

COGNITIVE COMPETENCE OF GRADUATES OF PHYSICAL EDUCATION AND SPORTS SCIENCES IN NAJAF GOVERNORATE FOR THE ACADEMIC SEASON 2022-2023

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Abstract

The importance of the research came in identifying the competence and qualifications of the fourth stage students and the extent of their intellectual and technical readiness to master teaching and training, as well as arbitration and treating minor sports injuries that may occur during the lesson or during training. The research problem was revealed in answering the following question: Are the fourth stage students... In the application stage, they possess the cognitive competence to become successful teachers qualified for this profession according to the outcomes of this college and according to regular study for a period of four years. The research aimed to identify the cognitive competence of fourth-year students in four axes: (teaching, training, arbitration, and treating sports injuries). The researcher used the descriptive approach in survey studies to address the research problem and achieve its goal. The research community consisted of fourth-year students, numbering (121) male and female students. The researcher used the researcher's cognitive competence scale (Laith Muhammad Shawkat 2014), and after extracting the scientific foundations of the scale to make it suitable for the research sample, it was applied. On the sample of the exploratory experiment to ensure its validity, then the main experiment of the research was conducted, and after distributing the scale and receiving it, the questionnaires were audited and then subjected to statistical treatments, and based on the results that were presented and discussed, *the researcher concluded the following:*

1. There are no significant differences between the four axes
2. The sample's answers were centered in the middle, which indicates that the sample was not proficient in one axis over another.
3. The lack of specializations in the college led to the sample not excelling in any of the four fields

It recommended the following:

1. Changing the college's departments from scientific departments (individual, group, and theoretical) to specialized departments, such as teaching and training, for example.
2. Opening special departments for arbitration and physical therapy as specialized departments with independent studies, the degree of which is the specialty of physical therapy.

Keywords: Cognitive , physical education and sports.

Introduction

The great development that the civilized world has achieved in the current century has all observers searching for the appropriateness of this development, and perhaps the sports field is one of these fields included in the development. There is no doubt that the outputs of the College of Physical Education and Sports Sciences are in two directions: training and teaching. The period spent by the student In this college, which lasts for four years, there are many natural sciences, humanities, and supporting sciences, all of which are supposed to contribute effectively in bringing the student to advanced levels of science and knowledge, as well as developing his capabilities in the training process and his proficiency, in addition to the mathematical mission of being able to teach sports in school.

Among those educational goals is the ability of learners to deal with and process information in order to be able to interact with the information revolution and scientific and technological progress, and to make learners, instead of dealing with the amount of information by memorization, deal with this accelerating amount of information and knowledge through information processing,¹ which must focus It has learning curricula, and this means that the trend must be in the present era to develop information processing methods for learners and pay attention to what happens inside their brains while receiving academic information and how to organize, receive, schedule, and study it, and how to prepare for the exam. Hence, the phenomenon of learning, its determinants, inputs, processes, and outcomes have continued to have the greatest influence. Of human interest at all levels, categories, and directions.² The elements of the learning system and the factors that affect it and are linked to it in causal or correlational relationships have attracted sustained interest from researchers, trainers, and psychologists, regardless of their schools and directions. With the development of the outlook on human learning and its determinants, the issues of adapting learning outcomes and outcomes have become organically linked. Functionally, with issues of activating and consulting the individual's cognitive mental activity, its cognitive determinants, and its emotional factors, along with the quality of inputs, level and content, our educational system has reduced all learning outcomes to one component or variable, which is academic achievement, so that this change has become the most attractive variable for the forced attention of all members of society.

Research importance

- Hence the importance of the research in identifying the competence and qualifications of the fourth stage students and the extent of their intellectual and technical readiness to master teaching and training after four years of study.

Research problem

The research problem was revealed in the answer to the question as follows:

- Are students in the fourth stage capable of teaching and training from a theoretical standpoint, meaning does the research sample have the cognitive competence in teaching and training?

Research objective:

- Identify the cognitive competence of fourth-stage students and their teaching and training qualifications.

Research field:

1. Human field: Fourth stage students for the academic year 2022-2023, numbering (121) male and female students.
2. Spatial field: Facilities and halls of the College of Physical Education and Sports Sciences/University of Kufa
3. Time range: for the period from 1/2/2023 to 2/ 4/23.

Research Methodology

The researcher used the descriptive method using the survey method because it suits the nature of the research problem, “which means analyzing, describing, and giving results, and does not depend on an independent variable or a dependent variable.”³

Research population and sample

The research community included fourth-year students at the College of Physical Education and Sports Sciences, University of Kufa, and the College of Education for Girls, who numbered (121) male and female students.

Note: The researcher did not exclude the exploratory experiment sample from the main experiment, and table (1) shows this:

Table 1. Shows research population and sample

| Total society | Research sample | | Sample exploratory experiment | |
|---------------|-----------------|----|-------------------------------|---|
| | D | A | D | A |
| 121 | 68 | 43 | 12 | 8 |

Research tools

1. Testing and measurement.
2. Sources and references.
3. Questionnaire.
4. Observation.

The researcher used the following tools

1. Calculator.
2. Paper.
3. Pen.

Research procedures

Modifying the cognitive competence scale. The researcher (Laith Muhammad Shawkat 2014) used the cognitive competence scale for physical education teachers, and the researcher intended to make some modifications to it to suit the research sample.

Note: The researcher adhered to all expert observations.

Exploratory experiment

The researcher conducted an exploratory experiment on Sunday, March 12, 2023, on a small sample of fourth-year students, numbering (20) male and female (12) male and (8) female students. Its purpose was:

1. Identify the sample’s understanding of the scale items.
2. Know the time required to answer.
3. Scientific foundations of the scale (reliability).

Validity of the scale

The researcher used the content validity of the scale by presenting the scale to a group of experts, and as shown in Table (2).

Table 2. Shows the content validity of the cognitive competence scale

| Scale | Experts | Agree | Disagree | Chi-square |
|----------------------|---------|-------|----------|------------|
| Cognitive competence | 9 | 9 | Zero | 9 |

Scale stability

Through the exploratory experiment, the researcher relied on distributing the scale to a sample of (20) male and female students on 3/18/2023, and redistributing the scale after a period of two weeks to the same sample, and then extracting the simple correlation coefficient (Pearson) between the two tests, as shown in the table (3):

Table 3. Shows the reliability coefficient of the scale

| Scale | Correlation coefficient |
|----------------------|-------------------------|
| Cognitive competence | 91% |

The measure of cognitive competence consists of four axes:

1. Sports training science (9) paragraphs.
2. Teaching methods (13) paragraphs.
3. Sports Laws (13) paragraphs.
4. Physical health, first aid (11) paragraphs.

Main experience

On April 1, 2023, the scale was distributed to a main sample of (121) male and female students through electronic distribution to groups of fourth-year students.

Results

- *Displaying the results of cognitive competence according to the axes*

Table 4. Shows the means, standard deviations, and skewness coefficient values for the cognitive efficiency scale

| Axes of the cognitive efficiency scale | mean | STDEV | Skewness |
|--|------|-------|----------|
| Science of sports training | 5.6 | 1.7 | 0.88 |
| Teaching methods | 6.8 | 1.3 | 0.73 |
| Sports laws | 7.4 | 1.5 | 0.76 |
| Physical health and first aid | 5.53 | 2.4 | 0.71 |

By observing Table (4), which shows the means and standard deviations for the axes of the cognitive competence scale, as well as the normal distribution of the sample is moderately distributed, and this is evident from the zero values of the skewness coefficient, whenever they are the values of the skewness coefficient are ranged between (+1 and -1). This indicates that the sample is moderately distributed.

The mean value for the sports training science axis was (5.6) with a standard deviation of (1.7), while the teaching methods axis had a mean value of (6.8) with a standard deviation of (1.3), and the mean for the sports laws axis was (7.4). With a standard deviation of (1.5), and finally, the mean for the physical health and first aid axis reached (5.53) with a standard deviation of (2.4).

Table 5. Shows the means, standard deviations, and ranking of the paragraphs related to the science of sports training

| Fields | Item | mean | STDEV | Correct answer | Ranking |
|------------------------|---|-------------|--------------|-----------------------|----------------|
| Sports training | One of the following components is not a component of the sports training load A. Severity of load. B. Load size C. Load intensity . D. Pregnancy block. | 0.62 | 0.17 | C | 4 |
| | To lose weight safely, when designing training programs for people with obesity, it is preferable to reduce it on average per week A. 0.5 – 1 kg B. 1-2 kg C. 2-3 kg c. 3-4 kg | 0.60 | 0.19 | A | 6 |
| | To develop cardiorespiratory fitness, the training load must consist of an intensity of: A. High and short period of time B. High and long period of time C. Medium and long period of time D. Medium and short period of time | 0.63 | 0.12 | C | 3 |
| | The breathing process occurs when performing a chest compression exercise (Ping Press). A. Inhale when lifting the weight and exhale while lowering the weight, and so on. B. Inhale while lowering the weight, exhale while lifting the weight, and so on. C. Inhale and hold the breath while performing the complete movement D. Inhale and exhale and hold it | 0.57 | 0.24 | B | 7 |
| | During resistance exercises to increase muscle strength without the occurrence of injuries, the training loads must be | 0.67 | | C | 2 |

| | | | | | |
|--------------------|---|------|------|---|---|
| | <p>characterized by:</p> <ul style="list-style-type: none"> A. Less than what the muscle is used to B. Higher than the muscle is used to C. Equal to what the muscle is used to D. There is no rule specifying this | | 0.21 | | |
| | <p>The intensity of the warm-up that precedes the main section of the training unit is:</p> <ul style="list-style-type: none"> A. Higher than the intensity of the main section. B. Equal to the intensity of the main section. C. Less than the intensity of the main section. D. There is no rule specifying this. | 0.79 | 0.15 | C | 1 |
| | <p>Developing the element of flexibility: The period of stability must be continued when performing stretching exercises</p> <ul style="list-style-type: none"> A. 10-30 sec B. 45-60 sec C. 60-80 sec D. 75-90 sec | 0.61 | 0.16 | A | 5 |
| | <p>When performing strength exercises, you should start:</p> <ul style="list-style-type: none"> A. Small muscles then large muscles B. Big muscles then small muscles C. Alternating between small and large muscles D. Small and large muscles together | 0.56 | 0.20 | B | 8 |
| | <p>When performing strength exercises that are characterized by high repetitions of more than 30 repetitions, you expect that...</p> <ul style="list-style-type: none"> A. Reduces obesity or obesity throughout the body B. Reduces muscle flexibility C. Reduces nerve flexibility D. Training increases muscle flexibility | 0.55 | 0.18 | A | 9 |
| Total score | | 5.6 | 1.7 | | |

By observing table (5), it is clear that paragraph (6) came in first place with a mean of (0.79) and a standard deviation of (0.15), and paragraph (5) came in second place with a mean of (0.67) and a standard deviation of (0.21). Paragraph (9) ranked last, with a mean of (0.55) and a standard deviation of (0.18).

Table 6. Shows the means, standard deviations, and arrangement of the paragraphs related to the teaching methods topic

| Fields | Item | mean | STDEV | Correct answer | Ranking |
|-------------------------|---|-------------|--------------|-----------------------|----------------|
| Teaching methods | The following matters concern the modern physical education curriculum, with the exception of one: A. All influential and affected parties participate in its preparation. B. It is built into the psychology of students C. He is greatly interested in the skill aspects of various sports D. Teaching mathematical knowledge | 0.56 | 0.14 | C | 4 |
| | The most widely used methods of exploration and preparation in educational situations are: A. The project B. Cooperative learning C. Offers D. lecture | 0.63 | 0.09 | C | 2 |
| | Among the methods that are preferred to be used for the primary grades of physical education lessons is the following method: A. Training B. Kinetic story C. Guided exploration D. Self-education | 0.50 | 0.01 | B | 9 |
| | It is preferable to use feedback in sports lessons: A. During performance B. Before performance C. After the performance D. Before and after the performance | 0.52 | 0.17 | C | 8 |
| | It is preferable to teach in the physical education lesson plan for the primary stage in the following manner: A. The matter B. Training C. Mutuality | 0.55 | 0.13 | A | 5 |

| | | | | | |
|--|--|------|------|---|----|
| | D. Cooperative | | | | |
| | The hunter game is used as a sports game that serves to teach a skill A. Accuracy of injury B. Learn to hold C. Handling speed D. Everything mentioned is true | 0.66 | 0.12 | D | 1 |
| | The first basic skills that are best taught to students in handball are: A. reception from below B. Whip handling C. Heading the ball D. Scroll from below | 0.39 | 0.02 | B | 12 |
| | The best basic skill that is best taught to students and contributes to scoring points in the game of basketball: A. Handling B. Dribbling C. Deception D. Scoring | 0.59 | 0.14 | D | 3 |
| | Students are taught the team's goal of pressing attack in handball through: A. Creating a hole in the opponent's defense B. Increase the number of attackers over the number of defenders in his game area C. Unloading the shooting player directly D. Everything mentioned is true | 0.38 | 0.01 | D | 13 |
| | Students are taught to play 1:5 in volleyball on the court, which is one of the methods: A. Offensive B. Defensiveness C. Offensive and defensive D. Defensive and offensive | 0.47 | 0.18 | D | 11 |
| | The first offensive skills that students are trained on in volleyball are: A. quick crushing hit B. High smash hit C. Crushing hitting from the back line D. Pieces | 0.53 | 0.12 | B | 7 |

| | | | | | |
|--------------------|---|------|------|---|----|
| | <p>The movement sentence in physical exercises means performing a number of exercises:</p> <p>A. In a connected manner.</p> <p>B. Intermittently</p> <p>C. With the help of a colleague</p> <p>D. With the help of the teacher</p> | 0.48 | 0.15 | A | 10 |
| | <p>Which of the following exercises does not help flexibility of the torso muscles:</p> <p>A. Sitting for a long time, bending the torso forward, touching the fingers of the hand to the instep of the foot</p> <p>B. Standing, extend your arms out to the sides and rotate your torso to the sides</p> <p>C. Standing in a horizontal bend by pressing the shoulders to the sides</p> <p>D. Standing, bend your torso forward to touch the combs</p> | 0.54 | 0.02 | C | 6 |
| Total score | | 6.8 | 1.3 | | |

By observing table (6), it is clear that paragraph (6) came in first place with a mean of (0.66) and a standard deviation of (0.12), and paragraph (2) came in second place with a mean of (0.63) and a standard deviation of (0.09). Paragraph (9) ranked last, with a mean of (0.38) and a standard deviation of (0.01).

Table 7. Shows the means, standard deviations, and ranking of the paragraphs related to the topic of sports laws

| Fields | Item | mean | STDEV | Correct answer | Ranking |
|----------------|--|-------------|--------------|-----------------------|----------------|
| Laws of sports | <p>What is the correct decision if the substitute player named in the playing list enters instead of the player named in the list at the start of the football match without notifying the referee of this change:</p> <p>A. The referee allows the substitute player to continue in the match.</p> <p>B. No disciplinary penalty against the named substitute player.</p> | 0.58 | 0.11 | D | 8 |

| | | | | | |
|--|---|------|-------|---|----|
| | <p>C. The number of players on the violating team will not be reduced, and a report will be submitted to the competent authorities by the referee.</p> <p>D. Everything mentioned is true</p> | | | | |
| | <p>A yellow card for unsportsmanlike behavior in football when touching the ball is required:</p> <p>A. By hand without intention.</p> <p>B. Deprive the opponent of possession of the ball in an eye-catching manner.</p> <p>C. While he fell to the ground and deliberately touched it.</p> <p>D. While the player is standing in a human house</p> | 0.51 | 0.13 | B | 10 |
| | <p>The use of additional assistant referees in football, which was approved by the FIFA-approved committee:</p> <p>A. 2010.</p> <p>B. 2011.</p> <p>C. 2012</p> <p>D. 2013</p> | 0.66 | 0.1 | C | 1 |
| | <p>In the event that the assistant referee is mistaken in touching the football before it leaves the field, play will resume on the basis of:</p> <p>A. Dropping the ball.</p> <p>B. Giving a free kick to one of the two teams at the discretion of the assistant referee.</p> <p>C. Giving a side throw to one of the two teams at the discretion of the assistant referee.</p> <p>D. Take the arena referee's decision first</p> | 0.60 | 0.15 | A | 6 |
| | <p>FIFA law recently stipulates that the substitutes list consists of 12 players in football, which is mandatory starting from the year:</p> <p>A. 2014</p> <p>B. 2012</p> | 0.56 | 0.089 | A | 9 |

| | | | | | |
|--|--|------|-------|---|----|
| | <p>C. 2010 D. 2011</p> | | | | |
| | <p>Basketball players are allowed to leave the court and sit on the bench, while the substitute team remains on the side returning (the border) to the team area after the period:</p> <p>A. The first and second. B. The second and fourth. C. Second and third D. The first and fourth</p> | 0.63 | 0.095 | B | 4 |
| | <p>Using a football float to set a distance of 9.15 metres, which was approved by the FIFA Committee in:</p> <p>A. 2011 B. 2012. C. 2013 D. 2010</p> | 0.40 | 0.092 | A | 13 |
| | <p>It is permissible to go to the scoring table and request a substitution in basketball by giving the signal for the substitution with the hands and clearly by:</p> <p>A. Coach and substitute B. Alternative only C. Coach Assistant D. the coach</p> | 0.50 | 0.097 | B | 11 |
| | <p>The error of receiving the serve in volleyball is counted in the case of:</p> <p>A. Catching or hitting the ball with double fingers in the numbers from the top. B. Receive the serve with both hands from below C. Heading the ball D. Hit the ball with an open hand from below</p> | 0.65 | 0.12 | A | 2 |
| | <p>The referee raises the yellow and red cards together in volleyball for expulsion, and raises the cards separately for disqualification and it is</p> <p>A. Expulsion and disqualification for the entire match</p> | 0.60 | 0.082 | C | 5 |

| | | | | | |
|--------------------|--|------|-------|---|----|
| | <p>B. For all stages of the match, except for the decisive period</p> <p>C. For one half and exclusion for the entire match</p> <p>D. For two halves only and exclusion for the entire match</p> | | | | |
| | <p>Placing the foot on the ground for the first time after receiving the ball, dribbling, or catching the ball in the air while jumping in handball:</p> <p>A. It is not considered a step</p> <p>B. It is considered a step</p> <p>C. It is considered two steps</p> <p>D. None of the mentioned</p> | 0.58 | 0.094 | A | 7 |
| | <p>In the event that an atlied ball hits the ceiling of the hall, play will resume by the other team:</p> <p>A. Free throw on the field</p> <p>B. A side throw from the closest place where the foul occurred</p> <p>C. Dropping a ball</p> <p>D. Give the ball to the other team</p> | 0.49 | 0.11 | B | 12 |
| | <p>As of January 1, 2010, any competitor who makes a false start in a track and field race:</p> <p>A. Immediately excluded from the race</p> <p>B. He is excluded from the race when he makes a second false start</p> <p>C. All competitors are not excluded from the race and restarted</p> <p>D. The contestant is eliminated</p> | 0.64 | 0.098 | A | 3 |
| Total score | | 7.4 | 1.5 | | |

By observing table (7), it is clear that paragraph (3) came in first place with a mean of (0.67) and a standard deviation of (0.1), and paragraph (9) came in second place with a mean of (0.65) and a standard deviation of (0.12). Paragraph (7) ranked last, with a mean of (0.40) and a standard deviation of (0.092).

Table 8. Shows the means, standard deviations, and ranking of the relevant items
In the field of physical health and first aid

| Fields | Item | mean | STDEV | Correct answer | Ranking |
|--------------------------------------|--|-------------|--------------|-----------------------|----------------|
| Physical health and first aid | <p>Cardiac resuscitation is applied by applying regular pressure to the lower third of the sternum using pressure at a rate of:</p> <p>A. (60-80) compressions per minute, with a depth of (1-3.5) cm</p> <p>B. (60-80) compressions per minute, at a depth of (3-5) cm</p> <p>C. (80-100) compressions, at a depth of (1-3.5) cm</p> <p>D. (80-100) compressions per minute, at a depth of (3-5) cm</p> | 0.60 | 0.21 | D | 4 |
| | <p>Respiratory resuscitation is applied to a fainting person who does not have pulse problems by giving him:</p> <p>A. 6 artificial breaths (oral), one compression per minute</p> <p>B. 12 artificial breaths (oral) compressions per minute</p> <p>C. 18 artificial breaths (oral) compressions per minute</p> <p>D. 26 artificial breaths (oral) compressions per minute</p> | 0.61 | 0.23 | B | 3 |
| | <p>When a diabetic faints due to low blood sugar, and no symptoms appear that require cardiopulmonary resuscitation, you place the injured person lying on:</p> <p>A. He lay on his side, using his arms to stabilize his head and body</p> <p>B. His back and put any sugary substance in his mouth</p> <p>C. His back, raised his head, and put any sugary substance in his mouth</p> | 0.57 | 0.18 | A | 7 |

| | | | | | |
|--|---|------|------|---|---|
| | D. His back, raised his head on a pillow, raised his feet high, and put any sugary substance in his mouth | | | | |
| | Scar tissue results from injury and negatively affects the efficiency and strength of: A. Bone tissue B. Muscle tissue C. Tendon tissue D. Ligament tissue | 0.59 | 0.24 | B | 5 |
| | When you provide first aid to someone who has a closed fracture (the bone does not penetrate the skin) in his foot, which of the following procedures are considered incorrect: A. Apply ice to and around the affected area B. Structural tension of the area and then stabilization with any available materials C. Raise the affected area above the level of the heart D. None of the mentioned | 0.58 | 0.19 | B | 6 |
| | The greatest functional load for the knee joint falls on the part: A. The medial (inner) part of the knee is therefore less susceptible to injury B. The lateral (outside) of the knee is therefore least susceptible to injury C. The medial (inner) part of the knee is therefore most susceptible to injury D. The lateral (outside) of the knee is therefore most susceptible to injury | 0.40 | 0.22 | C | 8 |
| | When a student complains of a minor tear in one of his muscles, the following tips will be given to him to follow within the first 24 | 0.35 | 0.17 | D | 9 |

| | | | | | |
|--|--|------|------|---|----|
| | <p>hours of the injury:</p> <ul style="list-style-type: none"> A. Do muscle stretching exercises B. Take a warm water bath directed at the site of the injury C. Massage by rubbing and pressing the affected area D. None of the mentioned | | | | |
| | <p>What action do you take when students suffer bruises or strains and tears during sports lessons at school?</p> <ul style="list-style-type: none"> A. Give the affected part rest and apply cold water or ice immediately after the injury occurs B. Give light exercises to the affected part C. Massage the affected area immediately after the injury occurs D. Tie firmly with a compression garment | 0.75 | 0.23 | A | 2 |
| | <p>What are the first steps you take when a student sprains his ankle joint while practicing sports activity at school:</p> <ul style="list-style-type: none"> A. Remove compressive objects such as clothing, rest the injured person, use cold compresses on the affected part, and tie the ankle with a compression bandage firmly. B. Massage the affected part with hot water C. Move the ankle joint to return it to its normal place with some light exercises D. Do not use any of the above | 0.25 | 0.15 | A | 10 |
| | <p>If a student gets a nosebleed while playing, the following must be</p> | 0.15 | 0.25 | C | 11 |

| | | | | | |
|--------------------|---|------|------|---|---|
| | <p>followed:</p> <ul style="list-style-type: none"> A. Put the head down, press on the nose for (5-10) minutes, and place cold compresses on the injured person's forehead. B. Raise the head down, press on the nose for (5-10) minutes, and place cold compresses on the injured person's forehead. C. Place the head in an upright position, press on the nose for (5-10) minutes, and place cold compresses on the injured person's forehead. D. Use cold compresses only on the forehead of the injured person | | | | |
| | <p>If one of the students was exposed to a sprained ankle joint, and upon diagnosing the injury immediately after it occurred, you found him complaining of great pain and difficulty walking and bearing the body's weight on the ankle, and he resorted instead to walking on his tiptoes, you will be certain that his ankle joint will be stabilized for a period of:</p> <ul style="list-style-type: none"> A. One week B. three weeks C. Six weeks D. Eight weeks | 1.12 | 0.21 | B | 1 |
| Total score | | 5.53 | 2.4 | | |

By observing Table (8), it is clear that paragraph (11) came in first place with a mean of (0.75) and a standard deviation of (0.21), and paragraph (8) came in second place with a mean of (0.68) and a standard deviation of (0.23). Paragraph (10) is ranked last, with a mean of (0.15) and a standard deviation of (0.25).

Discussions

By observing tables (8, 7, 6, 5), which show the sample's answers to the cognitive competency scale with its four axes (the science of sports training, teaching methods, the rules of games, health and sports injuries), the sample's answers were identical to what was stated in Table (4) and With the means and standard deviations, which clearly indicated that the sample's answers were centered in the middle, and one axis did not outperform another axis by small percentages. What draws attention is that the standard deviation for sports injuries was very high, which indicates the dispersion of the research sample in the answers to the paragraphs of this axis.

On the other hand, the mean indicates that all of these fields or four axes are taught in the college, which indicates the sample's scattered mentality and its lack of superiority in any of the four axes, because as a result we are required to produce a teacher capable of teaching, training, and adept at judging, and at the same time able to address If the player is injured while studying or playing, this is not possible from a mental and logical standpoint, as the multiplicity of professions, even if they are close, leads to the impossibility of mastering them with the same efficiency.

1. The focus of sports training science:

The focus of sports training science is to optimize athletic performance through the systematic application of scientific principles. This field encompasses various disciplines, including physiology, biomechanics, psychology, nutrition, and sports medicine. Some key areas of focus include:⁴

- A. **Exercise Physiology:** Understanding how the body responds and adapts to physical activity and training, including the study of energy systems, cardiovascular function, and muscular adaptations.
- B. **Nutrition:** Providing athletes with optimal nutrition plans to support their training, performance, and recovery. This includes understanding macronutrient and micronutrient needs, hydration, and timing of meals.
- C. **Recovery and Regeneration:** Developing strategies to enhance recovery after training and competition, including the use of techniques like massage, cryotherapy, and sleep optimization.
- D. **Training Methods and Periodization:** Designing training programs that optimize the progression of workload, intensity, and recovery to achieve peak performance at specific times, taking into account the principles of periodization.

2. Teaching methods focus:

The results of the sample on this axis do not differ from the previous axis by being centered in the middle, thus, for the fields of law, health, and injuries, they do not differ from their predecessors, which gives us the impression that the large number of study subjects and the lack of precise specialization in the initial study led to the dispersion of information among the sample, whereas if there had been a special section for teaching, arbitration, training, or physical therapists, the sample's answers would have differed greatly. Based on their specializations.⁵

From all of the above and based on what was mentioned in the discussion of the results of the fourth chapter, the researcher has achieved the goal of the research, which aims to identify the cognitive competence of fourth-stage students.⁶

3. Physical health and first aid:

Physical health encompasses the overall well-being of the body, including aspects such as fitness, nutrition, and the absence of illness or injury. First aid plays a crucial role in maintaining physical health by providing immediate care and support in the event of an injury or sudden illness. Here are some key points about physical health and first aid:⁷

- A. **Physical Fitness:** Regular exercise and physical activity are essential for maintaining physical fitness, which includes cardiovascular endurance, muscular strength, flexibility, and body composition. First aid knowledge can help in providing immediate care in case of exercise-related injuries or emergencies.
- B. **Injury Prevention:** First aid training often includes information on injury prevention, such as proper warm-up techniques, using protective gear during sports or physical activities, and recognizing potential hazards in the environment.
- C. **Nutrition:** Good nutrition is fundamental to physical health. First aid providers may need to consider a person's nutritional needs when providing care, especially in cases of prolonged emergencies or injuries.

Cognitive competence in sports refers to the mental abilities and skills a person possesses that contribute to their performance in a sporting activity. While physical fitness and technical skills are crucial, cognitive competence plays a significant role in decision-making, concentration, focus, reaction time, and overall mental resilience during sports.⁸

*Here are some key aspects of cognitive competence in sports:*⁹

- **Decision-making:** Athletes with strong cognitive competence can make quick and accurate decisions based on the information available to them. They can assess the game situation, anticipate opponents' moves, and choose the most effective course of action.
- **Attention and focus:** Maintaining focus and concentration is crucial in sports. Athletes with excellent cognitive competence can stay attentive to the game, filter out distractions, and direct their attention to relevant cues and stimuli.
- **Reaction time:** Quick reaction time is vital in sports, especially in fast-paced activities like tennis or basketball. Athletes with good cognitive competence can process information rapidly and initiate the appropriate physical response without delay.
- **Spatial awareness:** Cognitive competence in sports includes an athlete's ability to perceive and understand their position in relation to the game environment, teammates, opponents, and relevant objects or landmarks. It helps them make accurate judgments about distance, angles, and timing.
- **Memory and learning:** Cognitive competence involves memory skills and the ability to learn and adapt to new situations or strategies efficiently. Athletes can recall previous experiences, learn from mistakes, and apply new knowledge to enhance their performance.
- **Emotional regulation:** Sports can be emotionally demanding, and athletes with strong cognitive competence can manage their emotions effectively. They can stay

composed under pressure, control anxiety, and maintain a positive mindset to perform at their best.

- Tactical awareness: Cognitive competence in sports includes understanding and implementing game strategies, reading opponents' tactics, and adjusting one's approach accordingly. Athletes with good cognitive competence can analyze the game situation and make strategic decisions to gain an advantage.

To enhance cognitive competence in sports, athletes can engage in various mental training techniques, such as visualization, mindfulness exercises, mental rehearsal, and cognitive skill drills. Working with sports psychologists or mental performance coaches can also be beneficial in developing cognitive competence and optimizing performance on and off the field.¹⁰

Conclusions

1. There are no significant differences between the four axes.
2. The sample's answers were centered in the middle, which indicates that the sample was not proficient in one axis over another.
3. The lack of specializations in the college led to the sample not excelling in any of the four fields.
4. The sample was dispersed due to the huge amount of information in all specialties.

Recommendations

1. Changing the college's departments from scientific departments (individual, group, and theoretical) to specialized departments, such as teaching and training, for example.
2. Opening special departments for arbitration and physical therapy as specialized departments that have independent studies that have been witnessed in the specialty of physical therapy.
3. Conducting a master's study at the Iraqi level for all departments and colleges of physical education and sports in Iraq and thus approaching the Ministry to change the departments in the colleges if the results match the current study.

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