from the opinions of a number of specialists in this field, in order to identify the leadership styles used by teachers of physical education.
2. The researcher prepared an open questionnaire addressed to experts and specialists in the field of educational and psychological sciences, and physical education sciences, to identify the most important areas of leadership styles used by teachers of physical education, as it included (5/ fields), including: (the democratic style, the dictatorial style, The chaotic style, the human style, and the behavioral style).
3. The questionnaire was presented to (13 / experts) within the specialization of (management and organization, evaluation and measurement, motor learning, psychology, sports psychology, teaching methods, and physical education curricula).
4. In light of the results of the questionnaire, the methods that scored less than (80%) were excluded, "because the researcher has the right to choose the percentage that he deems appropriate when testing the effects", and the chaotic method was excluded, because he did not obtain the required percentage as shown. in the table.

Table (1) shows the relative importance obtained by leadership styles from the point of view of experts.

N	Leadership styles	Relative importance	Sig type
1	Democratic style	100%	Sig
2	Dictatorial style	84,61%	Sig
3	Messy style	53,84%	Non sig
4	Human method	100%	Sig
5	Behavioral method	92,30%	Sig

2.5.3. Preparing the initial paragraphs of the questionnaire:

The preparation of the initial formulation of the questionnaire required procedures that started from the initial formulation of the paragraphs of the questionnaire according to the areas that were identified in a way that suits the research community as follows:

1. The researcher reviewed some sources, references, research, standards, and previous questionnaires in (Physical Education - Educational Administration - and Psychology), which are related to the current research.
2. Through the scientific foundations contained in research and studies, the paragraphs of the questionnaire were drafted in their initial form, amounting to (72 / paragraphs) and distributed over the areas of the four styles of leadership, and it included the democratic style

(19 / paragraphs), the dictatorial style (17 / paragraphs), and the humane style (18/ paragraph), and the behavioral style (18/ paragraph), as the researcher relied on formulating the phrases of the paragraphs in the first person.

2.5.4. Determine the validity of the leadership styles questionnaire paragraphs:

After the paragraphs of the questionnaire were drafted in their initial form, which numbered (72 / paragraphs), they were presented to (13 / experts) in the field of scientific research, and after collecting and unpacking the data, the researcher used the (Ca2) test, in order to identify the valid paragraphs or not, and the results showed Competence (66/ paragraphs) divided into (four areas) for leadership styles as follows: the democratic (17/paragraph), the dictatorial (16/paragraph), the humane (17/paragraph), the behavioral (16/paragraph), and (6/paragraph) were excluded because they did not obtain an agreement rate of (80%), and more From the opinions of experts, and the following table shows the validity of the paragraphs, as well as some paragraphs were amended and formulated to suit the linguistic formulation and the level of the sample, and the table shows that.

Table (2) shows the validity of the paragraphs:

Style	Paragraph numbers	T o t a l p a r a g r a p h s	N u m b e r o f a c c e p t a b l e	ag r e e m e n t r a t i o	Value (Ka2)		Sig t y p e
					cal c u l a t e d	tab u l a r	
Democratic leadership	1, 2, 4, 5, 12, 13, 15, 16, 18	9	13	100 %	13	3,84	Sig
	3, 4, 9, 14, 19	5	12	92%	9,307		Sig
	8, 11, 17	3	11	85%	6,230		Sig
	7, 10	2	7	54%	0,076		Non sig
	1, 2, 3, 8, 10, 13, 17	7	11	85%	6,230	3,84	Sig

Dictatorial leadership	4, 5, 6, 7, 9, 14	6	13	100 %	13	3,84	Sig
	11, 12, 16	3	12	92%	9,307		Sig
	15	1	5	38%	0,692		Non sig
Humanitarian leadership	1, 4, 5, 6, 10, 13, 15, 16	8	13	100 %	13	3,84	Sig
	8, 11, 17, 18	4	12	92%	9,307		Sig
	2, 3, 9, 12, 14	5	11	85%	6,230		Sig
	7	1	7	54%	0,076		Non sig
Behavioral leadership	1, 2, 13, 14, 17, 18	6	13	100 %	13	3,84	Sig
	3, 5, 7, 8, 10, 11	6	11	85%	6,230		Sig
	4, 9, 15, 16,	4	12	92%	9,307		Sig
	6, 12	2	7	54%	0,076		Non sig

2.5.5. Method of correcting the questionnaire of leadership styles:

In formulating the paragraphs and answering them, the researcher relied on a graded weight method according to the five-dimensional Likert scale for the questionnaire items because they have high validity and stability, as follows: (always, often, sometimes, rarely, and never), and asked the respondent to put a mark (✓). Under one of the five dimensions and appropriate to it and for each paragraph of the questionnaire, it numerically represents the order (always and takes (5), often takes (4), sometimes (3), rarely takes (2), never (1 score)), and the total questionnaire score is calculated by adding the scores for the correct alternatives that the respondent influences in the items. The resolution is all. In order to correct the questionnaire, the score that physical education teachers obtain on the leadership styles questionnaire was determined, which ranges from (66-330/degree). The higher degree obtained in one of the four styles of leadership (democratic - dictatorial - humanistic - behavioral) is considered to be the style prevailing among teachers of physical education.

2.5.6. Preparing the questionnaire instructions in their final form:

When preparing and designing the test, the test instructions must be prepared, preferably before writing the vocabulary. Usually, the instructions are written according to the level of the testers, and they explain his idea when testing, its time, and the method of answering. These instructions are considered in the exploratory experiment and in its final form, and accuracy must be placed. Those instructions, as they affect the results of the test, as well as

the emphasis on not mentioning the name, and that their answers will be used for scientific research purposes only.

2.5.7.Exploratory experience to identify leadership styles:

After the researcher finished preparing the final version of the questionnaire on leadership styles, included the instructions with him, and completed the assessment scale, the researcher conducted his survey experiment on the same sample of physical education teachers for the first survey experiment, whose number was (30 / male and female teachers), who were chosen randomly. They were excluded from the main experiment, and the researcher asked the sample members to provide their observations on the items that were not understood, and after discussing the paragraphs and instructions with the members of the experimental and reconnaissance sample, it became clear that they were understood and did not need modification. -35/minute), with an arithmetic average of (30/minute).

2.6.The main experiment, the final application of the two research tools:

After preparing the two research tools, the researcher applied the scientific knowledge scale, and the leadership style questionnaire form in the final form, to the research sample, who are teachers of physical education in the holy city of Kerbala. After receiving the sample responses, they were emptied, and then the data were entered into special forms, and prepared for the statistical process in order to achieve and discuss the research objectives.

2.7. Statistical means:

For the purpose of completing the research project, the researcher used the statistical bag (SPSS):

- 1- Mean
- 2- Std. Deviation
- 3- Standard error
- 4- Skew ness
- 5- Median

3. Presentation, analysis and discussion of the results:

This section includes the results reached after applying the two research tools (the measure of scientific knowledge and the questionnaire of leadership styles) on the research sample. The results will be presented and analyzed. And discussing it according to the objectives set by the researcher, a questionnaire of leadership styles was prepared for teachers of physical education, and therefore the first objective of the research was achieved, and the other objectives will be discussed.

The relationship between scientific knowledge and leadership styles for physical education teachers.

The relationship between scientific knowledge and leadership styles of physical education teachers is the second objective of the research objectives, which is the main objective of the research, as the researcher wanted to know the truth about the relationship between scientific knowledge of the research sample and leadership styles of physical education teachers, and to achieve this end:

1. The researcher explained the statistical description of the study variables (scientific knowledge and leadership styles).
2. The researcher used the calculated correlation coefficient to find the relationship between the two variables (scientific knowledge and leadership styles).

After conducting the statistical operations of this study, the results came as follows:

3.1. Presenting and analyzing the results of the statistical description of the variable of scientific knowledge and democratic leadership style:

Table (3) shows the statistical description of the variable scientific knowledge and democratic leadership style:

Variables	Unit	sample number	Mean	Std. Deviation	Standard error	Skewness	Median
Scientific knowledge	Degree	80	51,712	7,537	0,843	-0,114	52,000
Democratic style	Degree		75,675	4,199	0,469	-0,232	76,000

It is clear from the table that the statistical description of the scientific knowledge variable has an arithmetic mean of (51,712), a standard deviation of (7,537), and a standard error of (0.843), and that the value of the skewness coefficient was (-0.114), and that the median value of scientific knowledge is (52,000).

The arithmetic mean of the democratic method was (75,675) with a standard deviation (4,199). And with a standard error of (0.469), and the value of the torsion coefficient was (-0.232), and the democratic method obtained the median value is (76,000), and this indicates the correlation of the sample answers.

3.2. Presenting, analyzing and discussing the results of the calculated correlation coefficient values and the percentage of error between scientific knowledge and the democratic method:

Table (4) shows the values of the calculated correlation coefficient and the percentage of error between scientific knowledge and the democratic method:

Variables	Unit	correlation coefficient	Error percentage	Sig level
Scientific knowledge	Degree	**0,296	0,008	Sig
Democratic style	Degree			

At the level of significance (0,01)

The table shows the results of the correlation between scientific knowledge and the democratic style in detail, as the relationship was found using the Pearson correlation

coefficient, and the results showed that the value of the correlation coefficient was (0.296) with an error rate of (0.008) at the level of significance (0.01).

From this, it is clear that there is a statistically significant and direct correlation between each of the scientific knowledge and the style of democratic leadership for physical education teachers in the holy city of Kerbala, who represent the research sample.

The results in the two previous tables indicate that there is a direct significant correlation between scientific knowledge and the style of democratic leadership for teachers of physical education.

The researcher attributes the cause of the significant correlation to that the higher the level of scientific knowledge of the teacher of physical education, the greater his understanding and awareness of how to use the democratic method.

The researcher believes that the moral relationship came as a result of the teachers' possession of a lot of knowledge and the continuous participation in school sports competitions and activities, as well as their possession of motivation towards knowledge, and the continuation of progress in achieving the goals, as well as the teacher's giving to the students of opportunities to participate and give opinions, and the degree of his interest in exploring their opinions, and listening to Their proposals in some of the problems related to the lesson or the training of school teams.

3.3.Presenting and analyzing the results of the statistical description of the scientific knowledge variable and the dictatorial leadership style:

Table (5) shows the statistical description of the scientific knowledge variable and the dictatorial leadership style:

Variables	Unit	sample number	Mean	Std. Deviation	Standard error	Skewness	Median
Scientific knowledge	Degree	56	35,672	7,616	0,956	-0,523	37,000
dictatorial style	Degree		74,358	4,302	0,564	0,249	74,000

It is clear from the table that the statistical description of the scientific knowledge variable has an arithmetic mean of (35,672), a standard deviation of (7,616), and a standard error of (0.956), and that the value of the skewness coefficient was (-0.523), and that the median value of scientific knowledge is (37,000).

As for the arithmetic mean of the dictatorial style, it was (74,358) with a standard deviation of (4,302) and a standard error of (0.564), and the value of the torsion coefficient was (0.249). The dictatorial style got the median value (74,000), and this indicates the correlation of the sample answers.

3.4. Presenting, analyzing and discussing the results of the arithmetic mean, standard deviation, percentage and ranking of leadership styles:

Table (6) shows the arithmetic mean, standard deviation, percentage and order of the sample's responses to leadership styles:

leadership styles	Number	Mean	Std. Deviation	Percentage	Arrangement
Behaviorist	95	77,326	3,598	31,25	First
Democrat	80	75,675	4,199	26,32	Second
Human	73	76,712	4,114	24,01	Third
Dictatorial	56	74,258	4,302	18,42	Fourth
Total	304	-	-	100%	-

It is clear from the table that the description of the nature of leadership styles for teachers of physical education, as the behavioral style obtained an arithmetic mean of (77,326) with a standard deviation of (3,598) and a percentage of (31.25) from the answers of the research sample, while the democratic method obtained an arithmetic mean of (3,598). (75,675) with a standard deviation (4,199), with a percentage of (26.32) from the answers of the research sample, while the humane method obtained an arithmetic mean of (76,712) and a standard deviation of (4,114) and a percentage of (24.01), and the dictatorial method obtained an arithmetic mean of (74,258) and a standard deviation of (4,302), with a percentage of (18,42) of the research sample answers.

4. Discussion:

By observing the percentages in Table (6), we find that the behavioral style ranked first, followed by the democratic style in the second place, then the humane style in the third place, and the dictatorial style came in the fourth and last place.

This indicates that the behavioral leadership style is the dominant and most used method among physical education teachers in intermediate and preparatory schools in the holy city of Kerbala. According to what the results indicated, the researcher believes that the behavioral leader adopts the principle of incentives and rewards with students when achieving the least achievement in the school races that are held between schools, and he achieves clear and tangible results.

The results showed that all leadership styles (democratic, dictatorial, humane, and behavioral) were used by teachers of physical education, but the degree of their use varies from one teacher to another, as there are many factors affecting the choice of the leader (teacher) for the (leadership) style, including factors specific to the leader such as the (value system) that he believes in, the extent of his trust in his subordinates, and the leader's personal inclinations,

And factors specific to subordinates such as (the effectiveness of the group - their degree of cohesion - their motives - their productivity - and their view of themselves), in addition to

factors specific to the environment such as (the prevailing traditions, and the efficiency of the group). Based on the foregoing, the researcher has achieved the objectives of the second and third research in terms of studying the relationship of scientific knowledge with some special leadership styles of physical education teachers, and identifying the prevailing leadership style of physical education teachers in the holy city of Karbala.

5. Conclusions and recommendations:

5.1. Conclusions:

- The results showed that physical education teachers who have high scientific knowledge always tend to use leadership styles (behavioural, democratic, and humanistic).
- The leadership style (behavioral) is the most dominant style used by teachers of physical education in intermediate and preparatory schools in the center of the holy city of Karbala.
- The results showed that the respondents, who do not have high scientific knowledge, tend to use the (dictatorial style) to the exclusion of other leadership styles.
- The (dictatorial) leadership style is the least used style among physical education teachers in intermediate and preparatory schools in the holy city of Karbala, because it has the lowest percentage of other leadership styles.

5.2. Recommendations:

- The need to provide schools with the laws of modern games and scientific sources, which would increase the scientific knowledge of physical education teachers, because of their role in using the optimal leadership style with students.
- In view of the great role played by physical education teachers in building the generation, it is necessary to hold continuous training and specialized courses, to follow up on recent developments, and to raise their performance to a better state in the future.
- Emphasizing leadership styles for teachers of physical education, because of its importance in forming sound characteristics for students that are commensurate with the prevailing sports values in Iraqi society through developmental courses that develop their leadership personality.
- The need to conduct periodic tests to determine the level of scientific knowledge of physical education teachers on an ongoing basis
- Enhancing the use of (behavioral) leadership, because of its positive effects on students, as future leaders, as it is the most used leadership method for physical education teachers in teaching.
- Developing a system of incentives and rewards for school sports teams that win school championships according to a specific mechanism to increase students' motivation towards achieving continuous achievement.
- Conducting similar studies on the leadership styles of physical education teachers with other variables.

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