The Impact of Claus Meyer on Metacognitive Thinking and Learning the Skill of Defending the Court with Volleybal

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Abstract

The study aimed to prepare a measure of metacognitive thinking commensurate with learning the skill, preparing educational units using the Claus Meyer model for metacognitive thinking, and learning the skill of defending the court in volleyball. To identify the effect of educational units using the model (and Claus Meyer) for metacognitive thinking and learning the skill of defending the court in volleyball. The two researchers used the experimental approach with the design of the experimental and control groups. The research community consisted of students of the second stage / College of Physical Education and Sports Sciences / University of Baghdad for the academic year 2021-2022, whose number is (385) students. Their number is (10) people, as (4) people were chosen and they are (I, Z, Y), as the researcher chose Division (J) to prepare the metacognitive thinking scale and for the exploratory experiment, which numbered (33), and Division (I) the experimental group (Close model Meyer) of (31) and Division (G) of the control group of (30), after which the two researchers prepared a metacognitive thinking scale and used the volleyball court defense skill test, and then applied the scale and test to extract the pre and post results The two researchers reached several conclusions and recommendations, including: The exercises using the Claus-Meyer model prepared by the two researchers were effective in metacognitive thinking and the skill of defending the court with volleyball for students of the second stage in the College of Physical Education and Sports Sciences, University of Baghdad.
The exercises prepared by the teacher were effective in metacognitive thinking and the skill of defending in volleyball for students of the second stage in the College of Physical Education and Sports Sciences, University of Baghdad. The use of cooperative learning models based on special groups leads to learning skills more easily than the learner of similar groups. Introducing the educational model proposed by the two researchers within teaching volleyball skills. Conducting periodic tests for students to ensure the usefulness of the educational programs used.

Keywords: Claus Meyer, Thinking, Volleyball

Introduction:

The Claus Meyer model is used to stimulate students' thinking about the topic of the lesson, with the aim of enhancing participation and actual encouragement to build meaning, with proper management and planning of lesson time, discussing the different opinions they have in their knowledge structures, testing their suitability, effectiveness, validity, possibility of modification, use and application. And finally, its evaluation and review of change, as Claus Meyer believes that concepts represent the mental building blocks of the individual, and that mature individuals acquire concepts based on their educational experiences that they went through on the one hand, and the types of maturity that they actually have on the other hand, and from here, the learning process requires the learner to organize and classify His own experiences related to his parts of knowledge through mental awareness of common features among assets Metacognitive thinking raises the individual's ability to build an appropriate strategy to evoke the information he needs, and full awareness of this strategy. My knowledge refers to the ability to acquire knowledge by self-research, and that the skills of the game of volleyball require high concentration in order to learn it, and in particular the skill (defending the court), as it is considered one of the defensive skills in this game due to its excellence. Of the role in the rest of the technical skills. There are some skills in which the students encounter a lot of difficulties during their performance, despite all the attempts made by using the method used to reach the learners to an integrated learning. Among these skills is the defense of the court, which he cannot master in its performance, no matter how much effort the subject teachers exert in the learning process, and the researcher attributes The reason for this is due to the specificity of this skill and its distinguished steps in technique, as well as the connection of this skill with

other skills. Therefore, the two researchers thought to find appropriate educational models in achieving general goals, especially in developing metacognitive thinking and the skill of defending the court in volleyball, as well as may contribute to helping students facilitate the learning process, because these two models may come out with steps and a mechanism that supports the individual differences of learners as well as increasing their motivation and excitement The spirit of cooperation among them as well as excitement and suspense.

Research objective:

The research aims to: Preparing a measure of metacognitive thinking commensurate with learning the skill Preparing educational units using the Claus Meyer model for metacognitive thinking and learning the skill of defending the court with volleyball. To identify the effect of educational units using the model (and Claus Meyer) for metacognitive thinking and learning the skill of defending the court in volleyball. For students of the second stage in the Faculty of Physical Education and Sports Sciences.

Research hypotheses:

- There are statistically significant differences in the post-test between the experimental and control research groups in metacognitive thinking and learning the skill of defending the court with volleyball for second-stage students in the College of Physical Education and Sports Sciences.

Research methodology and field procedures:

Research Methodology:

The researchers used the experimental approach to suit the nature of the problem, using the method of the experimental and control groups, and conducting the pre and post-tests.

Community and sample research:

The research community consisted of students of the second stage / College of Physical Education and Sports Sciences / University of Baghdad for the academic year 2021-2022, whose number is (385) students. Their number is (10) people, as (4) people were chosen and they are (I, Z, Y), as the researcher chose Division (J) to prepare the metacognitive thinking scale and for the exploratory experiment, which numbered (33), and Division (I) the experimental group (Close model Meyer) of (31) and Division (G) of the control group of (30) as shown in Table (1)

Table Shows the experimental design

post-test	**variable pre-test**	**Pretest**	**groups**	T
Tests of metacognitive thinking and the skill of defending the field	Learning units based on the Claus Meyer model	Tests of metacognitive thinking and the skill of defending the field	Experimentalist Claus Meyer	2
Tests of metacognitive thinking and the skill of defending the field	Teaching units in the style of the teacher	Tests of metacognitive thinking and the skill of defending the field	control group	3

Research sample equivalence:

In order to be able to return the differences to the experimental factor, the experimental and control groups must be completely equal in all conditions and variables except for the experimental variable that affects them. Therefore, the researcher conducted the equivalence process through the pre-tests of the research groups using the statistical test T between the average of the two groups, as shown in Table (2) The two groups are equal because there are no differences between them.

Statistical parameters / test	Groups	Pre-test		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation			

Metacognitive thinking	Experimental	130.0645	10.12237	0.415	0.679	Non sig
	control	129.0000	9.88904			
Playground defense	Experimental	3.2581	1.03175	1.119	0.268	Non sig
	control	2.9333	1.22990			

Below the level of significance of 0.05 and the degree of freedom n1 + n2 - 2 = 59

Defining and preparing a metacognitive thinking scale:

The two researchers used the metacognitive thinking scale developed by Schraw & Dennison (1994, Schraw & Dennison), which includes two dimensions: knowledge of knowledge and organization of knowledge. Kumar (1998) used the scale and repeated the factorial analysis for it, resulting in three dimensions: 1. Knowledge of knowledge: It refers to declarative knowledge, procedural knowledge and conditional knowledge 2. Knowledge organization: It refers to the ability to plan, manage information and evaluate. 3. Knowledge processing: It refers to the strategies and skills used in managing information. The scale was developed to suit the Jordanian environment by (Obeidat 2009) (Al-Jarrah and Obeidat 2011) (Al-Baqi'i 2014). The scale, in its final form, consists of (42) items distributed over three dimensions: (knowledge of knowledge, organization of knowledge, processing of knowledge). The validity of the scale: the researcher of the apparent validity of the scale by presenting it to six arbitrators with expertise and specialization in psychology, measurement and evaluation, and the Arabic language, to express their opinions regarding their links regarding clarity, formulation, and their relevance to the dimension and the scale as a whole. Their observations were about the linguistic formulation of some of the paragraphs, and they were all taken into account, so that the scale consists of (42) paragraphs, distributed on three dimensions: knowledge of knowledge, which is measured by (12) paragraphs; They are the paragraphs with numbers (2, 4, 8, 13, 10, 20, 21, 22, 23, 25, 24, 28), and the organization of knowledge, and it is measured by (19) paragraphs; These are the paragraphs with numbers (3, 5, 6, 7, 9, 16, 17, 18, 19, 29, 30, 33, 34, 35, 36, 39, 40, 41, 42), knowledge processing, and measuring it (11).) paragraph; These are the paragraphs with numbers (1, 10, 11, 12, 14, 24, 27, 31, 32, 37, 38).

Scale Correction:

A five-point Likert scale, consisting of responses ranging from always to never, was used; It was given five degrees for appreciation always, four degrees for appreciation often, three degrees for appreciation sometimes, two degrees for appreciation rarely, and one degree for appreciation at all. In order to judge the level of students' possession of metacognitive thinking, the level of metacognitive thinking will be identified by comparing the arithmetic mean of the sample with the hypothetical mean. The two researchers prepared it in a way that suits learning skills, as it changed and modified the paragraphs to simulate volleyball skills, as well as extracting the scientific bases for the scale (honesty, reliability, objectivity) and making it compatible with the research sample.

Test Name: Technical performance of the skill of defending the field (Abdul Majeed 2001 316)

- The aim of the test: to evaluate the technical performance (technique) of the skill of defending the field through the three sections of the skill (preparatory, main, and final).

- Tools used: a legal volleyball court, (3) legal volleyballs and a pre-prepared performance appraisal form.

- Method of performance: the tested player performs the skill of defending the field, from a standing position, and for three consecutive attempts,

Registration: Three evaluators evaluate the three attempts for each tested player, and three degrees are awarded for each evaluator, noting that the final evaluation score for each attempt is (10) degrees divided into the three skill sections, which are (3) for the preparatory section and (5) degrees for the main section and (2) Scores for the final section, after which the best score for each assessor is selected, and by extracting the arithmetic mean for the best three scores, the final score for each tested player is extracted.

The first exploratory experiment: the metacognitive thinking scale

For the purpose of finding the scientific parameters of the scale and finding out its suitability for the research sample, especially after the changes that the researcher made to the operative phrases, she conducted an exploratory experiment on a sample of (33) students

from the research community who are from outside the main sample, on (Wednesday) corresponding to 2/16/2022 in The closed hall of the College of Physical Education and Sports Sciences University of Baghdad, as the scale forms were distributed to the exploratory sample, and the sample members were discussed about the clarity of the paragraphs and instructions, and it was found that there is no alternative to the scale that is not clear and after the students finished answering the paragraphs Scale The two researchers collected questionnaires For this purpose, the following was reached:

1. Finding out how appropriate the scale is to the sample level and the clarity of its paragraphs.
2. Finding the scientific parameters of the scale.

One of the results of the exploratory experiment was that it achieved the objectives for which it was conducted, as follows:

1. The appropriateness of the scale to the level of the sample and the clarity of its paragraphs through the students' ability to answer the paragraphs.
2. The scientific parameters of the scale were found, as although it is a standardized scale and enjoys honesty, stability and objectivity, the researcher found this on the sample of the exploratory experiment to see its suitability for the research sample.

Psychometric specialists unanimously agreed that the two most important characteristics among the psychometric characteristics are validity and constancy. An honest measure is inherently constant, while a fixed measure may not be true. We may find it homogeneous, but it does not measure the traits set to be measured (Melhem 2000 287). Therefore, the researcher found the psychometric characteristics of the scale as follows:

Virtual validity:

Table (2) Shows the validity of the paragraphs using a percentage

Result	Percentage	Relevant Not	Relevant	wrong	T
acceptable	%92.30	1	12	I consider several alternatives when implementing the skill	1
acceptable	%84.61	2	11	I try to use proven methods to perform the skill	2
acceptable	%100	0	13	I slow down when making a decision to give myself enough time to perform	3
acceptable	%84.61	2	11	Realize the strengths and weaknesses of mental abilities	4
acceptable	%92.30	1	12	I think about what I need to learn before I start doing the skill	5
acceptable	%84.61	2	11	I set specific goals before starting to perform the skill	6
acceptable	%100	0	13	I slow down when faced with important performance information	7
acceptable	%84.61	2	11	Know what type of information is important for making a performance decision	8
acceptable	%100	0	13	I can organize the information well	9
acceptable	%84.61	2	11	I focus my attention on the valuable and important information of skill performanc	10
acceptable	%100	0	13	I have a specific goal for each strategy I use during my execution	11
acceptable	%84.61	2	11	I use a variety of strategies depending on the performance situations of the skill	12
acceptable	%100	0	13	I ask myself questions about the easiest ways to perform the skill	13
acceptable	%92.30	1	12	I have good control over decision making	14
acceptable	%92.30	1	12	I do a periodic review because that helps me	15

				understand any information related to performance	
acceptable	%84.61	2	11	I ask myself questions about the decision before I make it	16
acceptable	%100	0	13	I think of multiple ways to solve the problem and then choose the best when implementing the performance	17
acceptable	%84.61	2	11	Summarize what you learned about performing the skill	18
acceptable	%100	0	13	I can motivate myself to learn when I need to	19
acceptable	%92.30	1	12	I know which strategies to use when making decisions	20
acceptable	%92.30	1	12	I use my mental abilities to make up for my physical and skill weaknesses	21
acceptable	%84.61	2	11	I focus on the importance of new information about the skill	22
acceptable	%100	0	13	I put questions of my own to make the information meaningful	23
acceptable	%84.61	2	11	I assess how well I understand performance information	24
acceptable	%100	0	13	I find myself using useful methods and methods automatically	25
acceptable	%84.61	2	11	I stop regularly to check my understanding of the performance	26
acceptable	%100	0	13	I use timely strategies	27
acceptable	%84.61	2	11	I ask myself how well I have accomplished the goals when I finish the performance	28
acceptable	%92.30	1	12	I ask myself if I considered all the options available in performing the skill	29
acceptable	%100	0	13	I try to employ the new knowledge of performance	30
acceptable	%100	0	13	I change my strategies when I can't understand the topic well	31
acceptable	%92.30	1	12	I use the information systematically to help my skillful performance	32
acceptable	%100	0	13	I read the instructions carefully before I start performing the skill	33
acceptable	%92.30	1	12	I ask myself if what I'm learning is relevant to what I've learned	34
acceptable	%100	0	13	I re-evaluate my assumptions when I get overwhelmed by performance	35
acceptable	%100	0	13	I learn more when I am interested in performing a skill	36
acceptable	%100	0	13	I try to break my work down into smaller tasks to make it easier to handle	37
acceptable	%84.61	2	11	I ask myself questions about how correct I am when I am learning a new skill.	38
acceptable	%100	0	13	I ask myself if I learned what to learn when I finished my skillful performance	39
acceptable	%84.61	2	11	I stop and review the new information	40

acceptable	%100	0	13	When they are not clear, I stop and re-read when I find myself confused	41
acceptable	%84.61	2	11	I stop and repeat the performance when I find myself disoriented	42

Discriminatory honesty:

The two researchers used the method of the two extreme groups in order to calculate the discriminatory power of the vertebrae in order to know the distinguished vertebrae and delete the non-distinguishable vertebrae. The paragraph aims to exclude the paragraphs that do not distinguish between the respondents from these paragraphs and to keep the paragraphs that distinguish between them, and in order to calculate the distinction of the paragraphs in this way, the researcher followed the following steps:

1. Applying the scale to the sample of the exploratory experiment, which consisted of (33) students.

2. The scores were arranged in descending order from the highest score to the lowest score, then (35%) were taken from the questionnaires with the highest scores and (35%) from the questionnaires with the lowest scores, because "this ratio provides two groups with the best possible size." and distinction" (Al-Kubaisi 2010: 34)

3. The two researchers used the T-test for two independent samples to test the significance of the differences between the upper and lower groups for each paragraph.

Before the researcher extracted the discriminatory ability, she did the statistical description of the sample, as shown in Table (4).

Table (4).Shows the discriminatory ability of the items of metacognitive thinking scale

S	**Upper levels**		**Lower levels**		**Value (T)**	**sig**
	E	**S**	**E**	**S**		
1	**0.00000**	**5.0000**	**1.13818**	**3.2500**	**5.32600**	**0.000**
2	**0.28868**	**4.9167**	**0.96531**	**2.2500**	**9.16800**	**0.000**
3	**0.00000**	**5.0000**	**0.67420**	**3.5000**	**7.70700**	**0.000**
4	**0.00000**	**5.0000**	**0.79296**	**2.9167**	**9.10100**	**0.000**
5	**0.00000**	**5.0000**	**0.77850**	**2.3333**	**11.86600**	**0.000**
6	**0.00000**	**5.0000**	**0.65134**	**2.3333**	**14.18200**	**0.000**
7	**0.38925**	**4.8333**	**0.66856**	**2.5833**	**10.07500**	**0.000**
8	**0.45227**	**4.7500**	**0.90034**	**2.5833**	**7.44900**	**0.000**
9	**0.51493**	**4.4167**	**0.51493**	**2.5833**	**8.72100**	**0.000**
10	**0.38925**	**4.8333**	**0.83485**	**2.1667**	**10.02900**	**0.000**
11	**0.38925**	**4.8333**	**0.52223**	**3.5000**	**7.09100**	**0.000**
12	**0.51493**	**4.4167**	**0.93744**	**2.1667**	**7.28700**	**0.000**
13	**0.28868**	**4.9167**	**0.51493**	**2.5833**	**13.69200**	**0.000**
14	**0.51493**	**4.5833**	**0.66856**	**2.5833**	**8.21000**	**0.000**
15	**0.52223**	**4.5000**	**0.79296**	**2.4167**	**7.60100**	**0.000**
16	**0.00000**	**5.0000**	**0.93744**	**2.8333**	**8.00600**	**0.000**
17	**0.51493**	**4.4167**	**0.73855**	**2.0000**	**9.29800**	**0.000**

18	**0.51493**	**4.5833**	**0.57735**	**2.1667**	**10.82100**	**0.000**
19	**0.00000**	**5.0000**	**0.73855**	**2.0000**	**14.07100**	**0.000**
20	**0.45227**	**4.7500**	**0.62158**	**2.2500**	**11.26600**	**0.000**
21	**0.51493**	**4.5833**	**0.57735**	**1.8333**	**12.314**	**0.000**
22	**0.45227**	**4.7500**	**0.45227**	**1.7500**	**16.248**	**0.000**
23	**0.49237**	**4.6667**	**0.71774**	**1.8333**	**11.277**	**0.000**
24	**0.52223**	**4.5000**	**0.65134**	**1.6667**	**11.757**	**0.000**
25	**0.45227**	**4.7500**	**0.60302**	**2.0000**	**12.638**	**0.000**
26	**0.90034**	**4.0833**	**0.52223**	**1.5000**	**8.598**	**0.000**
27	**0.28868**	**4.9167**	**0.51493**	**1.4167**	**20.538**	**0.000**
28	**0.51493**	**4.4167**	**0.51493**	**1.5833**	**13.478**	**0.000**
29	**0.51493**	**4.5833**	**0.38925**	**1.8333**	**14.758**	**0.000**
30	**0.51493**	**4.5833**	**0.65134**	**1.6667**	**12.169**	**0.000**
31	**0.45227**	**4.7500**	**0.38925**	**1.8333**	**16.932**	**0.000**
32	**0.52223**	**4.5000**	**0.66856**	**1.9167**	**10.549**	**0.000**
33	**0.52223**	**4.5000**	**0.51493**	**1.5833**	**13.776**	**0.000**
34	**0.93744**	**4.1667**	**0.52223**	**1.5000**	**8.608**	**0.000**
35	**0.66856**	**4.5833**	**0.45227**	**1.7500**	**12.16**	**0.000**
36	**0.38925**	**4.8333**	**0.79296**	**2.0833**	**10.784**	**0.000**
37	**0.28868**	**4.9167**	**0.51493**	**2.4167**	**14.67**	**0.000**
38	**0.45227**	**4.7500**	**0.83485**	**1.8333**	**10.641**	**0.000**
39	**0.51493**	**4.5833**	**0.49237**	**1.3333**	**15.802**	**0.000**
40	**0.38925**	**4.8333**	**0.79296**	**2.0833**	**10.784**	**0.000**
41	**0.45227**	**4.7500**	**0.51493**	**2.4167**	**11.794**	**0.000**
42	**0.38925**	**4.8333**	**0.79296**	**2.4167**	**9.477**	**0.000**

The internal consistency of the scale: The two researchers extracted the correlation between the paragraph score and the total score of the scale, and Table (5) shows this.

Table (5)It shows the correlation coefficient between the paragraph score and the total score of the scale

No, paragraph	simple correlation coefficient	Significance value	The result	No, paragraph	simple correlation coefficient	Significance value	The result
1	.372*	0.000	significant	22	.340**	0.000	significant
2	.384*	0.000	significant	23	.540**	0.000	significant

3	.572**	0.000	significant	24	.698**	0.000	significant
4	.422*	0.000	significant	25	.487**	0.000	significant
5	.442*	0.000	significant	26	.590**	0.000	significant
6	.464**	0.000	significant	27	.623**	0.000	significant
7	.619**	0.000	significant	28	.710**	0.000	significant
8	.367*	0.000	significant	29	.560**	0.000	significant
9	.423*	0.000	significant	30	.490**	0.000	significant
10	.333*	0.000	significant	31	.460*	0.000	significant
11	.313*	0.000	significant	32	.419*	0.000	significant
12	.439*	0.000	significant	33	.650**	0.000	significant
13	.456**	0.000	significant	34	.770**	0.000	significant
14	.428*	0.000	significant	35	.463*	0.000	significant
15	.489**	0.000	significant	36	.402*	0.000	significant
16	.447**	0.000	significant	37	.876**	0.000	significant
17	.516**	0.000	significant	38	.479**	0.000	significant
18	.401*	0.000	significant	39	.385*	0.000	significant
19	.659**	0.000	significant	40	.599**	0.000	significant
20	.431*	0.000	significant	41	.483**	0.000	significant
21	.456**	0.000	significant	42	.340**	0.000	significant

Scale stability:

The two researchers used several methods to measure stability, including:

Half split method:

This method relies on dividing the test into two equal parts, the first part includes scores for items that carry odd numbers and the second part includes scores for items that carry even numbers, then extract the stability coefficient between the sum of the scores of the two parts using the Person correlation coefficient, and the correlation coefficient between the two parts was (0.633).).

However, this value represents the reliability coefficient of half of the test, so this coefficient must be modified to the reliability coefficient of the test as a whole, and accordingly, the spearman-Brown equation was used. High stability.

Alpha-Coefficients

After applying Cronbach's alpha equation to the score values of the same sample for the metacognitive thinking scale, the Cronbach's alpha coefficient reached (0.824), and this indicates the degree of homogeneity of the scale's paragraphs and is considered stable and reliable.

The second exploratory experiment: On (2/17/2022), corresponding to Thursday, the two researchers conducted a second exploratory experiment to apply the tests to part of the sample of the exploratory experiment, which numbered (10), to identify the possibility of applying them to the main sample.

The third exploratory experiment: On (20/2/2022), corresponding to Sunday, the two researchers conducted a third exploratory experiment to apply an educational unit using the Claus Meyer model on the sample of the exploratory experiment to identify the possibility of applying it to the main sample.

Pre-tests:

Before the two researchers carried out the pre-tests on the sample of the main experiment, they gave an introductory lecture to the students and to explain how to implement the tests as well as defining the skill for them so that they would be sufficiently aware of the skill and the test. The closed hall of the College of Physical Education and Sports Sciences / University of Baghdad on 2-27/3/2022

The two researchers applied the learning units of the Claus-Meyer model to the experimental group, following the following steps:

The concept in question, which is: the first skill Analyzing the concept of skill at different levels through several steps, including defining the skill and showing the characteristics of the skill and the characteristics that have nothing to do with it Giving examples of the concept of movements and skill that will be taught to students Work to classify the concept to be more clear as well as paying attention to the principles that will be The two researchers reach it by giving the student a set of common errors of the skill in question to deepen the concept of previous ideas and concepts about the skill of defending the field as

The researcher also worked, through the educational units, to link between what is given of information related to the skill and what is going on in the mind of the learner, which has nothing to do with the skill, as well as focusing on the problems that the learner goes through during the performance, for example, the opening of the two legs in the skill of defending the field.

The second skill / analysis of possible examples: The two researchers determined the amount of difficulty that the sample faces in learning the skill or performing it through several examples of the skill and the extent to which the student comprehends these examples. The researchers also followed the following two steps:

Introducing the skill and its concept to determine the largest number of examples of the concept, perhaps with a number of not less than (10) examples. By asking questions, the teacher puts a specific sign on each example of the concept of the skill. relation to the concept of skill.

Consideration has been given to these stages within the parts of the educational units related to the Claus Meyer model, Appendix (1).

Post-tests:

The two researchers applied the post tests on the sample of the main experiment of the skill of defending the stadium and metacognitive thinking, on the experimental and control samples on the hall of the College of Physical Education and Sports Sciences / Closed University of Baghdad, and the two researchers took into account the same conditions when conducting the pre-tests

Statistical means:

The two researchers used the SPSS system to extract the statistical coefficients and everything that achieves the search results.

Results

Presenting and discussing the results of metacognitive thinking and the pre and post field defense test for the experimental and control groups:

Table (6) shows the statistical description

E	S	control groups	E	S	experimental	test	S
9.88904	129.0000	Pre-test	10.12237	130.0645	Pre-test	Metacognitive thinking	1
13.78192	132.7000	Post-test	13.05242	144.9677	Post-test		
1.22990	2.9333	Pre-test	1.03175	3.2581	Pre-test	Playground defense	4
.80516	4.2000	Post-test	1.59367	5.8387	Post-test		

Table (7)

It shows the calculated ((T) value and the error percentage for the pre and post test of metacognitive thinking and the test of the skill of defending the court in volleyball for the experimental and control groups.

sig	T	standard error	deviation	medial	groups	tests	S

			difference	difference			
0.000	4.106	3.63003	20.21114	14.90323	experimental	Metacognitive thinking	1
0.024	2.382	1.55301	8.50618	3.70000	control groups		
0.000	7.693	.30192	1.68101	2.32258	experimental	Playground defense	2
0.000	7.346	.17243	.94443	-1.26667	control groups		

Table (7) shows that there are significant differences between the pre and post test for the level of metacognitive thinking and the skill of defending the court in volleyball and for the second experimental group, as the researchers attribute this to the interest in the educational process and upgrading it and its methods, and that this development in the level of performance is due to factors The most important of which is the nature of the educational curriculum designed by the researcher through her extensive knowledge of the scientific sources in the field of volleyball as well as the opinions of experts and specialists in this field, and the employment of the appropriate method and model that would bring about a change in the learning process, as the researcher took into account the exact details of each movement of Skill movements, these had a significant impact on formulating an educational curriculum capable of changing the learning situation Students have the best, not only that, but the adoption of the learning method of Klosemeyer and what it includes clarifying the details of each part of the skillful movement by the teacher of the subject, who met him on the other hand. The teacher, who greatly helped them to realize the characteristics of the concept (the details of the movement, which led to the speed of understanding the concept, and thus the application process became easy by the experimental group and made the ability of students to apply very clear. In this context, Jaber 2004 confirms that the educational program If it is set appropriately to the desires of the learners in the ideal style and the method of delivering information to it, then it stimulates their desire and motivation and contributes to the process of accelerating and improving learning. As for the control group, the reason for the development in the post-test is attributed to the fact that one of the reasons that must be mentioned is that the sample, whatever its level, The educational system, if used with organized scientific ideas and methods, and set educational units and exercises according to sound scientific foundations, will progress, but with the difference of these ideas, methods, and strategies, and using the best and most understanding of the sample, as well as good supervision of these educational units, will lead to the success of one of these educational methods. And showing the moral differences after comparison with the posttests of the research groups, as "the methods affect the speed of learning and the degree of saturation in learning, and that the correct and appropriate adaptation of the method or method depends on a proper understanding of the factors and principles that are relevant to the subject in order to prove their impact and value in certain educational situations (Allawi 40:1987)

Presentation of the results of metacognitive thinking and the post-pitch defense test for the experimental and control groups

Statistical parameters test	Groups	post-test		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation			
Metacognitive thinking	Experimental	**144.9677**	**13.05242**	3.570	.001	sig
	control	**132.7000**	**13.78192**			
Playground defense	Experimental	**5.8387**	**1.59367**	5.043	.001	sig
	control	**4.2000**	**0.80516**			

The experimental group achieved a significant difference over the control group in all research variables, as the two researchers attribute this to the model used by Claus Meyer, which the researcher prepares as a method based on teaching concepts at their different levels by simplifying them for learners. The researcher uses it, as well as giving near and far examples of the skills in question. In discussing the pre

and post tests of this model, the researcher touched on its importance and distinction in achieving positive results.

References

1. Obeidat, Aladdin (2009). The level of metacognitive thinking among a sample of Yarmouk University students in the light of some variables. Unpublished master's thesis, Yarmouk University, Irbid, Jordan
2. Buqai'i, Nafez Ahmed (2014. Metacognitive thinking and its relationship to problem solving among tenth grade students with outstanding achievement. Zarqa Journal for Research and Studies 49-36)
3. Al-Jarrah, Abdel Nasser and Obeidat, Aladdin (2011). The level of metacognitive thinking among a sample of Yarmouk University students in the light of some variables. The Jordanian Journal of Educational Sciences, 7 3, (145-162).
4. Marwan Abdel Majeed. Scientific encyclopedia of volleyball. Amman: Al-Warraq Foundation, 2001.
5. Sami Melhem. Find in education and science curricula psychology. Edition 1, (Amman: Dar Al-Maysarah, 2000), p. 287
6. Waheeb Al Kubaisi; Applied Statistics in the Social Sciences, 1st edition, (United International, Beirut, Lebanon, 2010),
7. Jaber, Liana, and Maha Quraan. Learning Styles Theory and Practice, 1st edition, Al-Qattan Center for Educational Research and Development, Abdul Mohsen Al-Qattan Foundation for Printing and Publishing, Ramallah, Palestine, 2004
8. Mohammed Hassan Allawi; The Psychology of Training and Competitions, 4th Edition, Cairo: Dar Al-Maarif, 1987