THE RATIO OF THE CONTRIBUTION OF MODELS OF COGNITIVE IMPERSONATION OF INFORMATION IN THE SKILL OF RESOLVING PROBLEMS AND PERFORMANCE OF THE SKILL OF BLOCKING IN VOLLEYBALL

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Abstract

The purpose of this paper is to identifying the statistical estimates of cognitive representation models, problem-solving skill and blocking skill in volleyball, and identifying the relationship between cognitive representation models and the problem-solving skill of the research sample. The two researchers adopted the descriptive approach and the two researchers identified the research community in a deliberate way, and they are third-year students in the College of Physical Education and Sports Sciences for Woman, numbering 34 students, and the sample of the research was 30 students. One of the most important results reached by the researcher is that: The results showed that there is a significant correlation between models of cognitive representation and problem-solving skill of third-year students in the College of Physical Education and Sports Sciences for Woman, there is a significant correlation between the cognitive representation models and the blocking skill of the research sample, and there is a contribution rate of models of cognitive representation and problem solving skill in the performance of the blocking skill of the research sample. One of the most important recommendations recommended by the researchers is that: The need to pay attention to the cognitive representation of information by paying attention to the cognitive structures of students while learning the blocking skill, as it helps to develop mathematical performance, and necessity of conducting similar studies on different age groups and different activities (basketball, handball, football).

Keywords: Sports psychology. Sports exercise. Cognitive representation, Problem-solving skill

Introduction

Continuing education process updates have produced many challenges and difficulties in the various disciplines of the educational and educational process, as the current era is called by many names, and the most important of these names is the era of the knowledge explosion and the era of modern technological inventions, as it requires continuous updating and interaction with the educational experiences of the countries of the world to keep pace with change. In the modern educational process (Mustafa .1998.), there is great importance for cognitive representation and its impact on student's comprehension of the subject matter, as educators and specialists attach special importance to the cognitive mental processes used in learning. Perhaps we could achieve an understanding of these cognitive mental processes by linking the learning process to the foundations and systems of representation, information processing and efficiency by focusing on the processes the internal cognitive, including the individual's control and his role in the efficiency and representation of this information, which contributes to the skill of solving problems.(Al-Zubaidi .2007). Volleyball is a team game that

includes the development of basic skills, as it constitutes the cornerstone, and the student needs a set of physical, skill and psychological requirements to be able to achieve optimal performance in this game(Intisar.2020), as mastering the skill of spiking striking is one of the essential offensive skills as it enables The student from defending the playing field(Najlaa.2021), so it requires the student to possess the complete cognitive structure by focusing on the internal cognitive processes, including the student's control and his role in the efficiency and representation of information to solve problems while playing. Through the two researchers' observation of lessons and lectures and their interview with volleyball specialists in the College of Physical Education and Sports Sciences, they noticed the lack of interest in cognitive representation, and this affects the students' comprehension of the subject and problem-solving skills, as it was limited to the student's negative role and focused on the teacher and his clear role in the educational process in terms of delivering lessons. Students must be passive, non-positive, and active, and their task is to listen, and the task of the teacher is to narrate information and facts, and therefore it weakens the spirit of creativity, innovation and expression of opinion among the students. This constitutes an existing problem, and one must develop a solution to overcome such a problem. Therefore, the two researchers decided on this study, and here lies the importance of cognitive representation and problem-solving skills for students in a scientific and objective manner in performing the skill of spiking.

Research objective

1. Identifying the statistical estimates of cognitive representation models, problem-solving skill and blocking skill in volleyball.

2. Identifying the relationship between cognitive representation models and the problem-solving skill of the research sample

3. Identifying the relationship between cognitive representation models and the blocking skill of the research sample.

4. Identifying the percentage of the contribution of cognitive representation and problem-solving skill in the blocking skill of the research sample

Research hypotheses

1. There is a statistically significant correlation between the models of

cognitive representation and the problem-solving skill of the research sample

2. There is a statistically significant correlation between the cognitive representation models and the blocking skill of the research sample.

3. There is a contribution rate of models of cognitive representation and problem-solving skill in the performance of the blocking skill of the research sample

Research fields

1. Human field: Third year students in the College of Physical Education and Sports Sciences for Woman.

2. Time field: (15/1/2022) to (23/2/2022)

3. Spatial field: Volleyball Court - Indoor Hall - College of Physical Education and Sports Sciences for Woman.

Research Methodology and field procedures

Research methodology

The two researchers adopted the descriptive approach. The descriptive approach seeks to survey the studied phenomenon, and then describe it as a result. It depends on what exists on it in terms of reality and is concerned with describing it accurately. Studying any phenomenon or problem requires first a description of this phenomenon, specifically qualitatively and quantitatively (Daoud 2013).

Community and sample research

The two researchers identified the research community in a deliberate way, they are third-year students in the College of Physical Education and Sports Sciences for Woman, numbering 34 students, and the sample of the research was 30 students.

Tests used

The two researchers dealt with psychological and skill tests according to the requirements of the research

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Means, devices and tools used in the research:

1. Sources
2. volleyball court
3. Flying balls number 5
4. 4-hour timer
5. whistle
6. color adhesive tape

Determining a measure of the efficiency of cognitive representation

The two researchers adopted the researchers' scale (Al-Zubaidi, Muhammad Murtada bin Muhammad .2007), which consists of three models (the network model, the diffusion activation model, and the characteristics comparison model), where each model includes (10) paragraphs and in front of each paragraph there are three alternatives (applicable = 3, Apply to some extent = 2 Does not apply = 3) The examinee has to choose an alternative that applies to him. The score on the overall scale ranges between (30-90) and a high degree indicates the use of cognitive representation models with a high degree.

Identifying a problem solving scale

The two researchers adopted the scale (Al-Zubaidi, Muhammad Murtada bin Muhammad .2007), which was translated from Qibel (Shalaby, Mohamed Ahmed .2001). The scale consists of (33) items that measure five areas of problem-solving skill (5-702).

Exploratory experiments

Three exploratory experiments were conducted and will be explained as follows:

Cognitive Representation Scale

An exploratory experiment was conducted on the scale sample, which numbered (4), on Wednesday, 17-1-2022) to find out the suitability of the scale to the level of the sample, and what time it takes to answer, so the time was fixed at (13) minutes.

Problem solving scale

An exploratory experiment was conducted on the scale sample, which numbered (4), on Thursday, 18-1-2022) to find out the suitability of the scale to the level of the sample, and what time it takes to answer, and accordingly, the time was fixed at (10) minutes.

Test the skill of spiking

The two researchers, with the help of the assistant work team, supervised the exploratory experiment procedures, which were applied to a sample of students (third stage) of the College of Physical Education and Sports Sciences for Woman (and those who did not participate in the exploratory experiment, and their number was (4) students on Thursday, 18/1-2022, in order to identify On the most important difficulties that may accompany field research procedures, the two researchers enriched with the following observations:

1. Ensuring the suitability of equipment, tools and stadiums and their adequacy to be used as means to perform research vocabulary, with the organization and planning of stadiums, whether for the requirements of the experiment or for conducting tests

2. Knowing the suitability of the tests to the level of the sample and how to organize them and giving instructions for the test items.

3. Finding scientific coefficients for the test (reliability - objectivity)

Main experience

The Cognitive Representation Scale tests were conducted on Monday 22-2-2022 and the Problem Solving Scale test with the crushing multiplication test was conducted on Tuesday 23-2-2022.

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Results and Discussion

Presenting and analyzing the results of the arithmetic mean and standard deviations and comparing them with the hypothetical means of the variables investigated in the research sample (Tables 1 and 2).

Table 2 shows the value of the arithmetic means, standard deviations, and hypothesis mean of the variables of knowledge representation and problem-solving skill, if the arithmetic mean of the variable of knowledge representation was (72.56) with a standard deviation of (5.227), while the arithmetic mean of the problem-solving skill was (121.24) with a standard deviation It is (7.361), and the hypothetical mean of the cognitive representation is (60), which indicates that the research sample enjoys the cognitive representation, since the arithmetic mean for them is (72.56), which is greater than the hypothetical mean (60). The hypothetical mean of the problem-solving skill was (99), which indicates that the research sample has the ability to solve problems since the arithmetic mean of (121.24) is higher than the value of the hypothetical mean (99). Cognitive based on previous experiences, and the components of the problem to solve it. Given that problem-solving skill is essentially a cognitive process, increasing the individual's ability to use models of cognitive representation of information is naturally linked to a higher problem-solving skill. (El-Bahy, El-Sayed Ahmed .2003) indicated that the individual gives a functional character to the information he receives through encryption, storage and representation, as well as to insert, absorb, and accommodate meanings and ideas to be preserved to become part of the cognitive structure of the individual. Then that part represents a cumulative structure in which the information and knowledge of the individual interact with his direct and indirect experience, subsequently contributing to the learning process and problem solving. (Al-Mihimdy .2021) found that the student's ability to link information together with his previous experiences and his ability to express it using different strategies and then employ it in solving the problems he faces is evidence of his deep understanding of the information provided to him.

Presentation and analysis of the results of correlations, contribution ratios and standard error to estimate the results of cognitive representation in the variables investigated (Table 3):

Table 3 shows that there is a statistically significant correlation between

Table 1: shows the arithmetic mean, standard deviations, and skewness coefficient values for the variables investigated in the research sample.

Variables	Standard deviation	Arithmetic mean	Median	Skewness	distribution
Cognitive representation	84.56	5.227	84	0.321	moderate
Problem solving skill	121.24	7.361	121	0.097	moderate
blocking skill	5.12	5	1.482	0.242	moderate

Table 2: Shows the arithmetic means, standard deviations, and the calculated t value between the arithmetic means, standard deviations, and hypothetical means of the researched variables in the research sample.

Variables	Standard deviation	Arithmetic mean	Hypothetical means	T value calculated	Level Sig	Type Sig
Cognitive representation	72.56	5.227	60	13.165	0.001	Sig
Problem solving skill	121.24	7.361	99	16.559	0	Sig
Significant when the significance value ≤ 0.05 under degree of freedom of 29						

Table 3: Shows the results of the values of the simple correlation coefficient, linear regression, contribution ratios and standard error for estimating the results of the cognitive representation in the respondent.

Effect test	Affected test	Correlation coefficient	linear regression coefficient	Contribution ratios	Value F	Standard error
Cognitive representation	Problem solving	0.682	0.465	0.463	28.375	0.421
	Blocking	0.543	0.294	0.292	32.541	0.311

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cognitive representation and problem solving skill, where the correlation coefficient reached (0.682) and the correlation coefficient between cognitive representation and blocking skill reached (0.543), and this indicates the existence of a correlation between them and the researcher attributes this to the level of representation Knowledge of information and its efficiency would help to build effective knowledge maps that help in accomplishing various tasks and finding solutions to various problems .It was found that although the cognitive aspect or dimension of the ability to process information, represent it, recall and employ it in life situations has a great role, but the personal, emotional and contextual aspects have a role and impact as well in that skill, which is consistent with the fact that the problem-solving skill is an integrated cognitive, emotional, and behavioral component The structure in the personality of the individual, which needs to examine the role of cognitive and personal factors with cognitive representation in predicting problem-solving skill, and the representation of knowledge or knowledge building of the individual is a cumulative structure in which his information and knowledge interact with his direct and indirect experiences, which provides a good base for processing methods, which leads it supports his ability to create effective integration of categories and types of knowledge related to many fields, and then his ability to solve problems grows (Mustafa 1998) This is confirmed by the researchers (Dunia and Nihad) that knowledge represents a set of decisions or actions that depend on information, and therefore the student who has a certain amount of knowledge is the one who knows how to use the information available to her in skill performance.

Table 3 also shows the percentage of the contribution of the cognitive representation variable in the problem-solving skill at a rate of (46.3%), and the percentage of the contribution of the cognitive representation variable in the blocking skill is (29.2%). High excitement, and because the research sample is in the learning stage and their lack of experience led to this disparity. When information enters the first stages of storage in sensory memory and remains for a period of time not exceeding one second, it continues its path according to the mechanisms of attention and filtering to the short memory where the process of coding, recitation and repetition of information takes place. To become ready to continue the march towards long memory, where it is stored there for an indefinite period. This means that the process of representing information cannot take place in short memory because its task is to process information. Therefore, the process of permanent temporal preservation of information is carried out according to the cognitive structure of the individual in long memory, where Information is reorganized and represented in some way so that the information is ready for retrieval when needed. The long-term storage process requires a complex system of Organization and storage, due to the large number of information and the multiplicity of its fields, nature and various forms (Al-Atoum, Adnan Youssef .2004).

Where the researchers (Shihi, Nuil, Tshabman, Antuni .2015) confirmed that open skills that contain a number of complex stimuli require a high ability to respond, and as the higher the level of intelligence in learning motor skills, it returns to experiences and the applied environment, and this is confirmed by (Putnam, Ammersa, .2014) Previous experience has a role in using intelligence to solve problems and learn, and this affects mental processes.

Conclusions and Recommendations

Conclusions

1. The results showed that there is a significant correlation between models of cognitive representation and problem-solving skill of third-year students in the College of Physical Education and Sports Sciences for Woman.

2. There is a significant correlation between the cognitive representation models and the blocking skill of the research sample.

3. There is a contribution rate of models of cognitive representation and problem solving skill in the performance of the blocking skill of the research sample.

Recommendations

1. The need to pay attention to the cognitive representation of information by paying attention to the cognitive structures of students while learning the blocking skill, as it helps to develop mathematical performance.

2. The necessity of conducting similar studies on different age groups and different activities (basketball, handball, football).

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