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Cognitive Outcomes in Athletics among Students of Field Training at the Hashemite University

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Abstract:

The objective of the study was to identify the cognitive outcomes in athletics among students of field training at the Hashemite University, as well as identify the differences in the cognitive outcome according to two variables (gender and cumulative average). The researchers used the descriptive survey method on the study sample consisting of field training students specializing in sports management and training in the Faculty of Physical Education and Sports Sciences at the Hashemite University, (N = 90), with male and female students representing 80% of the total population of the study. The researchers prepared a multiple-choice scale to measure the cognitive outcomes according to the historical, legal, skill, and training domains. The findings showed a clear weakness in general among students in the cognitive outcomes in athletics in the total domains of the study, (M = 19.78) and a relative importance of (39.56%). The findings also revealed that there were no statistically significant gender disparities in the study's historical, legal, and skill components, while it was discovered that there were statistically significant gender-related variations in the training component, in favor of males. According to the findings, there were no statistically significant differences across all study domains for the cumulative average variable. To avoid the apparent weakness in the cognitive outcomes of field training students, the researchers recommended paying attention to the theoretical aspects of teaching athletics, athletics management, and training. The researchers also suggested conducting similar studies in other sports to understand the cognitive outcome of students in those sports.

Key Words: Cognitive Outcome, Athletics, the Hashemite University.

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Introduction and Importance of study:

In recent times, we are witnessing significant advancements across numerous domains of life, largely driven by science and cognitive frameworks, both of which are regarded as fundamental keys to humanity's future. To foster such progress, developed nations have cultivated environments conducive to the growth of creative minds and thinkers, facilitating the transfer of knowledge and the accumulation of cognitive structures across generations. Al-Humaidan (2019) describes cognition as the accumulation of experiences based on specific patterns, enabling individuals to respond to particular situations in predetermined ways. Human cognition arises from mental processes such as contemplation, observation, practice, and experimentation. Al-Kharsha (2018) further defines cognition as a complex of meanings, perceptions, opinions, observations, and facts formed through individuals' repeated efforts to understand their surroundings and various phenomena. According to Owaida (1995), a substantial portion of any achievement can be credited to the cognitive and civilizational frameworks we inherit from past generations, as well as the advancements they established to prepare for current and future progress. Alkhaldi and Alawamla (2013) argue that cognition has evolved beyond a theoretical concept of gathering and presenting information and data in an abstract, unstructured manner. Instead, cognition is now understood as a dynamic process involving the acquisition, transfer, and sharing of knowledge. Rich (2012) further emphasizes that development within modern societies is shaped by contemporary trends and societal goals, which societies themselves are responsible for guiding. Physical education exemplifies one area of development within these societies, thus placing a responsibility on educators to foster advancements in the field and to maintain knowledge relevant to modernity. Al-Thahir et al. (2007) underscore that educational institutions are fundamentally concerned with cognitive achievement, as it reflects the learning outcomes they aspire to attain. These institutions strive to achieve high levels of cognitive accomplishment as a means of fulfilling their educational objectives.

Shatnawi and Bani Hani (2008) define sports cognition as a collection of opinions and concepts associated with specific sporting phenomena or events, encompassing their historical context, interconnected sports, and relevant terms and symbols. Al-Wazir (2000) views sports cognition as the cognitive development arising from the relationship between physical activity and sports practice and the values, experiences, and cognitive concepts acquired through engaging in these activities.

The university stage, as noted by Al-Zubaidi and Abdullah (2018), is a pivotal period in a student's life, significantly influencing both their present and future, as well as the broader society they inhabit. Students' roles during this stage should not be peripheral, as they represent a guiding light for the future of their country. Thus, it is essential to equip them with diverse scientific knowledge and cognitive skills to help bridge the gap between their society and more advanced ones. Hashem (2002) asserts that a key responsibility of educators is to teach students how to apply cognitive strategies to overcome performance-related challenges. Farhan (2014) further emphasizes the teacher's role in the educational process, which is a structured and systematic approach where exams and evaluations serve as essential tools to assess the mastery levels of students or athletes in specific subject areas.

Shawkat (2014) highlights the importance of constructing assessments based on cognitive and conceptual foundations, ensuring they encompass the material to be evaluated and account for individual differences in cognitive proficiency. Similarly, Trautwein (2009) proposes that cognitive skills can be assessed by evaluating responses to specific stimuli, allowing educators to gauge cognitive outcomes through tests developed from conceptual models aligned with the material. According to Al-Rahhala (2007), drawing on Al-Wazir, cognitive assessments consist of a series of written oral or visual questions designed to measure an individual's performance in specific domains of cognitive or perceptual activity at various levels of cognitive organization.

To illustrate this, several researchers have investigated the significance of cognitive achievement among students and athletes across various sports disciplines. For instance, Al-Eid (2019) and Popovic et al. (2016) employed a cognitive outcome scale, revealing notable differences in cognitive outcomes among athletes from different sports.

In a related study, Alkhaldi and Alawamlah (2013) examined the cognitive outcomes among football players, focusing specifically on their understanding of football regulations. The findings, which showed an average awareness level of 57% on the overall assessment, indicated a moderate familiarity with football laws among players in Jordan's professional football league clubs.

Recognizing the importance of graduates' proficiency in their respective fields, particularly in physical education, Al-Hadidi (2013) aimed to assess the cognitive competence of physical education teachers in health-related physical fitness within the University Directorate of Education in the Capital Governorate (Amman). Statistical analysis revealed no significant differences in teachers' cognitive competence in health-related fitness based on gender, with the exception of the area of exercise physiology, where male teachers demonstrated a higher level of competence.

Additionally, Gukhshaw (2012) aimed to evaluate the competence of fitness trainers in health-related fitness and to develop a cognitive competence scale specifically for fitness trainers. The results indicated that fitness center trainers demonstrated a moderate level of cognitive competency in health-related fitness, achieving an overall score of 51% on the assessment. However, within the seven domains of study, the level of cognitive competency among fitness center trainers in Jordan ranged from moderate to weak.

Shawka, Al-Rahahla (2007) conducted a study to determine the level of cognitive outcome in the field of physical fitness for students at the University of Jordan and Yarmouk University.The results showed a significantly weak cognitive outcome for students of the two universities, and the results also showed a rise in the cognitive outcome from one academic year to another. Additionally, in reviewing similar studies, we find the study by Al-Hatamala (2002) which examines the cognitive outcomes of students and coaches in volleyball. The results of the study revealed that the cognitive outcome of volleyball players in Jordan is low, but it was good for coaches. It also showed that the level of academic accomplishment and experience has a major influence on the level of cognition of players and coaches.

In summary, studies examining cognitive outcomes within athletics remain limited. However, Al-Khasawneh and Al-Zoubi (2007) conducted a study in this context to assess the cognitive levels of athletes and coaches in Jordan. The study concluded that athletes demonstrated an average level of cognitive achievement, while coaches exhibited slightly higher cognitive outcomes.

To keep pace with the global development of athletics, the researchers highlight the importance of students' understanding of the sport, including its history, governing rules, as well as its technical and training components. This study was undertaken with the belief that its findings would be valuable in assessing the extent to which field training students possess scientific knowledge in athletics, and that these insights would aid in the teaching of athletics, including its management and training. Additionally, the study aimed to measure the degree of scientific cognitive achievement in athletics among field training students. It is anticipated that this research will serve as a foundation for further studies exploring additional variables and other sports.

Statement of Problem:

The researchers have observed that certain educators expressed concerns regarding the inadequate performance of some field training students and their inability to deliver effective physical education lessons, attributed to their lack of proficiency in various sports. This observation aligns with the findings of Al-Rahhala and Shawka (2007), which further stimulated the researcher's interest and prompted the initiation of this study to investigate the cognitive outcomes in athletics for field training students at the Hashemite University.

The purpose of this study is to evaluate the students' level of understanding and their cognitive competencies related to contemporary athletic practices. Additionally, the research aimed to address the issue of cognitive deficiencies in athletics, should such deficiencies be identified among the students.

Objectives of the Study: The objectives of the study aim to respond to the following two questions:

- What is the Cognitive outcome in athletics among students of field training at the Hashemite University in accordance with the following domains: historical, legal, skill, and training?

- Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) , at the cognitive outcome of athletics among students of field training at the Hashemite University in relation to the gender variable (male/female) ?

- Are there statistically significant differences at the significance level ($\alpha \leq 0.05$), at the cognitive outcome of athletics among students of field training at the Hashemite University in terms of the cumulative average variable?

Limitations of the study:

Human Limitation: Students of the Faculty of Physical Education and Sports Sciences at the Hashemite University within the specialization of management and sports training and registered in the field training course
Spatial Limitation: Faculty of Physical Education and Sports Sciences at the Hashemite University, Zarqa, Jordan.
Time: the first semester of the academic year 2020/2021.

Terminology:

Cognitive Outcome: A set of multiple cognitive patterns gained through academic education, courses, and experiences (Gouzman & Kazulin, 2005; Al-Hawary, 2003).

Methodology and Procedures:

Methodology:

Because it is most relevant to the phenomena, the study relied on the descriptive approach, which seeks to describe the phenomenon as it is before analyzing and interpreting it

Population:

The population of the study comprised Students of the Faculty of Physical Education and Sports Sciences at the Hashemite University, who were registered for the field training course, first semester, for the academic year 2020/2021.

The sample:

The study sample consisted of students of the Faculty of Physical Education and Sports Sciences who were registered for the Field Training Course for the first semester of the academic year 2020/2021, (N=90) male and female students representing (80%) of the total community, table (1) shows the distribution of the study sample members depending on the variables.

Table (1). Distribution of the sample members based on gender and cumulative average

Variable	Category	N	Percentage
Gender	Male	56	62.2
	Female	34	37.8
	Total	90	100
Variable	**Category**	**N**	**Percentage**
Cumulative Average	Less than 2.5	27	30
	2.5 - 2.99	54	60
	3.0 – 3.49	9	10
	Total	90	100

Instruments of the study:

The researchers prepared a scale (a questionnaire) as a tool for collecting data and information consisting of the four domains: **historical, legal, skill, and training** - and (50) multiple-choice questions to measure the cognitive outcome in athletics among students of field training at the Hashemite University. The correct answer was given one mark and zero for the incorrect answer.

Validity of Instrument:

The tool was distributed to experts from faculty members with expertise in Physical Education. They assessed the accuracy of each statement, its relevance to its area, and its suitability to accomplish the objectives of the research, along with its relevance, conciseness, linguistic integrity, and lack of repetition. A few linguistic and typographical changes were made in response to the experts' suggestions. The experts indicated that the tool is valid to measure the cognitive outcome in athletics.

Reliability of Instrument:

To ensure the scale's reliability, the researchers used Cronbach's alpha equation by applying it to (22) male and female students, and achieved a reliability coefficient of (0.86), indicating that the tool has an appropriate reliability coefficient.

Statistical Methods:

To analyze the data, the Statistical Packages for Social Sciences (SPSS) program was used, and the following statistical elements were calculated:

1. Cronbach's alpha coefficient for calculating the reliability of the study tool.
2. Calculating the means and standard deviations, percentages, and MANOVA analysis were used.

Results and Discussion:

The First Question: What is the cognitive outcome in athletics for students of field training at the Hashemite University according to the following domains: (historical, legal, skill, training)?

To answer this question, the means and standard deviations of the domains of the cognitive outcome in athletics for students of field training at the Hashemite University were calculated for each domain individually and for the domains as a whole. This is as shown in Table (2):

Table (2). Means and standard deviations of the domains of the cognitive outcome in athletics among students of field training at the Hashemite University

No	Domain	Mean	SD	Total Degree	percentage
1	historical	4.53	2.08	10	%45.33
2	legal	6.41	2.64	15	%42.74
3	skill performance	4.83	2.32	14	%34.52
4	training	4.00	1.72	11	%36.36
	Total	19.78	5.98	50	%39.56

As indicated in the table above, the cognitive outcomes in athletics among field training students were found to be weak, with an overall percentage of 39.56% and a total mean score of 19.78. Within the various domains assessed, the historical domain exhibited the highest percentage at 45.33%, with a mean score of 4.53. This was followed by the legal domain, which recorded a percentage of 42.74% and a mean score of 6.41. The training domain ranked third, with a percentage of 33.6% and an average score of 4.00. Lastly, the skill performance domain demonstrated the lowest performance, with a percentage of 34.52% and a mean score of 4.83.

The researchers recognize the imperative to address the issue of a pervasive deficiency in cognitive competencies related to athletics among field training students in the Faculty of Physical Education and Sports Sciences at Hashemite University, who are on the brink of entering the labor market. It is conceivable that similar deficiencies may exist in other practical subjects. This situation serves as a critical warning that warrants attention and intervention. Consequently, a thorough review of the study materials and their intended outcomes is essential to enhance the cognitive development of students.

With respect to the ranking of domains, the researchers contend that the historical domain occupies the highest position. This is attributed to the fact that many questions within the historical domain of athletics pertain to the history of the Olympic Games, suggesting that students possess some knowledge acquired from external sources, particularly regarding the Olympic Games. Conversely, the skill performance domain, which ranked the lowest, reflects a deficiency in students' understanding and their inability to conceptualize effective performance and the appropriate models of athletic skills. This inadequacy adversely impacts the transfer of cognitive skills from field training students (teachers) to school students (learners). This finding is consistent with the study conducted by Al-Khasawneh and Al-Zou'bi (2007), which asserts that coaches and athletes often lack essential skills that facilitate growth and achievement, highlighting the close relationship between movement mechanics and skill performance.

- **The second Question: Are there statistically significant differences at the significance level ($\alpha \leq 0.05$), at the cognitive outcome of athletics among students of field training at the Hashemite University according to the gender variable (male/female)?**

To find out whether there are differences in the average means of the cognitive outcome in athletics among field training students at the Hashemite University according to gender (male/female) or not, means and standard deviations of the scale as a whole, were calculated according to this variable, as shown in Table (3):

Table (3) means and standard deviations of the cognitive outcome in athletics among students of field training at the Hashemite University according to gender

Domain	Category	N	Mean	SD
Historical	**Male**	56	4.59	2.16
	Female	34	4.44	1.97
	Total	90	4.53	2.08
Law	**Male**	56	6.48	2.54
	Female	34	6.29	2.84
	Total	90	6.41	2.64
Skill Performance	**Male**	56	5.02	2.56
	Female	34	4.53	1.85
	Total	90	4.83	2.32
Training	**Male**	56	4.32	1.80
	Female	34	3.47	1.44
	Total	90	4.00	1.72
Total	**Male**	56	20.41	6.16
	Female	34	18.74	5.59
	Total	90	19.78	5.98

As can be seen from table (3), there are apparent gender-based differences in the means of cognitive outcome of athletics among students of field training at Hashemite University. To verify the significance of these apparent differences, a multivariate analysis was conducted, as shown in table (4):

Table (4). Multiple Variance Analysis (MANOVA) of cognitive outcomes in athletics among Hashemite University field training students according to gender.

Source of variance	Dependent variable	Sum of Squares	DF	Mean of squares	F	Sig.
Gender Hotelling's Trace Value: 0.142 Sig. 0.481	**Historical Domain**	0.46	1	0.46	0.11	0.75
	Law Domain	0.75	1	0.75	0.11	0.75
	Skill performance	5.05	1	5.05	0.94	0.34
	Training Domain	15.32	1	15.32	5.46	0.02*
	Total	59.38	1	59.38	1.67	0.20
Error	**Historical Domain**	383.94	88	4.36		
	Law Domain	621.04	88	7.06		
	Skill performance	473.45	88	5.38		
	Training Domain	246.69	88	2.80		
	Total	3122.17	88	35.48		
Total	**Historical Domain**	384.40	89			
	Law Domain	621.79	89			
	Skill performance	478.50	89			
	Training Domain	262.00	89			
	Total	3181.56	89			

*Significant at ($\alpha \leq 0.05$)

The findings of Table (4) indicate that there are statistically significant differences at the level ($\alpha \leq 0.05$) in the training domain according to the gender variable, based on the calculated p-value of (5.46), and at the level of significance (0.02), in favor of males. The findings also indicate that there are no statistically significant differences at the level ($\alpha \leq 0.05$) in the cognitive outcome as a whole in addition to the historical domain, the law domain, and the skill performance domain according to the gender variable, based on the calculated p-values (1.67, 0.11, 0.11, and 0.94), respectively, with a significance level greater than (0.20, 0.75, 0.75, 0.34).

Despite the clear weakness of the cognitive outcome in athletics among field training students generally, male students had an advantage regarding the training domain. We think that this advantage may be attributed to the fact that some male students train in football clubs, which has led to their possession of a portion of the cognitive outcome in training being better than that of female students.

The researchers believe that this finding is logical because both males and females have cognitive weaknesses, so these domains, in addition to the total domain, did not allow the emergence of differences that

can be attributed to gender. There were no significant gender differences in the historical, legal, or skill performance domains.

- **The Third Question: Are there statistically significant differences at the significance level ($\alpha \leq 0.05$), at the cognitive outcome of athletics among students of field training at the Hashemite University according to the cumulative average variable?**

To find out whether there are differences in the arithmetic average patterns of the cognitive outcome in athletics among field training students at the Hashemite University according to the cumulative average variable or not, means and standard deviations of the scale as a whole were calculated according to this variable, as shown in Table (5) below:

Table (5). Means and standard deviations of the cognitive outcome in athletics according to the cumulative average variable

Domain	Category	N	Mean	SD
Historical	Less than 2.5	27	4.74	2.01
	2.5 – 2.99	54	4.63	2.11
	3.3.49	9	3.33	1.87
	Total	90	4.53	2.08
Law (Legal)	Less than 2.5	27	6.52	2.83
	2.5 – 2.99	54	6.52	2.67
	3.3.49	9	5.44	1.81
	Total	90	6.41	2.64
Skill Performance	Less than 2.5	27	4.33	2.22
	2.5 – 2.99	54	5.20	2.30
	3.3.49	9	4.11	2.52
	Total	90	4.83	2.32
Training	Less than 2.5	27	3.81	2.06
	2.5 – 2.99	54	4.06	1.56
	3.3.49	9	4.22	1.64
	Total	90	4.00	1.72
Total	Less than 2.5	27	19.41	6.77
	2.5 – 2.99	54	20.41	5.93
	3.3.49	9	17.11	2.26
	Total	90	19.78	5.98

Table (5) shows apparently that there are differences between the means of the cognitive outcome in athletics among the field training students at the Hashemite University according to the cumulative average variable.

Table (6). Results of the Multiple Variance Analysis (MANOVA) of the cognitive outcome in athletics among field training students at the Hashemite University according to the cumulative average variable

Source of variance	Dependent variable	Sum of Squares	DF	Mean of squares	F	Sig.
Cumulative average Wilks' Lambda Value: 0.911 Sig. 0.437	Historical Domain	14.62	2	7.31	1.72	0.19
	Law Domain	9.34	2	4.67	0.66	0.52
	Skill performance	18.85	2	9.43	1.78	0.17
	Training Domain	1.54	2	0.77	0.26	0.77
	Total	89.11	2	44.56	1.25	0.29
Error	Historical Domain	369.78	87	4.25		
	Law Domain	612.44	87	7.04		
	Skill performance	459.65	87	5.28		
	Training Domain	260.46	87	2.99		
	Total	3092.44	87	35.55		
Total	Historical Domain	384.40	89			
	Law Domain	621.79	89			
	Skill performance	478.50	89			
	Training Domain	262.00	89			
	Total	3181.56	89			

The results of Table (6) show that there are no statistically significant differences at the significance level ($\alpha \leq 0.05$) in the cognitive outcome as a whole in addition to all domains: **historical domain, legal, skill performance domain, and training domain** according to the cumulative average variable, based on the

calculated p-values which amounted to (1.72, 0.66, 1.78, 0.26, 1.25), respectively, and with a significance level greater than 0.05 (0.19, 0.52, 0.17, 0.77, 0.29).

The researchers attribute this to the fact that the cumulative average variable has no effective and influential relationship with increasing the cognitive outcome or not, and the reason for this may be that the athletics lectures are not sufficient to increase the cognitive outcome of the field training students.

Conclusions:

The field training students at Hashemite University exhibit generally low cognitive outcomes in athletics. Notably, the historical domain yielded the highest cognitive outcomes for these students, whereas the skill performance domain demonstrated the lowest cognitive outcomes. Furthermore, male athletes consistently outperformed their female counterparts within the training domain. However, it is important to note that there are no statistically significant differences in cognitive outcomes in athletics among field training students when considering the cumulative average variable.

Recommendation:

It is essential to enhance interest in the theoretical aspects of athletics, including the management and training components. Additionally, conducting similar studies across other practical disciplines is recommended to assess the cognitive outcomes associated with those sports. Furthermore, it is imperative to engage athletics educators with the findings of this study to address the prevalent issues concerning the overall weakness in the cognitive outcomes of students.

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Appendix (1)

List of Arbitrators

No.	Name	Rank	University
1	Walid Al-Rahahleh	Prof	Univ. of Jordan
2	Muhammad Abu al-Tayyib	Prof	Univ. of Jordan
3	Walid Al-Hamouri	Associate Prof.	Univ. of Jordan
4	Nizar Al-Waisi	Associate Prof.	Yarmouk Univ.
5	Muayad Al-Tarawneh	Assistant Prof.	Mutah Univ.
6	Karam Abu Aqoula	Assistant Prof.	Al al-Bayt Univ.

Appendix (2)

Dear Student.....

Greetings,

The researchers are conducting a study about (the cognitive outcome in athletics for students of field training at the Hashemite University), and to achieve the objectives of the study, a questionnaire consisting of four domains and fifty paragraphs was prepared.

You are, kindly, requested to answer the paragraphs of the questionnaire, bearing in mind any information will be only for scientific research purposes, and it will be treated confidentially.

Thank you for your kind cooperation.

The researchers

Personal Information

Gender (Sex): a – Male b- Female

Cumulative Average: ……

First: Historical Domain

No	Paragraph
1	Athletics began with the first ancient Olympics in: A-976 B.C. B-776 B.C. C.-476 B.C. D-276 B.C.
2	The first Modern Olympic Games in which athletics activities were included in: A - 1894 B - 1896 C - 1898 D - 1900
3	The word athletics is derived from a Greek word meaning: A- race B- wrestler C- highest D- strongest
4	The marathon is named after: Name of a battle between Greece and the Persians. Name of a Greek fighter Name of a mountain in Greece. None of the above.
5	The player Muhammad Jamil Abu Al-Tayeb won the first Gold Medal for Jordan in the Javelin Throwing in the second Arab sports tournament in: A - 1954 B - 1955 C - 1956 D - 1957
6	Jordan won its first Olympic medal in athletics in: A - 1976 B – 2000 C - 2016 D - None of the above
7	The World Athletics Championships are held every: A- yearly B- every two years C- every 4 years D- None of the above
8	The number of countries that participated in athletics activities in the first modern Olympics: A – 11 B - 14 C - 15 D - 17
9	The Jordanian Athletics Federation was established in: A - 1961 B - 1916 C - 1921 D - 1912
10	The International Association of Athletics Federations was established in: A - 1900 B - 1904 C - 1912 D - 1920

Second: Legal (Laws) Domain

No	Paragraph
1	The length of the legal outdoor track in athletics is: A - 100 meter B - 200 meter C - 400 meter D - 800 meter
2	The record in the 100m competition does not depend if the wind speed is in the direction of the player: A- 1 m/s B- 1.5 m/s C- 2 m/s D- None of the previous
3	Discuss sector angle: A - 43.92 B - 43.29 C - 34.92 D - 34.29
4	Number of stick deliveries in a 100m relay: A - 3 B - 4 C - 5 D - 6
5	If the number of long jumpers is 8, the number of attempts for each player is: A-3 attempts B-4 attempts C-6 attempts D-8 attempts
6	The distance between the takeoff board and the end of the landing area in the long jump shall not be less than: A - 9 meter B - 10 meter C - 11 meter D - 13 meter
7	In a 100m relay competition, the length of the hand-over area is: A - 15 meter B-20 meter C-25-meter D 30 meter
8	Relay stick weight: A-50gm B-100gm C-500gm D-1000g
9	The diameter of Discus circle: A-2.150 meter B-2.135 meter C-2,250 meter D-2,500 meter
10	The lift plate in the men's triple jump is off the edge of the jump hole: A-9 Meter B-11 Meter C-13 Meter D-15 Meter
11	The weight of Men's spear: A-600g B-700g C-800g D-1000g
12	The weight of Women's shot put: A-3 kg B-4 kg C-6,260 kg D-7,260 kg
13	A player is disqualified (dismissed) if he makes the wrong start for: A- Once B- Twice C- Three times D- None of the previous
14	The javelin's arc line is part of a circle of…… diameter: A-14 Meter B-16 Meter C-18 Meter D-20 Meter
15	The number of laps a player running ten thousand meters makes in the legal track: A-20 turns B-25 turns C-30 turns D-40 turns

Third: Domain of Skill of Performance

No	Paragraph
1	The kinetic sequence of the high jump skill consists of: A - approach - fly - rise - landing b - rise - approach - fly - landing C - approach - take up - fly - landing D- None of the above.
2	The dorsal method of the high jump is called: A - Scissors. B - Saddlebags. C-Fosbury. D - none of the above
3	The walking step consists of a stage: A- Single pivot and free pivot stage. b- Double pivot and triple pivot stage. c- Single pivot and triple pivot stage. D- Single pivot and double pivot stage.
4	The kinematic sequence of crawl propulsion consists of: A - crawling - preparing - throwing - covering. b - standby - crawl - throw - cover. C - cover - crawl - standby - throw. D - crawling - covering - preparing - throwing
5	In a race walk the first touchdown is on: A - The sole of the foot. b- Metatarsal C - the outer edge of the foot. D - Heel of the foot.
6	The step in the triple jump is for the player to: A - Ascending and descending on the same foot. B - Going up one foot and landing on the other foot. C - Going up and down on both feet. D- None of the above.
7	Each running step contains:

	A- Single pivot and double pivot stage. B - double pivot and fly. C- Single pivot and free pivot. D - Individual pivot and flight
8	The kinematic sequence of throwing the disc consists of: A - Swings - rotation - throw - cover. b - Rotation - weights - throwing - covering. C - Covering - rotation - weights - throwing. D - Swings - throw - turn - cover.
9	In the short-footprint sprint that leaves the starting cube first: A - The front cube feet. B-Foot cube back. C - Feet together. D- None of the above.
10	The triple jump consists of the following stages: A - Approaching - step - hopscotch - jump. B - Approach - jump - hopscotch - jump. C - Approach - hops - jump - step. D - Approach - hops - step - jump.
11	When rising in the long jump, the player's center of gravity is: A - in front of the feet of the ascent B - Above the feet of elevation C - Behind the feet of the rise D- None of the above.
12	When the pelvis is pushed forward during the flight phase of the long jump, this method is called: A- sail B- hang on C- walk in the air D- squat
13	The disc is carried in the hand on: A - All phalanges of the fingers. b- All phalanges of the fingers except for the thumb and forefinger. C - All phalanges of the fingers except the thumb. D- None of the above.
14	The right-handed player is throwing the disc in the air A - Clockwise. B - Counterclockwise. C- None of the previous

Fourth: Domain of Training

No	Paragraph
1	Great strength training needs: A - Low intensity and many repetitions. b- Medium intensity and fast repetitions. C - High intensity and many repetitions. D - High intensity and few repetitions.
2	Strength endurance training needs: A - Low intensity and many repetitions. b- Medium intensity and fast repetitions. C - High intensity and many repetitions. D - High intensity and few repetitions.
3	Which of the following statements is not about flexibility: A - The ability of the joint to perform movements in a wide range of motion. B - Flexibility decreases with age. C - Men are more flexible than women with age. D - Flexibility can be improved by performing appropriate stretching exercises.
4	In the period of "preparation" of the athlete: A - The volume of training increases gradually. B - The volume of training gradually decreases. C - The intensity increases and the volume of training decreases. D- None of the above.
5	During the "competitions" of the athletics player: A - The volume of training increases gradually. B - The amount of training and intensity gradually decreases. C - The intensity increases and the volume of training decreases. D- None of the above.
6	Each training unit must contain the following sequence: A- Fitness unit - warm-up - skill unit - cool-down. B - Warm-up - skill unit - fitness unit - cool down. C - Warm-up - fitness unit - skill unit - cool down. D - Cool-down - Warm-up - Skill Unit - Fitness Unit.

7	Continuous training method is used to develop: A - General endurance and hospitalization. b- General endurance and strength endurance. c- Endurance and recovery. D - none of the above
8	The athletics coach performs high-intensity interval training with the aim of developing: A - General endurance. b- Endurance race. C - Great power. D- None of the above.
9	Flexion and extension of the arms for 30 seconds while prone measures: A - The strength of the arms. B - The elastic force of the arms. C - The absolute strength of the arms. D - The strength of the arms.
10	A running test (30m) of stability measures: A - The speed of the reaction. b- Acceleration. c- Maximum speed. D-bear your speed.
11	In the transitional period for the athletics player A- Increases in size and intensity. B - The size increases, and the intensity decreases C - size decreases and intensity decreases D - the size decreases and the intensity increases

الحصيلة المعرفية في ألعاب القوى لدى طلبة التدريب الميداني في الجامعة الهاشمية

الملخص :

هدفت هذه الدراسة الى تحديد الحصيلة المعرفية في العاب القوى لدى طلبة التدريب الميداني في الجامعة الهاشمية، بالإضافة إلى تحديد الفروقات في الحصيلة المعرفية وفقاً لمتغيرين (الجنس والمعدل التراكمي). استخدم الباحثون المنهج الوصفي المسحي على عينة الدراسة التي تتألف من طلبة التدريب الميداني المتخصصين في إدارة وتدريب الرياضة في كلية التربية البدنية وعلوم الرياضة في الجامعة الهاشمية، والبالغ عددهم (90) طالباً وطالبة، يمثلون 80% من إجمالي المجتمع المستهدف للدراسة. قام الباحثون بإعداد مقياس اختياري لقياس الحصيلة المعرفية وفقاً لمجالات تاريخية وقانونية ومهارية وتدريبية. أظهرت نتائج الدراسة ضعفاً واضحاً بشكل عام بين الطلاب في الحصيلة المعرفية في ألعاب القوى في جميع مجالات الدراسة، (م = 19.78) وأهمية نسبية قدرها (39.56%). كما كشفت نتائج الدراسة عدم وجود فروق ذات دلالة إحصائية بين الجنسين في المكونات التاريخية والقانونية والمهارية للدراسة، بينما تم اكتشاف وجود اختلافات ذات دلالة إحصائية مرتبطة بالجنس في مكون التدريب، لصالح الذكور. وفقاً لنتائج الدراسة، لم تكن هناك فروق ذات دلالة إحصائية عبر جميع مجالات الدراسة لمتغير المعدل التراكمي. لتفادي الضعف الظاهر في الحصيلة المعرفية لطلاب التدريب الميداني، أوصى الباحثون بالاهتمام بالجوانب النظرية لتدريس ألعاب القوى، وإدارة وتدريب ألعاب القوى. كما اقترح الباحثون إجراء دراسات مماثلة في رياضات أخرى لفهم الحصيلة المعرفية للطلاب في تلك الرياضات.

الكلمات المفتاحية: الحصيلة المعرفية، ألعاب القوى، الجامعة الهاشمية.