

## **Pivotal Thinking and its Relationship to the Performance of the Skills of Preparing and Receiving Serve Volleyball for Female Students**

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### **Abstract**

The purpose of this paper is to study the pivotal thinking of the skills of preparing and receiving serve in volleyball for the research sample. As well as identifying the relationship of pivotal thinking with the performance of the skills of preparation and receiving serve of volleyball for the research sample. The researchers used the descriptive approach in a correlational style, as it is more appropriate with the objectives and subject of the research. Where the researcher identified the research community by the intentional method, which was represented by the students of the second stage in the College of Physical Education and Sports Sciences for woman / University of Baghdad, for the academic year (2020-2021), who numbered (108) students. As for the research sample, it was chosen randomly and by lottery method, as one division was chosen from a total of four divisions, which was represented by Division (A), which numbered (20) students, and a percentage amounted to (18,51%) of the total of the original community. Two researchers have reached satisfactory results, as it was found that the skills of pivotal thinking are related to the performance of the skills of receiving serve and preparing for volleyball. Likewise, the students have pivotal thinking that was developed through the questions and dialogues that took place within the lesson.

### **Introduction:**

This era was known as the era of speed as a result of the great scientific development in various fields of life, especially the field of education and the contents of the educational process and based on its important foundations ((teacher - learner - curriculum)) and what it included from the means and mechanisms of input and output for lessons, including theoretical or practical, the learner in the institution. The educational process requires thinking skills to be used in his daily life. The educational process also emphasizes teaching the student how to think, not how to memorize the study material without understanding it. Thinking is an essential tool for obtaining knowledge, and pivotal thinking is one of the thinking patterns and skills, which are (focusing - gathering information - remembering - organizing - analyzing - generating - integration - evaluation).

Volleyball is one of the group games that contains many basic skills, which are the basis for supporting and strong performance, although each game has skills that distinguish it from other games, and the skill differs from one game to another.

Through the foregoing, the importance of the research lies in knowing the values of pivotal thinking among students of the second stage in the College of Physical Education and Sports Sciences for woman, as well as knowing the values of their performance in the skills of preparing and receiving volleyball transmitters, and thus knowing the role of pivotal thinking in the performance of the two skills under study in an effort to determine the variables Which plays

a role in achieving better performance, which contribute to the success of the educational process.

### **Research problem:**

The life events that the athlete goes through are many obstacles and problems that have an impact on the person, especially in our current society, from the many pressures that face the individual from the most aspects of life, despite the pressures, but it is required of each individual to use mental operations in most times and circumstances, especially thinking as one of the most important aspects of life. The mental processes that we need to face problems, make the right decisions and achieve success in various areas of life. The problem of the research lies in the poor skill performance of most students, especially the skills of preparing and receiving volleyball transmissions, as well as the lack of interest of the faculty in measuring the values of pivotal thinking for female learners, so the researcher decided to A study of the pivotal thinking of second-year students in the College of Physical Education and Sports Science for woman. Our attempts to measure the pivotal thinking and the skill performance of female learners, and thus knowing the relationship of pivotal thinking to the skillful performance of the preparation and transmitter reception skills in volleyball.

### **Research objective:**

- Knowing the degree of (pivotal thinking - the skills of preparing and receiving serve volleyball) of the research sample.
- Identifying the relationship of pivotal thinking with the performance of the skills of preparation and receiving serve in volleyball for the research sample.

### **Research hypotheses:**

- There is a statistically significant correlation between the pivotal thinking and the performance of the preparation and receiving skills of volleyball.

### **Research methodology and field procedures:**

#### **Research Methodology:**

The two researchers used the descriptive approach in the method of correlational relations, as it is more appropriate with the objectives and topic of the research.

#### **Community and sample research:**

The researcher determined the research community by the intentional method, which was represented by the students of the second stage in the College of Physical Education and Sports Sciences for woman/ University of Baghdad, for the academic year (2020-2021), and their number is (108) students. As for the research sample, it was chosen by random method and by lottery method. Choosing one class out of a total of four divisions, which was represented by division (A), numbering (20) students, and with a percentage of (18.51%) of the total of the community.

### **Field Research Procedures:**

#### **Tests used in the research:**

#### **Skill tests:**

- 1- Preparation to center (2) and (4):

- **The purpose of the test:** To measure the level of performance of the skill of preparation from front of the head to the front by experts.
- **Tools:** The legal volleyball court, volleyballs, tape measure, the court, where the back area is divided into two rectangles (A - B), each area (3 x 4.5 m) designated for the coach to stand in it to pass the ball to the sample.
- **Performance specifications:** sample stands in center (3), and the coach who stands in area (A) must pass the ball to a mechanism, and he is in this place to prepare it, provided that he directs it to center (2), as he gives the laboratory three attempts to this center and then gives three attempts Another one to count them and direct them to the center (4) after passing the ball to him from the coach who is standing in area (B).
- **Registration:** The evaluation of the laboratory performance in the six attempts by experts, and the division of the degree is as follows:
  - A- Preparatory section: its degree (3).
  - B- The main section: its degree (5).
  - C- The final section: its degree (2).

The final score was calculated by finding the arithmetic mean of the six attempts: (Najla Abbas Nassif)<sup>(1)</sup>.

- 2- **Pivotal thinking test:** The researcher used the axial thinking test applied in the mathematical field, which was built previously by the researcher, and it consists of (28) paragraphs that include a set of questions to find out the amount of pivotal thinking of learners in the skills of preparing and receiving transmission. The answer to the test is after reading it carefully, as each paragraph of the test contains four options, and only one correct alternative is chosen from among the four alternatives. The test also consists of (8) skills and each skill contains a number of sub-skills, as follows;
- Focus skills: including ((defining the problem - formulating goals))
  - Information gathering skills: including ((observation - formulating questions))
  - Remembering skills: including ((encoding - retrieval))
  - Organizing skills: they include ((comparison - classification - arrangement - representation)).
  - Analysis skills: they include ((identifying features and components - identifying patterns and relationships - determining main ideas - identifying errors))
  - Generation skills: including ((inference - prediction - expansion))
  - Integration skills: including ((summarizing - rebuilding and installing))
  - Evaluation skills: including ((building standards and criteria - ensuring)).

The correction method is (1) score for the correct answer and (zero) for the wrong answer, so the maximum score for the test is (28) degrees and the minimum score is (zero).

### Exploratory experiment:

The researcher conducted an exploratory experiment to test the pivotal thinking on (7) students from Division (D) representing the exploratory sample in the classroom of the College of Physical Education and Sports Science for Girls / University of Baghdad, and with the help of the assistant work team. From their understanding, enough time was given to answer the test, and then the forms were collected to be processed statistically, on (2/12/2020), and the researcher also conducted a second exploratory experiment for skill tests on the members of the same exploratory experiment sample on the volleyball court on Sunday corresponding to (6/12/2020) and its purpose:

- Avoiding errors that occur during exams.
- Knowing the difficulties facing the work.
- Knowing the appropriate time to take the test.
- Knowing the suitability of the tests to the level of the sample.
- Ensuring the efficiency of the research assistant work team.
- Ensuring that the research sample understands and implements the mechanism of answering the tests.

### Main experiment:

The main experiment for skill tests was conducted on the main experiment sample of (20) female students on Monday, 7/12/2020, and on the volleyball court in the College of Physical Education and Sports Sciences for woman/ University of Baghdad. As the researcher conducted a preparation test on the research sample, and after its completion, a rest period of (15) minute was given, after which the transmitter reception test was conducted for the same sample and in the same place. After completing the skill tests, the pivotal thinking test was conducted on Wednesday (9/12/2020) in one of the college classrooms. The test instructions and the way to answer it were read and after making sure that the sample members understood the test and the method of answering, enough time was given to answer the test afterwards. The forms were collected for statistical processing.

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

### Results and discussion:

#### Presentation and analysis of the results:

Table (1) shows the arithmetic means, standard deviations, and skewness coefficient of the variables investigated

Variables	Mean	Median	Std. Deviations	Skew ness
reception skill	4.26	4.5	1.115	- 0.645
Preparation skill	4.76	5	1.582	- 0.455
pivotal thinking	25.88	25	5.301	- 0.498

Table (1) showed that all the values of the skewness coefficients were confined to  $\pm 1$ , and this indicates that the research sample individuals were moderately distributed.

Table (2) shows the arithmetic mean, standard deviation, and the t-value calculated between the arithmetic mean and the hypothetical mean for the pivotal thinking test.

Variables	hypothetical mean	Arithmetic mean	Standard deviation	T value	siglevel	Sig type
pivotal thinking	18	25.88	5.301	6.649	0.000	Sig

Table (2) shows the value of t calculated to indicate the differences between the arithmetic mean and the hypothetical mean of the axial reasoning test, as the value of t was (6.649) and the value of the error level was (0.000), which is less than the significance level of 0.05, and this indicates that there are significant differences between the hypothesis and the

mean. Arithmetic for the research sample in the pivotal thinking test, meaning that the research sample members have a degree in pivotal thinking.

Table (3) shows the values of the correlation coefficient between the pivotal thinking and the performance of the receiving and preparation skills of the research sample.

Variables	Correlation coefficient pivotal thinking	Sig level	Sig type
reception skill	0.664	0.001	Sig
Preparation skill	0.582	0.001	Sig

Table (3) shows the values of the correlation coefficient between pivotal thinking and the performance of the two skills of receiving and preparing volleyball, as the value of the correlation coefficient was (0.664-0.582), respectively, and the error level values were (0.001 - 0.001), respectively, which is also less than the value of the significant level of significance. 0.05, and this means that there is a significant and direct correlation between pivotal thinking and the performance of the two skills of receiving the serve and the skill of preparing in volleyball.

Table (2) show that all the values of the skewness coefficients were confined between  $\pm 1$  and this indicates that the individuals of the research sample are moderately distributed. We also notice through Table (2) that the members of the research sample have pivotal thinking, as we find that the arithmetic mean of the axial thinking test is greater than the hypothetical mean, and this indicates that the curriculum prepared by the subject teacher contributes to improving pivotal thinking through the use of questions and focusing on the material and the procedure Comparisons and others As we note through Table (3), there is a significant correlation between pivotal thinking and the performance of the two skills of preparing and receiving the volleyball service. The researcher strengthens this relationship between pivotal thinking and the skills of receiving, transmitting and preparing, meaning that the student's possession of pivotal thinking will positively reflect on the student's performance of the two skills, as the researcher believes that pivotal thinking is one of the mental processes that simulate and address problems through analyzing the problem axis, i.e. the task required to perform and the different basic skills. In volleyball, "is the deliberate investigation of experience in order to achieve a purpose, and this purpose may be understanding, making a decision, planning, solving a problem, judging something or doing a certain action." <sup>(2)</sup> Thinking skill is the ability to think effectively, or it is the ability to operate defence effectively. We can say that each of the mentioned skills is a thinking ability that enables the individual to do what he wants to achieve, and this means that the thinking skill is not different from any other skill that the individual needs to acquire. For practice, training, development, continuous improvement, patience and endurance, meaning that teaching thinking skills should not stop, but rather continue with the individual as long as he needs to think <sup>(3)</sup>, and mental operations are among the important topics that contribute to the development of the learning process. The pivotal thinking skills are (focusing - analysis - comparison - evaluation - generation - remembering - information gathering - integration - organization). And all of these skills we need to learn any mathematical skill. The learner needs to focus on the skill and focus on the given scientific material to be able to perform it. In addition, the more information the learner gathers, the better he can perform the skill, and this is the case for the rest of the thinking skills. We also find through these results that the subject

teacher develops the skills of pivotal thinking, even if a part of it, but unintentionally. Rather, the educational curriculum of the subject teacher requires the use of some pivotal thinking skills, and the learner's attempt to be the focus of his thinking and position in learning and performing a skill, especially when performing the preparation and reception skills the transmitter will be able to perform it in the best way. Thinking skills are of great importance to students at various levels of study, as they have received a great deal of research and investigation in educational literature, and the results of studies and research that have accumulated over the past periods of time, due to the great interest they have received. And pivotal thinking skills" are cognitive cognitive processes that can be considered as a basic building in the structure of thinking<sup>(4)</sup>.

Costa (1985) sees that thinking is the mental processing of sensory inputs, with the aim of forming ideas, in order to perceive sensory stimuli and pass judgment on them<sup>(5)</sup>.

### **Conclusions and Recommendations:**

#### **Conclusions:**

- The pivotal thinking skills are related to the performance of the receiving serve and preparation skills in volleyball.
- The students have pivotal thinking that was developed through the questions and dialogues that took place within the lesson.

#### **Recommendations:**

- The researcher recommended the use of pivotal thinking skills within the lesson by the subject teacher.
- The necessity of recognizing the values of pivotal thinking among the research sample, as it has proven its relationship to the performance of the preparation skills and the reception of volleyball.
- The necessity of conducting similar studies for other volleyball skills.
- The necessity of conducting similar studies to develop the pivotal thinking skills of the research sample.

### **References**

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### Appendix (1) Pivotal thinking test

1- Did someone perform the skill of transmitter-receiver with arms bent?

A - Is there a problem with the phrase:

(1-yes- 2-no- 3-sometimes).

b- If the answer is yes, then what is the problem?

(1-Performing the skill of receiving -2- bending the arms-3- both are wrong)

C- Why is the problem?

(1-the ball goes away- 2-hit the ball in the face- 3-both right)

D- How to solve the problem:

(1-Bend the arms - 2-Extend the arms - 3-Both are correct)

2- What is the purpose of learning the skill of preparation?

(A - Preparation is the key to playing offensive combinations - B - No good attack can be achieved without preparation - C - Both are correct)

3- What is the purpose of receiving the ball after serving?

(a - to prevent the sending team from obtaining a point - b - to deliver the ball to the prepared player)

C- Both are correct.

Q1: Which of the skills is the skill of preparation?



Ask a question to answer the following:

(The torso is slightly bent forward in the skill of receiving the transmitter)

6- Connect the following words to make a meaningful sentence:

(Ahmed, receiver, brilliant, skill, transmitter, perform)

7- Which of the skills are their conditions as follows:

1-Fingers spread on the ball

(A - setup - b - transmitter reception - c - both)

2- The thumbs are attached together

(A-setup-b-transmitter reception-c-both)

8- Compare the preparation and reception while delivering it to any player

(A - in the preparations the ball reaches the attacker, but in the reception the ball reaches the sender - B - in the preparations the ball reaches the stomach, but in the reception the ball reaches

the attacker - C - in the preparations the ball reaches the attacker, but in the reception the ball reaches the stomach)

9 - Between the differences between preparation and reception in the position of the fingers (A - in numbers, the fingers are close together, and in reception, the fingers are open - B - in numbers, the fingers are spread out, and in reception, they are close together - C - both are correct)

10- Classify the types of skills for each basic skill:

1- From above the head forward.

(a-setting-b-receiving-c-sending)

2- From the bottom

(A-Prepare-B-Receive-C-Both are correct)

3-From over the head to the back

(A-setup-b-receive-c-transmitter)

11- What is the thing that is not performed with the skill of preparation?

1- Feet are clogged

2- Feet open at shoulder width

3- The feet are bent

12- Arrange the following skills according to their performance on the field

A- (receive transmitter, set up, transmit)

b- (setup, transmitter reception, transmitter)

C- (transmitting, transmitter receiving, setting)

13- One of the characteristics of a player who is intended to excel

1- Intelligence and focus

2- tall

3- Both together

14- From the following definition of the transmitter reception skill, extract (between) its constituent features?

Transmitter receiver:

Receiving the ball sent by the player sent to the opposing team to prepare it for the prepared player or another teammate on the field after absorbing its speed and strength and passing it from the bottom with the forearms.

A-The receiver absorbs the ball's velocity and force.

b- The ball is passed from the sending player to the prepared player.

c- The reception of the serve shall be by the prepared player.

15- Seriously the relationship between the force of the serve kick and the degree of flexion of the receiving player in the knee joint?

1-No relationship.

2- An inverse relationship.

3- A positive relationship.

16- Correct the following statements without changing the brackets.

(Volleyball is one of the non-team sports) that can be played in (indoor halls or beaches, which is a high-level game) and this makes it in the ranks of medium-level sports that do not attract players (to practice it and spectators to enjoy watching it because it is) a non-exciting and fast game (and is considered in Present day of the popular and important sports) in the world.

17- Identify the contradiction in the following sentence with a statement of the reason for that?



The basketball team was in a car accident, which resulted in several injuries among the players. The injured were taken to the emergency department of a hospital near the scene of the accident. Doctors reported that the players' injuries ranged from broken legs to the players and isolated minor injuries. All players left after performing the required first aid, except for the captain. The team that decided to stay in the hospital for two or three days, and the treating doctor's opinion was that of those who are able to use the left hand in play

18- Answer true or false?

1- The skill of receiving the serve is one of the offensive skills

2- The prepared player must be tall

19- Choose the correct inference from the following:

1- The skill of receiving transmission precedes the skill of preparation, so it is performed

1- After preparation. 2. after sending. 3. After crushing

2- If the ball is pushed in the skill of preparation, it is not with the whole hand, then

1- The palm of the hand is touching the ball

2- The palm is in contact with the ball

3- Fingers touching the ball

20- What would happen if the learner performed the skill of receiving the transmission by not bending the knees and moving the arms down and up:

1- The ball goes away 2- Good reception 3- Absorbs the force of the ball)

21-What do you expect if the distance between the hands is wide while performing the preparation skill?

1- The ball passes between the hands. Ball control 3. Guarantee of receiving the ball.

22- Write down in detail the position of the fingers the moment it touched the ball:

23-Read the following text and testicle in one line?

When performing the skill of receiving the service, and at the moment the ball touches the surface of the forearms, the player begins to straighten all the joints of the body to the top if the focus is on the two metatarsals, then extend the knee joint, followed by the thigh joint, then extend the trunk forward and up.

24- The skill of preparation includes preparing and preparing the ball:

1- For the prepared player 2.For the attacking player 3.for the future player

25- It is not possible to perform the skill of receiving the transmitter without

1- Setup.

-2 crushing beating

3- transmitter.

26- What is the criterion for judging the best performance?

1- Good posture. Correct technique.3. Good result.

27-Good performance can be achieved through:

(1-practice-2- repetition 3-both together)

28- You can prove that you have learned the skill of transmitting reception through:

1- My ability to receive and receive the ball well from the server.

2- My ability to deliver the ball to the stomach well.

3- Both are together.