

# Building A Scale of Contemplative Thinking and its Relationship to Learning the Passing and Receiving Skills of Volleyball for Students

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## Abstract

The purpose of this paper is to building a reflective thinking scale for students of the second stage, College of Physical Education and Sports Sciences, University of Kerbala, and identifying the level of learning the passing and receiving skills of volleyball for students, the researchers used the descriptive approach in the exploration style for its relevance to the nature of the problem and the study to be researched ,and the research community identified the students of the Faculty of Physical Education and Sports Sciences, University of Kerala, the second stage, who numbered (90) students for the academic year (2021-2022) . One of the most important results reached by the researcher is that: Develop a scientific research tool concerned with measuring reflective thinking among students of the College of Physical Education and Sports Sciences, the results showed that the research sample is characterized by a high level of above-average thinking for students of the Faculty of Physical Education and Sports Sciences. One of the most important recommendations recommended by the researchers is that: Necessity of adopting the built and prepared scales as scientific research tools in measuring the reflective thinking of the students of the four-stage faculties of physical education and sports sciences, and need to pay attention to contemplative thinking for its positive role in increasing the motivation towards achieving the goals set by the dogs of the College of Physical Education and Sports Sciences.

## Introduction:

Contemplative thinking is one of the important mental variables, and it is a basic and important goal of education in its various educational stages. This is no less important than acquiring scientific knowledge and developing their skills, as well as learning some basic volleyball skills.

It requires a bit of thinking and contemplation accurately, the performance of skills and how the performance is formed, so the importance of the research lies in studying those variables represented in contemplative thinking and the skills of preparing from the top and receiving from the bottom with volleyball for students.

**Research objective:** Building a reflective thinking scale for students of the second stage, College of Physical Education and Sports Sciences, University of Kerbala

- Identifying the level of learning the passing and receiving skills of volleyball for students

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

#### **Research Methodology:**

The researchers used the descriptive approach in the exploration style for its relevance to the nature of the problem and the study to be researched.

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

The research community identified the students of the Faculty of Physical Education and Sports Sciences, University of Kerala, the second stage, who numbered (90) students for the academic year (2021-2022). (References and sources, questionnaire, personal interviews, scales, stopwatch, hand-held calculator (Casio), computer (Lenovo))

#### **Field research procedures (procedures for determining variables):**

Procedures for measuring reflective thinking for students of the second stage in volleyball:

In order to measure the variable of the study (the contemplative thinking of the students of the second stage in volleyball), requires the researcher to carry out a process of building the required scale according to the following steps and procedures:

#### **Planning to build the scale and determining the goal and purpose of building it:**

The goal of building a reflective thinking scale for students of the second stage in volleyball is to develop scientific measurement tools, and the purpose of building it is to identify what the student possesses of visual knowledge, vision and understanding about what he wants to learn and a clear explanation and in the light of the definitions and theoretical frameworks for the concept (reflective thinking) the researcher sought to Dividing the concept into fields and formulating and collecting paragraphs concerned with measuring that variable, as the researcher adopted one of the theories of (social interaction) as a theoretical framework in the formation of areas and the formulation of paragraphs concerned with measuring the reflective thinking of students of the second stage in volleyball .

#### **Determine the field of the scale:**

After the adoption and adoption of the theoretical frameworks for the concept of reflective thinking for students of the second stage in volleyball in the formation of areas and the formulation of the paragraphs of the scale, the researcher divided the scale into its primary elements so that each element represents a specific field or dimension. The contemplative thinking of students of the second stage in volleyball, Annex (1), and in order to identify the validity of those fields, the researcher resorted to presenting them to a group of experts and specialists in the field of psychology, testing and measurement, Annex (2) in psychology, testing, measurement and volleyball, within a questionnaire, which was In it, the importance of each of the specific areas is determined, after collecting the forms and processing their data statistically, and extracting the value of the relative importance when collecting half the

maximum value of the experts' agreement with half the value of the extent (importance) contained within the form. (Hassan, 2011:70).

This can be explained as follows:

Maximum agreement value = number of experts x importance =  $15 \times 10 = 150$

Half the maximum value of the agreement =  $150/2 = 75$

Half of the importance =  $10/2 = 5$

Importance value = Half the range + Half the maximum value =  $75 + 5 = 80$

The relative importance value =  $80/150 \times 100 = 53.33\%$ .

After the forms were collected, the data was unloaded and processed, and the areas that got less than (80) importance, or less than (53.33%) of the relative importance were excluded by taking the opinions of (15) experts and specialists, and Table (1) shows that.

Table (1) shows the degree of importance and relative importance of the domains of the reflective thinking scale for students of the College of Physical Education and Sports Sciences

No.	fields	importance level	Relative importance	Nomination accepted	
				Yes	no
1	visual vision	140	%93	√	
2	Detecting fallacies	110	%73	√	
3	reach conclusions	120	%80	√	
4	Giving convincing explanations	130	%86	√	
5	Develop suggested solutions			√	
6	Analyzing situations and linking them to similar experiences	50	%33		√

### **Gathering, preparing and drafting paragraphs:**

In order to collect, prepare and formulate an appropriate number of paragraphs concerned with measuring the areas of reflective thinking for students of the second stage in volleyball, the researcher sought to review the sources, literature and previous studies, and then formulate (29) paragraphs concerned with measuring the reflective thinking of students of the second stage in volleyball, Appendix (3) and presented to (17) Experts and specialists Annex (4) in sports psychology, measurement and evaluation for the purpose of evaluating it and judging the validity of each paragraph in measuring what was set for its measurement, with making the necessary observations if necessary, as well as expressing an opinion on the validity of the answer alternatives approved for the measure and after Collecting forms, unloading data, and

analyzing the opinions of experts and specialists about the validity of the paragraphs. They suggested deleting and changing a section of the paragraphs, either to repeat them in meaning with other paragraphs, or they are not suitable for measuring what they were set for, and to modify and transfer the other section from one field to another. They also suggested that the answer alternatives be (Quadruple) (always, often, sometimes, rarely) for the scale of reflective thinking for students of the second stage in volleyball, and in light of this, the opinions of experts and specialists were taken on the adoption of alternatives to the The proposed decision, and then amending a section of the paragraphs and deleting the other section as a result of the experts' agreement on that, and by using the percentage of experts' agreement and the (K2) test on the validity of the paragraphs, and keeping the paragraphs that obtained a percentage of agreement (75%) from the experts or more, whose value is (K2) The calculated value is greater than its tabular value of (3.84) at the level of significance (0.05) and the degree of freedom (79), as it has preserved (29) paragraphs concerned with measuring the reflective thinking of students of the College of Physical Education and Sports Sciences in volleyball distributed by (6) paragraphs concerned with measuring visual vision and ( 7) Paragraphs concerned with measuring the scope of detecting inaccuracies, (5) Paragraphs concerned with measuring the scope of reaching conclusions, (5) Paragraphs concerned with measuring convincing explanations, and (6) Paragraphs concerned with measuring the scope of developing solutions and proposals, and Table (2) shows that.

Table (2) shows the agreement of experts and (chi-2) values about the validity of the items of the reflective thinking scale

No	fields	Paragraph sequence	number of paragraphs	Number of approvers	percentage	disapproves	percentage	Chi-2value calculated	Nomination accepted		
									tabular	yes	no
1	the visual field of vision	-4-5-6 1-2-3	6	17	100%	zero	zero	17	3,84	✓	
2	Domain detect inaccuracies	-9-8-7 -10 -11 13-12	7	16	94,11 %	1	%5,88	13.23		✓	
3	field to reach conclusions	-18 -17 -16 14-15	5	17	100%	zero	zero	17		✓	

4	Giving a convincing explanation	-23 -22 -21 19-20	5	15	88,23 %	2	11,76 %	9,94			
5	Develop suggested solutions	-24 -25 -26 -27 29-28	6	13	76,47 %	4	23,52 %	4,76			
the total			29								

In order to ensure the validity of the amendments made by the researcher to the paragraphs, she presented them again to a group of experts and specialists to confirm the validity of the amendments. Names of the experts who were presented with the scale:

After collecting the forms, unpacking their data, and extracting the value of the (Kendall) agreement coefficient from the opinions of the experts, the results showed that the value of the (Kendall) agreement coefficient amounted to (0.94) for the reflective thinking scale for students of physical education and sports sciences, the second stage in volleyball. %) on the validity of the reflective thinking paragraphs for students of physical education and sports sciences, the second stage in volleyball.

### Setup Scale Instructions:

In order to complete the initial picture of the scale (the contemplative thinking of students of physical education in the second stage in volleyball) and to be applied to the individuals in the research sample, the researcher developed instructions for the scale, which are as follows:

- Not mentioning the name.
- The need to answer honestly and accurately.
- You may not use another colleague to answer.
- Answer all paragraphs.

Put a tick (✓) in front of each paragraph and in the field that applies to you.

In these instructions, the researcher took care to hide the true purpose of the scale, as the name of the scale was not mentioned in order to obtain accurate data. The instructions also included an example of how to answer the paragraphs, and Annex (5) shows the instructions of the reflective thinking scale for students of physical education and sports sciences, the second stage, with its paragraphs (32) After adding (3) paragraphs for the objectivity of the response, that is, one paragraph for each field.

The researcher gave a double sequence to each paragraph, as the first section of it refers to (the paragraph sequence) and the second section refers to the field in passing for their exploration on a sample of the testers.

### **Scale exploration:**

For the purpose of knowing the clarity of the instructions, paragraphs and answer alternatives by the members of the research sample, as well as determining, the time required to answer the paragraphs of the scale and to identify the difficulties that the researcher may face when applying the scale to the members of the construction sample and thus avoiding them. On Wednesday, 18/12/2021, the scale exploration individuals the exploratory sample of (10) students from within the research community and as indicated earlier in Table (1). It was found from the exploratory experience that the instructions were clear by the tested individuals and that the time taken to answer the items on the scale was between (5-10) minutes And that the answer alternatives and the paragraphs were clear for students of physical education and sports sciences, the second stage in volleyball, and thus the scale, with its instructions, paragraphs, and answer alternatives, became ready for application to the members of the construction sample.

### **Applying the scale to the construction sample personnel:**

After completing the procedures that pave the way for implementing the reflective thinking scale for students of physical education and sports sciences, the second stage in volleyball, consisting of (5) areas and (32) paragraphs, after adding (3) paragraphs to the objectivity of the response as attached (5), it was applied to the members of the construction sample The number of (80) students on Monday, 22/12/2021. After completing the implementation of the scale, the researcher collected the individuals' forms in passing for identifying the objectivity of the testers' responses and then analyzing the data statistically.

### **Objective response:**

To reveal the sincerity of the response or the objectivity of the response, there are several methods, including concealing the true purpose of the scale and integrating all the paragraphs of the scale together without mentioning the domain or component, as well as using the method of repeating a group of paragraphs to the original paragraphs that are similar to them in meaning and different in content (the text), and I have followed The researcher used the methods concerned with the objectivity of the response, and the fact that the method of repeating a group of paragraphs is the most common in detecting the falseness of the response, where the researcher chose (3) paragraphs from the paragraphs of reflective thinking, that is, one paragraph from each field, and the table (3) shows the original and repeated paragraphs.

Table (3) shows the sequence of the original paragraphs and the sequence of the repeated paragraphs of the reflective thinking scale for physical education students of the second stage

original paragraph sequence	Repeating paragraph sequence
paragraph (1/3)	Paragraph (1/31)
Paragraph (4/2)	Paragraph (32/2)
paragraph (3/4)	Para (33/4)

### Scale correction:

The process of correcting the scale is done by setting an appropriate score for each paragraph according to the respondent's answer through a correction key prepared for this purpose, which is "the tool by which the examiner reveals the answers that indicate the existence of the result that is being measured." (Salah, 2000:61) given the four alternatives to the answer (Always, often, sometimes, rarely) for the reflective thinking scale for students of physical education and sports sciences, the second stage (1-2-3-4) for the positive paragraphs, from which the degrees of reflective thinking was determined from the members of the construction sample, and by calculating the total sum of the degrees of each field that occurs them after answering each paragraph.

The reflective thinking scale consisted of (29) items and after excluding (3) items that were developed in order to detect the sincerity of the response, the number of items was as follows: (6) items for the field of visual narration, (7) items for the field of inaccuracies detection, and (5) Paragraphs for the field to reach conclusions and (5) paragraphs for the field to give convincing explanations and (6) paragraphs for the field to develop solutions and proposals. Thus, the highest score that can be obtained is (116), while the lowest score that can be obtained is (29) and then the scores of the reflective thinking scale were calculated for students at The College of Physical Education and Sports Sciences, the second stage, through their answers to the paragraphs, and their scores ranged between (29-116) degrees, with arithmetic mean (68.43), a standard deviation (10.32) and a standard error (1.153).

### Statistical analysis of paragraphs:

The quality of the standards depends on the paragraphs that make up them. It is necessary to analyze each paragraph and reveal its efficiency, and to keep the paragraphs that fit the logical foundations for which it was built (Al-Ikhlās, 2000: 219).

There are several methods for analyzing scale items, including the method of the two peripheral groups to extract the item discrimination coefficient, which is "the item's ability to distinguish individual differences between the two testers (Ahmed, 2007: 274) and the internal consistency coefficient," which provides us with evidence of the homogeneity of items through the relationship of the item's degree to the total score of the field. To which it belongs and the relationship of the degree of the field with the degree of the total sum of the scale (Salah, 2000:

279). The researcher used the statistical analysis of the paragraphs of the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the second stage, in the manner of the two peripheral groups to reveal the ability of the paragraphs of the scale to distinguish between the testers or to detect differences. Between the tested individuals and the method of the internal consistency coefficient by calculating the correlation coefficient (Pearson) between the degree of the paragraph and the total degree of the field or style to which it belongs, and Table (4) shows that.

Table (4) shows the values of the discriminatory ability and the sig significance of the paragraphs of the reflective thinking scale for students of the Faculty of Physical Education and Sports Sciences, second stage

paragraphs	Upper group		lower group		(T) value		discriminatory connotation
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	calculated	tabular	
1	3.80	0.40	1.19	0.40	21.09	1.98	Featured
2	3.38	0.49	1.38	0.49	13.02		Featured
3	3.42	0.50	1.00	0.00	21.94		Featured
4	3.50	0.50	1.23	0.43	15.98		Featured
5	4.00	0.00	1.50	0.50	21.94		Featured
6	3.52	0.51	1.52	0.50	12.66		Featured
7	3.76	0.43	1.66	0.48	14.74		Featured
8	3.33	0.48	1.71	0.46	11.09		Featured
9	3.76	0.43	1.71	0.46	14.74		Featured
10	3.47	0.51	1.19	0.40	16.09		Featured
11	3.28	0.46	1.33	0.48	13.37		Featured



12	3.66	0.48	1.00	0.0 0	25.29		Featured
13	3.80	0.40	1.19	0.4 0	21.09		Featured
14	3.71	0.46	1.00	0.0 0	26.87		Featured
15	4.00	0.00	1.57	0.5 0	21.94		Featured
16	3.66	0.38	1.57	0.5 0	13.71		Featured
17	3.66	0.48	1.00	0.0 0	25.29		Featured
18	3.47	0.51	1.38	0.4 9	12.66		Featured
19	3.52	0.50	1.38	0.4 9	13.75		Featured
20	4.00	0.00	1.28	0.4 6	26.78		Featured
21	3.76	0.43	1.38	0.4 9	16.48		Featured
22	3.90	0.30	1.85	0.3 5	20.04		Featured
23	3.71	0.46	1.42	0.5 0	15.25		Featured
24	3.90	0.30	1.23	0.4 3	05.23		Featured
25	4.00	0.00	1.95	0.2 1	43.00		Featured
26	3.95	0.21	1.09	0.3 0	35.23		Featured
27	3.71	0.46	1.42	0.5 0	15.25		Featured
28	3.71	0.46	1.66	0.4 8	02.14		Featured
29	3.71	0.46	1.66	0.4 8	30.67		Featured

### Calculation of the internal consistency coefficient:

The researcher used another method to detect the efficiency of the paragraphs of the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the second

stage, which differs from the previous method (the two peripheral groups). For the scale in relation to the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the researcher extracted the values of the correlation coefficient (Pearson) between the degree of paragraphs and the total degrees of each field and the degree of the paragraph and the degree of the total sum of the reflective thinking scale consisting of (29) items for the members of the construction sample of the number of (80) A student of the Faculty of Physical Education and Sports Sciences, second stage, and as a result of this procedure, the sig significance was shown in all the computed correlation coefficients, and the tables (5) show that.

Table (5) Shows the correlation values between the paragraph's score and the total number of the domain to which the paragraph belongs for the reflective thinking scale for students of the College of Physical Education and Sports Sciences and the type of statistical significance

field	No.	Correlation coefficient value	Type sig
visual vision	1	**0.62	Sig
	2	**0.33	Sig
	3	**0.36	Sig
	4	**0.62	Sig
	5	**0.57	Sig
	6	**0.41	Sig
Detecting fallacies	1	0.42**	Sig
	2	0.58**	Sig
	3	0.55**	Sig
	4	.041**	Sig
	5	0.33**	Sig
	6	0.45**	Sig
	7	0.41**	Sig
reach conclusions	1	**0.55	Sig
	2	**0.48	Sig
	3	**0.45	Sig
	4	**0.66	Sig
	5	**0.47	Sig
Giving convincing explanations	1	**0.47	Sig
	2	**0.60	Sig
	3	**0.55	Sig
	4	**0.49	Sig
	5	**0.50	Sig

Develop suggested solutions	1	**0.54	Sig
	2	**0.42	Sig
	3	**0.40	Sig
	4	**0.51	Sig
	5	**0.50	Sig
	6	**0.38	Sig

Table (6) shows the correlation values of the paragraph score with the total sum of the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the second stage, and statistical significance.

paragraphs	correlation coefficient	Type sig	paragraphs	correlation coefficient	Type sig
1	**0.41	sig	16	0.27 **	sig
2	0.13	non sig	17	**0.51	sig
3	**0.36	sig	18	**0.45	sig
4	**0.44	sig	19	0.18	non sig
5	**0.36	sig	20	**0.55	sig
6	0.20	non sig	21	**0.42	sig
7	*0.26	sig	22	**0.31	sig
8	0.29 *	sig	23	*0.35 *	sig
9	0.20	non sig	24	**0.27	sig
10	**0.36	sig	25	0.20	non sig
11	**0.37	sig	26	**0.34	sig
12	**0.44	sig	27	**0.39	sig
13	*0.22	sig	28	**0.43	sig
14	**0.30	sig	29	0.04	non sig
15	**0.41	sig			

### The scientific basis for the scale:

Honesty and consistency are among the most important psychometric characteristics that must be available in cognitive and psychological measures, whatever the purpose of their use. (Salah, 2006: 88).

### Scale Validity:

The validity of the test indicates validity or validity that the test actually measures the function it is intended to measure without measuring another function besides it (Sami, 2006: 111). Muhammad, 1999:215), the researcher verified the validity of the reflective thinking scale for

students of the College of Physical Education and Sports Sciences through the content validity index when the scale was presented in its initial form to a group of experts and specialists to confirm the validity of the scale's paragraphs in measuring what they were developed for, and through analysis, The statistical validity of the scale items was verified using the internal consistency coefficient method, which is one of the most common types of validity in the field of educational and sports research. This was achieved by finding.

### **Paragraph degree correlation coefficient with the total score of the domain to which the paragraph belongs:**

The reflective thinking scale for students of the College of Physical Education and Sports Sciences included (5) domains, and for this, the researcher sought to extract the value of the (Pearson) correlation coefficient between the degree of the paragraph and the degree of the total sum of the domain to which it belongs for the forms of the construction sample of the number of (80) and to know the type of statistical significance The researcher compared the value of the calculated correlation coefficient shown in Tables (8-9) with the value of the tabular correlation coefficient of (0.159) for a sample of (80), which showed the significance of all correlation coefficients. (Muhammad, 2008: 413).

### **Scale stability:**

The concept of stability is one of the basic concepts in psychological and achievement scales, and it must be available in the scale in order for it to be valid for use. It means the stability of the scale: "The test is reliable and reliable, or the individual's score does not change substantially by repeating the measurement procedure, or the consistency of the scale results with themselves (Tayseer, 2005: 83). ), and to verify the stability of the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the researcher used the two methods of split-half and alpha-Crawbach.

### **First, the split-half method:**

It may be difficult for the researcher to apply two equal tests to the tested individuals, or it may not be possible for her to examine the two testers twice on the same scale, so the researcher resorted to using the equity method. Both halves and usually the first section contains the odd-numbered items and the second part contains the even-numbered items, and the scores for each department are collected separately, so we have two scores for each laboratory. (Abdul Moneim, 2005: 283) The researcher has adopted the method of odd and even numbers in dividing the paragraphs of the reflective thinking scale for students of the College of Physical Education and Sports Sciences (29) paragraph into two halves, the first half included the odd-numbered paragraphs and the second half included the even-numbered paragraphs, and after making sure of the Homogeneity of the two halves using the (F) test by extracting the values of the arithmetic means and standard deviations, and then the variance values for each section. The equation of the quantitative ratios, as the calculated (F) value reached (0.25) and when compared with the tabular (F) value of (1.020) ( ) at the level of significance (0.05) and the degree of freedom (78), which confirms the random differences between the two halves of the scale and that they are homogeneous with a good percentage. After that, Pearson's correlation

coefficient was calculated between the two halves of the scales (the fragmentation stability coefficient), which showed that the value of the correlation coefficient of the two halves of the reflective thinking scale amounted to (0.823), and since this value represents the stability of the two halves of the scale, so the researcher sought to use the (Spearman - b) equation Raun) to adjust and extract the stability value of the full scales after applying the correction equation and obtaining the degree of stability of the scales, as the value of the stability coefficient of the reflective thinking scale reached (0.826), which confirms that the scale enjoys a high and reliable degree of stability.

### **Second: Cronbach's alpha method:**

This method aims to reach an estimated value for the stability coefficient of scales whose vocabulary scores are multiple, i.e. requires a questionnaire answer from among multiple alternatives. The idea of this method is based on the consistency of individuals' responses across the scale's vocabulary and the extent to which the items are related to each other within the scale, as well as the correlation of each item with the scale as a whole. It is the average of the internal correlation coefficients between paragraphs with the number of paragraphs that determines the alpha coefficient (Costa, 1992:44). In order to find the stability of the Alpha Cronbach coefficient of the reflective thinking scale for students of the College of Physical Education and Sports Sciences, the researcher relied on the data of the construction sample members, which numbered (80) elements, and using the statistical bag for social sciences (spss) the stability coefficient was extracted, which amounted to (0.89) for the reflective thinking scale, which is a parameter High stability indicates the consistency of the paragraphs of the scale.

### **The final reflective thinking scale:**

After completing all the procedures for statistical analysis represented by the ability to discriminate and extracting the relationship of the paragraph with the domain to which it belongs or the relationship of the paragraph with the total score of the scale for the research sample for the reflective thinking scale consisting of (29) items in its five domains, and after excluding (6) items in the statistical analysis, the scale became composed of (23) paragraphs as it consists of the field of visual vision (4) paragraphs and the field for detecting inaccuracies (6) paragraphs and the field for reaching conclusions (5) paragraphs and the field for giving convincing explanations (4) and the field for developing proposed solutions (4) paragraphs and the weights of the alternatives were distributed Katie (4.3) 2.1) for the quartile alternatives (always, sometimes, rarely, never) for the expressions and thus the highest score on the scale is (92) degrees and the lowest score on the scale as a whole is (23) degrees.

### **Determining the basic volleyball skills used in the research:**

The volleyball skills under study were determined according to the vocabulary of the methodological volleyball subject prescribed for the students of the second stage in the College of Physical Education and Sports Sciences, University of Karbala. Receiving from below) is under study.

**Determining the tests used for the skills of passing from above and receiving from below:**

The methodological skills used in the College of Physical Education and Sports Sciences, University of Karbala, which are represented in the skills (passing from the top, receiving from the bottom), were adopted. Appropriate for the above skills and within the capabilities of the sample.

Table (7) Shows the opinions of experts and specialists about determining volleyball skills tests for students of the Faculty of Physical Education and Sports Sciences, the second stage

No.	skills	Candidate Proficiency Tests	number of experts	Agree	we do not accept	agreement ratio %	The result
1	Basic	Performance accuracy test for number of skill	9	1		%11.11	Not suitable
		Test the passing from the top with fingers		8	1	%88.88	Relevance
		A performance test of the skill of preparing from the top to the front		3	6	%33.33	Not suitable
2	Passing	Bottom transmission receiving performance test	9	7	2	%77.77	Relevance
		Accuracy test of transmitting receiving skill		1		%11.11	Not suitable
		Serve receiving test		2	7	%22.22	Not suitable

**Experimentation:**

The exploratory experiment is a “preliminary experimental study carried out by the researcher on a small sample before carrying out his research in order to choose the research methods and tools. For the purpose of identifying all the obstacles, factors and efficiency of the auxiliary work team that may stand in the way of the researcher when she performs her main experiment,

the researcher conducted an exploratory experiment on a sample From outside the main research sample and from the community of origin, numbering (10) students from the Faculty of Physical Education and Sports Sciences, the second stage, and they were chosen randomly and under the supervision of the subject teacher and the researcher. This exploratory experiment was conducted on Saturday, December 25, 2021, at nine o'clock in the morning

### The scientific basis for skill tests:

#### Test stability:

The stability of the test means "the extent of the accuracy of the test in measurement and the consistency of its results when it is applied multiple times to the same individuals, (Mohammed, 2010: 70) the researcher conducted tests on a sample of (10) students from Division (D) who did not enter the main experiment, then the tests were re-applied One week after the same sample and the same conditions of tests, the researcher used the method of applying the test and repeating it, then the simple correlation coefficient (Pearson) was calculated, where it was concluded that the tests are characterized by a high degree of stability and as shown in Table (11) where the error rate was (0.000 ) is less than the significance level of (0.05).

Table (8) shows the stability coefficient for skill tests in volleyball

No.	Variables	Simple Correlation Coefficient (R)	Sig error rate	indication
1	Setting from the top	0.80	0,000	D
3	Receiving from below	0.78	0,000	D

#### Test Validity:

The honest test is the test that measures what was intended to be measured, or that achieves what it was intended for. The researcher used the method of self-honesty to extract the value of the validity coefficient for each test, as shown in Table (12) and according to the following law:

$$\text{Test stability coefficient} = (\text{subjective validity coefficient})^{1/2}$$

Table (9) shows the validity coefficient for skill tests in volleyball

No.	Variables	stability coefficient	self-honesty coefficient
1	Setting from the top	0.80	0,89

3	Receiving from below	0.78	0.88
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### Test objectivity:

It means the extent to which the results evaluation process is far from the subjective judgments of the corrector. Correcting tests that include vocabulary or missing such as multiple choice, right and wrong, etc... is usually objective, whether done manually or automatically, because correcting them and extracting their results is not affected by the subjectivity of the correctors who extracted the results of the correction. The results are fully agreed upon. (Rahim, 2008: 93) It means the extent to which the results evaluation process is far from the subjective judgments of the corrector. Correcting tests that include vocabulary or missing such as multiple choice, right and wrong, etc... is usually objective, whether done manually Or automatically, because correcting it and extracting its results is not affected by the subjectivity of the correctors who extract the results of the correction and who agree on the results in full agreement.

### Results and discussion:

#### Presenting and analyzing the results of the nature of the correlation between the research variables

After extracting the data and extracting the arithmetic means and standard deviations reached by the researchers, the correlation relationship between each of the contemplative thinking variables and the skills of passing and receiving in volleyball for students of the second stage at Karbala University was extracted as shown in Table (10)

Table (10) shows the nature of the correlational relations between the variables under study for students in volleyball.

Variables	Correlation coefficient value	Statistica l significa nce	Level sig
	reflective thinking		
Setting from the top	0.88	sig	0.000
Receiving from below	0.85	sig	0.00

the level of significance  $< (0.05)$  and below the degree of freedom of 89 through the table above, the results showed that there is a correlation between the researched variables under



study (contemplative thinking and learning the skills of passing and receiving in volleyball for students of the second stage).

### **Conclusions and Recommendations:**

#### **Conclusions:**

- Develop a scientific research tool concerned with measuring reflective thinking among students of the College of Physical Education and Sports Sciences
- The results showed that the research sample is characterized by a high level of above-average thinking for students of the Faculty of Physical Education and Sports Sciences

#### **Recommendations:**

- Necessity of adopting the built and prepared scales as scientific research tools in measuring the reflective thinking of the students of the four-stage faculties of physical education and sports sciences.
- Need to pay attention to contemplative thinking for its positive role in increasing the motivation towards achieving the goals set by the dogs of the College of Physical Education and Sports Sciences.

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### Appendix (1)

Ministry of Higher Education and Scientific Research

Karbala University - College of Physical Education and Sports Sciences

Postgraduate Studies - Masters

Questionnaire of experts and specialists to indicate the validity of the areas of the reflective thinking scale

Honourable Professor

.....  
.....

Good greeting:

The researcher intends to conduct her exploration research entitled (Construction of the Contemplative Thinking Scale and its Relationship to Learning the Skills of Passing and Receiving in Volleyball for Students) and puts in your hands the fields of the Contemplative Thinking Scale for students of the fourth stage in volleyball, which consists of (4) areas representing reflective thinking, and given your scientific status and experience Therefore, you are kindly requested to indicate the appropriateness and validity of these fields and the extent to which they represent the scale of reflective thinking, by placing a mark ( ) in front of the fields (valid, invalid, needing modification) or adding any field you deem necessary.

Thank you for your cooperation with us

Full Name: -.....

The scientific title: -.....

Workplace: -.....

Reflective thinking: It is a description, analysis and interpretation of the situations that the student goes through during the learning process and what he has learned from previous

experiences and the collection of results that will improve performance and application of what he wants to learn in the future.

No.	Fields	Valid	Invalid	need modification
	visual vision			
	Detecting fallacies			
	reach conclusions			
	Giving convincing explanations			
	Develop suggested solutions			
	Added fields			

#### Appendix (2)

The names of the experts and specialists who were presented with a questionnaire to determine the areas of reflective thinking

No.	The name	specialists	The scientific title	Affiliations
1	Amer Saeed Al-Khikani	Sports Psychology - Football	Prof. Dr.	College of Physical Education and Sports Sciences, University of Babylon
2	Yassin Alwan Al-Tamimi	Educational Psychology	Prof. Dr.	College of Physical Education and Sports Sciences, University of Babylon
3	Kamel Abboud Hussein	sports psychology	Prof. Dr.	College of Physical Education and Sports Science, University of Diyala
4	Haider Abdul Redha	Sports Psychology - Volleyball	Prof. Dr.	College of Physical Education and Sports Sciences, University of Babylon
5	Haider Al-Yaqoubi	Educational Psychology	Prof. Dr.	College of Education for Human Sciences, University of Karbala
6	Amal Ali Salumi	Sports Psychology - Basketball	Prof. Dr.	College of Physical Education and Sports

				Sciences, University of Babylon
7	Ali Yousef	Sports Psychology - Volleyball	Prof. Dr.	Faculty of Physical Education and Sports Sciences, University of Peace
8	Abdullah Hazaa	Sports Psychology - Football	Prof. Dr.	Faculty of Physical Education and Sports Sciences, University of Peace
9	Dear Karim and people	Sports Psychology - Football	Prof. Dr.	College of Physical Education and Sports Sciences, University of Karbala
10	Shaima Ali Khamis	Sports Psychology - Volleyball	Prof. Dr.	College of Physical Education and Sports Sciences, University of Babylon
11	Hassan Ali Hussein	test and measure	Prof. Dr.	College of Physical Education and Sports Sciences, University of Karbala
12	Ayed Karim Abdel Aoun	Sports Psychology - Volleyball	Prof. Dr.	College of Physical Education and Sports Sciences, Al-Qasim University
13	Haitham Muhammed Kazem	Mathematical Psychology - Gymna Stack	Prof. Dr.	College of Physical Education and Sports Sciences, University of Babylon
14	Ali Hussain Al Jassim	Sports Psychology - Handball	Assistant Professor	College of Physical Education and Sports Sciences, University of Karbala
15	Nidal Obaid Hamza	Sports Psychology - Basketball	Assistant Professor	College of Physical Education and Sports Sciences, University of Karbala

## Appendix (3)

Ministry of Higher Education and Scientific Research

Karbala University

College of Physical Education and Sports Sciences

Postgraduate Studies - Masters

A questionnaire for the opinions of experts and specialists about the validity and appropriateness of the paragraphs of the reflective thinking scale for the research sample, students of the College of Physical Education and Sports Sciences

\Dear Student.....Respected

Good greeting...

The researcher intends to conduct the tagged study (building a scale of contemplative thinking and its relationship to learning the skills of passing and receiving in volleyball for students). You are kindly requested to indicate the validity of the paragraphs that represent the scale of reflective thinking, by placing ( ) in the choice that you deem appropriate in front of the alternatives (valid, invalid and need to be modified), bearing in mind that the answer alternatives are four, and the degrees range from (4,3,2, 1) (always - often - sometimes - rarely).

With great thanks and gratitude...

Signature: -

Full Name and Surname:-

Workplace: -

Exact jurisdiction:-

Date of last scientific title:-

fields	No.	vertebrae	Valid	Invalid	need modification
visual vision	1	My performance as a teacher enriches me greatly in my learning of skills			
	2	Practising with visual vision increases my chances of successfully preparing and receiving volleyball skills.			
	3	Watching skills increase my deep thinking about my passing and receiving skills in volleyball.			
	4	I apply some skills without thinking about what I am doing by watching.			
	5	I prefer to repeat a lot of what I do about the ways of watching.			
	6	I prefer watching films that include a series on volleyball passing and receiving skills,			
Detecting fallacies	1	I can perceive incorrect relationships in subjects to detect errors.			
	2	I can successfully identify irrational relationships in different subjects,			
	3	My ability to perceive misconceptions enables me to learn			

		the skills of preparing and receiving volleyball			
	4	My awareness of unstructured and random thoughts corrects my mistakes in learning my passing and receiving skills in volleyball			
	5	I check the truthfulness and up-to-dateness of the information and scrutinize it before giving in to it to reduce my mistakes.			
	6	Learning the skills of passing and receiving in volleyball using the five-year learning course enables me to discover my mistakes early,			
	7	Detecting errors early and quickly enables me to succeed and excel.			

Giving convincing explanations	1	Multiple educational tools can develop volleyball contemplative thinking.			
	2	I reflect on the skills I will learn in volleyball.			
	3	I feel great pleasure when I focus on my passing and receiving skills in volleyball.			
	4	I identify my mistakes in learning the passing and receiving skills in volleyball for the purpose of correcting them.			
	5	I reconsider my experiences in order to learn from them and develop them in the coming times.			
reach conclusions	1	The ability to make correct conclusions and draw important conclusions.			
	2	My conclusions about the problem are wrong, although I believe they are correct.			
Develop suggested solutions	3	I organize ideas in many areas to reach satisfactory results.			
	4	I can use past and repeated experiences to reach good conclusions.			
	5	I am able to achieve a logical sequence in ideas to achieve a sequence of results.			
	1	Think carefully about issues that need distinctive solutions and deep thinking.			
	2	I think carefully, stay away from haste, analyze situations, opinions and events that require deep reflection and thought, and arrive at the best solutions.			

	3	I look a lot at actions to see if I can improve what I'm going to do.			
	4	I aspire to achieve my future goals commensurate with my abilities and capabilities.			
	5	I face the situation calmly and think of alternatives.			
	6	I can choose the best solution despite the difficult situation			