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**Dr. Ebtighaa Mohammed Qasim Mohammed**

Assistant Professor, Faculty of Physical Education and Sports Sciences, University of Kerbala, Iraq

**Amjed Hashim Mohammed**

Assistant Lecturer, Faculty of Physical Education and Sports Sciences, University of Kerbala, Iraq

**Dr. Rami Abdulameer Hassoon**

Assistant Professor, Faculty of Physical Education and Sports Sciences, University of Kerbala, Iraq

## The impact of the ideas gardens strategy on reflective thinking and learning some of the skills of the figure tool in rhythmic gymnastics for female students

**Dr. Ebtighaa Mohammed Qasim Mohammed, Amjed Hashim Mohammed and Dr. Rami Abdulameer Hassoon**

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### Abstract

The learner's practical learning is embodied in understanding the nature of science by presenting scientific rhythmic gymnastics skills related to daily life situations and interests related to scientific knowledge. A new method to solve the problems facing the learner in the subject of rhythmic gymnastics, that is, to stimulate thinking among students in more than one direction, whether mental or visual, by using higher mental abilities more clearly and forming broader generalizations in the later stages of study.

The current research aims to prepare a measure of reflective thinking with the skills of the rhythmic figure tool, to identify the impact of the ideas gardens strategy on reflective thinking, and to teach some of the skills of the rhythmic figure tool.

The researchers concluded that the Ideas Gardens strategy had a major role in the students' learning of some of the symbolic tool skills in the rhythmic gymnastics of the students, where there is a positive effect of the Ideas Gardens strategy in learning the symbolic instrument skills in favor of the experimental group.

**Keywords:** Strategy on reflective thinking, skills of the figure tool, rhythmic gymnastics for female

### 1. Introduction

Scientific research in physical education and sports sciences continues to contribute to changing some of the approved traditional methods and working to develop them by adopting good scientific formulas to raise the level of the educational process and for all games, whether individual or team. From the ability to change movement and therefore the practice of this type of gymnastics leads to the development of compatibility and commitment as it affects the anatomical and physiological aspects in the body of the student and for different ages.

Also, it has become necessary to direct attention to the intellectual side of the learner. New directions, methods and strategies have emerged for the development of thinking to keep pace with contemporary life, which was characterized by a huge flow of knowledge and the acceleration of discoveries, which showed the need to transfer education from learning information to developing skills. Thinking processes are important for various sciences in general and for sports sciences. Specially.

Most scholars believe that each person has his own way of thinking, which is influenced by his upbringing, motivation, ability, and scientific level, which led to a unified vision among scholars. One of the thinking patterns that an individual resorts to when faced with a problem or situation is reflective thinking that does not restrict human thinking when solving a problem. With a single point, but moves through regular stages, which are defining the problem, imposing hypotheses, verifying their validity, and then making the necessary decisions. It is directed thinking that directs mental processes to a specific goal in order to reach a specific solution to the problem. Thus, it is a mental activity aimed at solving problems and developing reflective thinking through exposure to different educational situations and images, scientific and cognitive skills that stimulate students' motivation to think, observe and

**Corresponding Author:**

**Dr. Ebtighaa Mohammed Qasim Mohammed**

Assistant Professor, Faculty of Physical Education and Sports Sciences, University of Kerbala, Iraq

foresight to solve a situation or problem. It is one of the necessary types of thinking in the learning and teaching processes that encourage learners to achieve a deeper understanding of the educational content and transform their experiences linked to their feelings into positive experiences that enable them to reach the final solution to the problem.

In the light of the foregoing, the importance of the research can be highlighted by the following: The scarcity of research and studies that dealt with the gardens of ideas and reflective thinking, as far as the researchers are aware, in teaching some skills with the person's tool in the subject of rhythmic gymnastics.

### 1.1 Research Problem

Rhythmic gymnastics is one of the individual sports taught within the curriculum of the College of Physical Education and Sports Sciences, University of Karbala, which is characterized by its difficult movements that require high abilities of female students to reach the best performance.

Therefore, it was necessary for the researchers to use a modern strategy in teaching, which is the gardens of ideas, in order to reach the best performance of the students in line with the development taking place in the educational process, especially since the skills of the pointer tool are characterized by the difficulty of performing them by the student.

And what they have capabilities and capabilities to help them to perform the skills of the person in the required manner and to show the beauty and consistency of the movement when it is performed by the student. Therefore, the researchers decided to use the idea gardens strategy to develop their reflective thinking and learn some skills of the person tool in the rhythmic gymnastics of the students.

### 1.2 Research objective

- Preparing a measure of reflective thinking for the person's rhythmic gymnastics skills.
- Identifying the impact of the Ideas Gardens strategy on reflective thinking and learning the skills of the Rhythmic Gymnastics Tool.
- Identifying the preference effect between the experimental and control groups on the test results of reflective thinking and learning some of the rhythmic gymnastics instrument skills.

### 1.3 Research hypotheses

- There is a positive effect of the Gardens of Ideas strategy on reflective thinking and learning some of the rhythmic gymnastics instrument skills.
- There is a preference in effect between the results of the posttests, the experimental and the control groups, according to the strategy of the Gardens of Ideas in reflective thinking and learning some of the skills of the rhythmic gymnastics tool.

### 1.4 Research field

**Human field:** Third-year students in the College of Physical Education and Sports Sciences / University of Karbala for the academic year (2022-2023).

**Time field:** The period from (1/11/2022) to 1/3/2023).

**Spatial field:** The closed hall in the College of Physical Education and Sports Sciences / University of Karbala.

## 2. Research methodology and field procedures

### 2.1 Research Methodology

The researchers used the experimental approach by designing equal groups with two pre and posttests to suit the nature of the research.

### 2.2 Research community and sample

The third-stage female students at the University of Karbala's College of Physical Education, who totaled 62 students for the academic year (2022-2023), made up the research community. The scale's sample consisted of (62) students.

### 2.3 The means, devices and tools used

#### 2.3.1 Research methods

- Note
- Testing and measuring
- Arabic and foreign sources and references

#### 2.3.2 Equipment and tools

- Rhythmic gymnastics hall
- Camera
- Manual Calculator
- Signs of your gymnastics, number (20).
- Stopwatch
- Measuring tape
- Medical scale
- Discs (CD)

### 2.4 Field Research Procedures

#### 2.4.1 Preparing the reflective thinking scale

After examining the researchers about the measures of reflective thinking, it was found necessary to prepare a measure that is commensurate with the research sample and the objectives of the current study. Therefore, the reflective thinking scale was chosen by the researcher (Makarem Eleiwi) (Nasser, Makarem Aliwi, 2018, p. 109) <sup>[1]</sup>, to be a guide for preparing the items of the current scale. The researchers prepared a special questionnaire \* with a measure of reflective thinking, which was presented to a group of experts and specialists \*\* in the fields of (tests and measurement, teaching methods, and gymnastics) to determine the validity of the paragraphs on the research sample, and after completing the relevant forms, the (Ki<sup>2</sup>) test of good conformity was used To accept the paragraphs of the scale, as shown in Table (1).

**Table 1:** The results of the calculated (Ki<sup>2</sup>)<sub>2</sub> values and the type of significance of the opinions of experts and specialists about the validity of the items of the reflective thinking scale

N	Scale paragraphs	Experts number	Agree	Disagree	Ki <sup>2</sup> calculated	Ki <sup>2</sup> Tabular	Sig type
1	Realizing the meanings of shapes and their drawings using the person's tool	15	14	1	11.26	3.84	Sig
2	Draw shapes for thought-provoking topics, including difficult and complex skills, using the person's tool.	15	15	0	15		Sig
3	Make illustrations of the parts of the throwing and receiving skill.	15	15	0	15		Sig
4	Explain the relationship between the topics I study using illustrations related to the skills of the person's tool.	15	7	8	0.06		Non Sig

5	Add illustrations to show the relationship between the parts and sections of the skills that I study with the pointer.	15	14	1	11.26	Sig
6	I classify the parts of the skillful performance of the skills of the character tool that I study through figures and illustrations.	15	15	0	15	Sig
7	Understand the incorrect relationships in the subjects i.e. parts and steps of skill performance	15	12	3	5.4	Sig
8	Recognize the similarities in the topics of any of the parts and steps of skillful performance.	15	13	2	8.06	Sig
9	I give an accurate description of the concepts I study and explain their parts during the learning process.	15	14	1	11.26	Sig
10	I correct misconceptions about topics I read later, such as common mistakes in person skills.	15	15	0	15	Sig
11	Clarify the irregular ideas in the subjects I study by reorganizing them through meditation and remembering the pictures and videos of the skills when they are repeated.	15	12	3	5.4	Sig
12	I give comprehensive and coherent explanations about the skills I teach and how to properly perform those skills	15	13	2	8.06	Sig
13	I try to link all aspects of the topics to reach convincing solutions, i.e. the sequence in performing the parts of the skill.	15	15	0	15	Sig
14	Create convincing solutions by linking current variables (the person's skills) to past experiences (jumps and hops) that have been previously learned.	15	14	1	11.26	Sig
15	I am looking for convincing explanations for the correct performance, through which we reach the perfect performance.	15	13	2	8.06	Sig
16	Employing previous experiences, that is, the skills that were previously learned, to find solutions and benefit from them in learning skills.	15	13	2	8.06	Sig
17	The ability to make correct conclusions and draw conclusions as a result of linking past experiences with the current one in the learning process.	15	10	5	1.66	Non Sig
18	I reconsider my experiences in order to benefit from them, especially when learning the skills of performing the character.	15	9	6	0.6	Non Sig
19	I meditate a lot on performing (exercises) to see if I can improve what I will do when performing the correct skill	15	15	0	15	Sig
20	Do you usually encounter new skills with analysis and discussion to see how appropriate they are to a point of view and do not deal with them with hasty reactions.	15	14	1	11.26	Sig
21	I identify illogical ideas in linking parts of the skill I study.	15	13	2	8.06	Sig
22	I put interpretations of the facts and think about them through the sequence of the parts of the skillful performance, leading to the correct performance.	15	14	1	11.26	Sig
23	Think carefully about the issues that need unique solutions and deep thinking, such as the difference between rotating the figure in front of the body or next to the body.	15	13	2	8.06	Sig
24	Do you usually hesitate and think carefully before performing person skills?	15	13	2	8.06	Sig
25	I explain situations, opinions and events that need careful consideration and deep thinking, such as the difference between person skills and hoop skills.	15	14	1	11.26	Sig
26	Clarify ideas on various topics to reach realistic conclusions in order to perform correctly.	15	14	1	11.26	Sig
27	I put forward new ideas that help in reaching new solutions.	15	13	2	8.06	Sig
28	I present more than one solution to the topics to reach the optimal solution when performing skills with the tool of the person.	15	14	1	11.26	Sig
29	I strive to reach clear results based on logical foundations through my performance when implementing skills with the pointer tool.	15	15	0	15	Sig
30	Taking enough time to think to find sound solutions that help in correct skillful performance.	15	15	0	15	Sig
31	I like the work that needs practical practice more than the work that needs thinking?	15	14	1	11.26	Sig
32	Work on modifying misconceptions by thinking and reflecting on the learned skills.	15	15	0	15	Sig

The results of Table (1) show that the calculated value of (Ka) 2 is greater than its tabular value of (3.84) at the level of significance (0.05), and under a degree of freedom (1), which results in accepting all items of the reflective thinking scale with the exception of three items of the scale is not significant (non-significant).

#### 2.4.2 The exploratory experiment of the reflective thinking scale

The researchers used the scale on an exploratory sample of ten female students who were picked at random on June 11, 2022, at 10:00 in the morning in the classroom at the University of Karbala's College of Physical Education and

Sports Sciences. The experiment was run to accomplish a number of objectives:

- The clarity of the paragraphs of the scale reflective thinking and the clarity of its instructions.
- Know the time taken to answer the scale items
- Know the obstacles that researchers face during the procedures of implementing the scale.

**After completing the exploratory experiment, the objectives that were set were achieved, as follows**

- Clarity of the scale paragraphs and its instructions.
- The time taken to answer the items on the scale was (18) minutes.
- Avoiding and overcoming some obstacles during the procedures for implementing the scale.

After that, the scale, with its appropriate instructions and paragraphs, is ready to be applied to the preparation sample.

#### 2.4.3 The main experiment of the reflective thinking scale

The scale was applied to the preparation sample, which numbered (62) students, on Sunday, 13/11/2022, at nine o'clock in the morning in the closed hall in the College of Physical Education and Sports Sciences - Karbala University, under the supervision of the researchers.

#### 2.4.4 Description of the scale and the method of correcting the reflective thinking scale

The scale is corrected according to the triple response scale,

and the scale consists of (29) items, noting that the alternatives to the answer for each of the paragraphs of the scale are (3) alternatives: (always, sometimes, rarely) and these alternatives will be given grades (1, 2, 3), As shown in Table (2) below.

**Table 2:** shows the weighted values of the items of the reflective thinking scale with the rhythmic gymnastics tool

Paragraph	Degree
Always	3
Sometimes	2
Rarely	1

Thus, the highest score for the scale is (87), which shows the paragraphs of the scale.

#### 2.4.5 Statistical analysis of the items of the reflective thinking scale

After the data collection and unloading process, the researchers conducted the process of ordering the scale's scores in ascending order from the lowest score to the highest score, as (27%) of the upper scores and (27%) of the lower scores were chosen in the scale. This was done to show the scale's capacity to: A t-test was performed for the independent samples comparing the two end groups of (31) female students and the (preparation sample) of (62) female students to determine the differences between the two groups, as shown in Table (3).

**Table 3:** shows the discriminatory ability of the reflective thinking scale items

N	Higher limits 27%		Lower 27%		Calculated	Sig level	Sig type
	Mean	Std. Deviation	Mean	Std. Deviation			
1	2.50	0.56	1.63	0.76	5.350	0.000	Sig
2	2.41	0.64	1.55	0.69	5.292	0.000	Sig
3	2.80	0.40	1.52	0.77	8.777	0.000	Sig
4	2.61	0.59	1.50	0.73	6.714	0.000	Sig
5	2.41	0.60	1.55	0.77	5.130	0.000	Sig
6	2.69	0.52	1.77	0.89	5.241	0.000	Sig
7	2.19	0.78	1.55	0.80	3.105	0.003	Sig
8	2.44	0.55	1.52	0.69	6.206	0.000	Sig
9	2.33	0.67	1.44	0.69	6.181	0.000	Sig
10	2.41	0.69	1.50	0.77	5.152	0.000	Sig
11	2.25	0.43	1.38	0.59	6.897	0.000	Sig
12	2.75	0.60	1.72	0.81	6.267	0.000	Sig
13	2.94	0.23	1.47	0.77	10.595	0.000	Sig
14	2.36	0.68	1.50	0.69	5.462	0.000	Sig
15	2.30	0.78	1.66	0.89	3.424	0.001	Sig
16	2.69	0.46	1.66	0.86	6.232	0.000	Sig
17	2.66	0.53	1.55	0.84	6.808	0.000	Sig
18	2.44	0.77	1.69	0.82	4.546	0.000	Sig
19	2.58	0.69	1.50	0.73	6.138	0.000	Sig
20	2.30	0.62	1.41	0.64	5.738	0.000	Sig
21	2.69	0.46	1.94	0.92	4.320	0.000	Sig
22	2.80	0.40	1.55	0.77	8.305	0.000	Sig
23	2.86	0.35	2.08	0.84	5.181	0.000	Sig
24	2.83	0.50	1.72	0.81	6.696	0.000	Sig
25	2.72	0.56	1.55	0.77	7.488	0.000	Sig
26	2.44	0.65	1.55	0.73	5.634	0.001	Sig
27	2.66	0.47	1.52	0.77	7.200	0.000	Sig
28	2.52	0.55	1.52	0.81	6.156	0.000	Sig
29	2.61	0.54	1.63	0.79	5.935	0.000	Sig

#### Internal consistency coefficient

To find this consistency coefficient, the simple correlation coefficient (Pearson) was used between the score of each item

and the total score of the scale for the members of the preparation sample of (62) students, as shown in Table (4).

**Table 4:** Correlation coefficients between the score of each item and the total score of the reflective thinking scale

Paragraph number	Correlation coefficient	Sig	Paragraph number	Correlation coefficient	Sig
1	513	0,000	16	469	0,000
2	454	0,000	17	550	0,000
3	520	0,000	18	340	0,000
4	525	0,000	19	456	0,000
5	413	0,000	20	447	0,000
6	399	0,006	21	378	0,000
7	309	0,000	22	600	0,000
8	532	0,000	23	376	0,000
9	471	0,000	24	499	0,000
10	444	0,000	25	527	0,000
11	530	0,000	26	396	0,000
12	520	0,000	27	557	0,000
13	629	0,000	28	485	0,000
14	474	0,000	29	419	0,000
15	304	0,000	16		

The tabular value (t) = (1.96) below the level of significance (0.05) and at the degree of freedom (61).

#### 2.4.6 Scientific foundations for the scale of reflective thinking

##### ▪ **First: The validity of the scale**

The researchers used two types of validity:

- **Apparent validity:** This type of validity was achieved when the scale was presented to a group of experts and specialists, numbering (12) experts and specialists \* in the fields of (teaching methods, rhythmic gymnastics, tests and measurement), then collecting forms, emptying data and conducting statistical work for it, and as it is Shown in Table (4).
- **Structural or formative validity:** This type of validity was proven during the extraction of the discriminatory ability of the scale, as shown in Table (4).
- **Second:** The reliability of the scale: The researchers used:
- **Split-Half:** The researchers used the strategy of odd and even numbers and divided the scale's items into two half to test the stability of the Split-Half reflective thinking scale. Items with odd numbers were included in the first half, and items with even numbers were included in the second half.
- After ensuring the homogeneity of the two halves by using the (F) test while extracting the value of the arithmetic mean and standard deviation and then the value of the variance for each section, as the values of the arithmetic mean, standard deviation and variance for the first half were respectively (31,492), (6,238), (38,912), the values of the arithmetic mean, standard deviation and variance for the second half were respectively (29,126), (5,880), (34,574), and by applying the percentage ratio equation, the calculated (F) value was (1,125), which is smaller than its tabular value of (1.27) under the level of significance (0.05) at a degree of freedom (61), which confirms the randomness of the differences between the two halves of the scale because they are homogenous at a good rate. After that, the correlation coefficient (Pearson) was calculated between the two halves of the scale, which showed that the value of the correlation coefficient of the half of the scale reached (0.662). This value represents a half-scale measure, this means reliability for half of the test, so the researchers used the (Spearman-Brown) equation to modify and extract the reliability

value of the entire scale and obtain the degree of reliability of the scale, which amounted to (0.797), which is a high value in its amount, which confirms that the scale has a high degree of stability and reliability.

#### 2.4.7 Objectivity of the scale

The researchers used the multiple-choice method to prepare the paragraphs for the reflective thinking scale. Experts were consulted about its objectivity. The experts agreed on the validity of the scale. Since this type of scale has a clear solution key, there are no two correctors or arbitrators. Which earns this high objectivity scale.

#### 2.4.8 Determine the skills using the indicator tool

Determining the skills was relied on the vocabulary of the rhythmic gymnastics subject for the students of the third stage in the College of Physical Education, which will be taught to the research group.

The researchers, along with the subject teacher: identified the skills that are under the current study, and they were addressed, and they are three skills:

- Throwing and receiving the person with a scissor jump
- Rotating the figure in front of the body behind the head in the form of an 8
- The forward waltz step, the opposite side rotation with the two figures.

#### 2.4.9 Pre-tests

The pre-tests for the skills of the person's tool in rhythmic gymnastics and the reflective thinking scale were conducted in the closed hall of the College of Physical Education / University of Karbala on Sunday corresponding to (11/20/2022).

#### 2.4.10 Equivalence of the research sample

The researchers carried out the equivalence of the two research groups in the variables related to the research and before starting the implementation of the educational units on the main research sample. They are proportional to conducting the study, which indicates that there are no significant differences between the two groups, which confirms the equality of the two groups in all pre-tests, as shown in the table (5)

**Table 5:** Equality of the two groups in all pre-tests

Skills	Experimental		Control		T value	Sig type
	Mean	Std. Deviation	Mean	Std. Deviation		
Throwing and receiving the sign with a scissor dart	1.36	0.44	1.25	0.31	14.44	Non sig
Rotating the figure in front of the body behind the head in the form of an 8	1.63	5.51	1.34	0.37	14.44	Non sig
Waltz forward step, opposite side rotation with two figures	1.63	0.39	1.23	0.32	14.44	Non sig
Reflective thinking scale	46.200	3.931	45.466	3.311	0.566	Non sig

## 2.5 Main experience

The researchers prepared the educational units for the skills of the character tool that will be studied according to the strategy (Gardens of Ideas) for the students of the experimental group and according to the usual method for the students of the control group.

### Experiment application

Before starting the implementation of the prepared educational units, the researchers gave two introductory educational units, so that it would be clear to them how to apply the strategic steps and distribute them to the sections of the educational unit, distribute the appropriate timings for each stage, define the procedures, steps and goals for each stage, and also inform them of the tools, equipment and exercises used in those units to be The steps to work according to this strategy are clear to them in the future. Then, the researchers applied the experiment to the two research groups, starting from 27/11/2022 to 22/1/2023, at a rate of (8 units) for a period of (90 minutes).

- The experimental group was taught using the strategy (Gardens of Ideas) according to the pre-prepared teaching plans according to the steps of the strategy: Broad ideas: This requires the ability to absorb all the various ideas, even if they are vague, and it is preferable that these ideas be undefined or restricted, such as saying I want the best picture of the school on a blackboard so that it remains in a directed form to correct the course of the thinking process continuously.
- **C-2-Detailed ideas:** At this stage, each detailed idea is captured for a broad idea, and here it is like the sun to a plant, and the more detailed the idea is, the better it is understood by the learners as a group, and here the teacher can record ideas and their alternatives through coexistence with the group.
- **D-3-Appreciation of obstacles:** Here the teacher encourages ideas that raise questions and caveats while continuing to generate a long list of ideas, each of which has negatives and obstacles that push the group to coexist in finding alternatives to these negatives and obstacles.
- **C-4-Diversity:** The goal, through the use of the Idea Gardens method, is to generate each idea raised in its

details that lead to new ideas. It requires the teacher, when observing a specific idea that does not receive tendencies from students, to try to direct students to search for the idea of defects and obstacles and to think of alternatives that make it acceptable to all.

All steps of this strategy were in the main section of the lesson plan.

- The control group studied using the (traditional method) according to the pre-prepared teaching plans

## 2.6 Post-test

After completing the implementation of the educational units on the experimental group, the researchers conducted the post-tests for the two groups with the variables under study on Sunday (29/1/2023) and the time for conducting the tests was at ten o'clock in the morning for both groups and in the closed hall of the College of Physical Education and Sports Sciences - University of Karbala and under the supervision Directly by the researchers in order to measure the amount of progress achieved by the students in the experimental and control groups. The researchers were keen to create the same conditions in which the pre-exams were conducted in order to obtain accurate results.

The researchers used four arbitrators to evaluate the skillful performance of the female students by distributing a compact disc (CD) to the arbitrators containing a video on the skills under study. The highest and lowest scores were deleted, then the two average scores were collected and divided by (2) to extract the final score out of 10.

## 2.7 Statistical means

In order to obtain accurate scientific results for the current study, the researchers resorted to using the Statistical Bag (SPSS) (Al-Tikriti, Wadih Yassin & Al-Obaidi, Hassan Muhammad, 1999, p. 279) <sup>[9]</sup> the following laws to process the data and obtain the results.

- Percentage.
- Arithmetic mean.
- Standard deviation.
- Simple Correlation Coefficient (Pearson)

## 3. Presentation, analysis and discussion of results

### 3.1. Presenting and analyzing the results of the skill of throwing and receiving a figure with the scissor jump, the skill of rotating the figure in front of the body behind the head, the skill of the forward waltz step, the opposite side rotation with the two figures. For the experimental group

**Table 7:** The results of the pre and posttest for the experimental group with the skill of throwing and receiving the figure, the skill of rotating the figure in front of the body behind the head, the front waltz step skill, the opposite side rotation with the two figures, and the reflective thinking scale

Skills	Pre test		Post test		T value	T Tabular	Sig level
	Mean	Std. Deviation	Mean	Std. Deviation			
Throwing and receiving the sign with a scissor dart	1.36	0.44	5.40	0.91	14.73	2.14	0.05
Rotating the figure in front of the body behind the head in the form of an 8	1.63	0.51	5.60	0.82	14.05	2.14	0.05

Waltz forward step, opposite side rotation with two figures	1.36	0.39	5.26	1.10	14.93	2.14	0.05
Reflective thinking scale	46,200	3,931	69,400	3,202	30,640	2.14	0.05

### 3.2 Presentation of the results

The control group for the skill of throwing and receiving a figure with the work of the scissor jump and the skill of rotating the figure in front of the body behind the head in the

form of a number (8) and for the skill of the forward waltz step, the opposite side rotation with the two figures and the scale of reflective thinking

**Table 8:** The results of the pre and posttest for the control group with the skill of throwing and receiving a figure with the work of the scissor jump and the skill of rotating the figure in front of the body behind the head in the form of number (8) and for the skill of the forward waltz step, the opposite side rotation with the two figures and the reflective thinking scale

Skills	Pre test		Post test		T value	T Tabular	Sig level
	Mean	Std. Deviation	Mean	Std. Deviation			
Throwing and receiving the sign with a scissor dart	1.20	0.31	4.66	0.97	14.07	2.14	0.05
Rotating the figure in front of the body behind the head in the form of an 8	1.34	0.37	4.60	0.63	13.79	2.14	0.05
Waltz forward step, opposite side rotation with two figures	1.23	0.32	4.53	0.74	13.48	2.14	0.05
Reflective thinking scale	45.466	3.113	56.600	3.224	15.996	2.14	0.05

**Table 9:** Presenting the results of the experimental group of the researched skills for the post-test

Skills	Post test		T value	T Tabular	Sig level
	Mean	Std. Deviation			
Throwing and receiving the sign with a scissor dart	5.40	0.91	14.73	2.14	0.05
Rotating the figure in front of the body behind the head in the form of an 8	4.60	0.82	14.05	2.14	0.05
Waltz forward step, opposite side rotation with two figures	5.26	1.10	14.93	2.14	0.05
Reflective thinking scale	69,400	3,202	12.907	2.14	0.05

**Table 10:** Presentation of the results of the control group in the researched skills of the post-test

Skills	Post test		T value	T Tabular	Sig level
	Mean	Std. Deviation			
Throwing and receiving the sign with a scissor dart	4.66	0.97	14.07	2.14	0.05
Rotating the figure in front of the body behind the head in the form of an 8	4.60	0.63	13.79	2.14	0.05
Waltz forward step, opposite side rotation with two figures	4.53	0.74	13.48	2.14	0.05
Reflective thinking scale	56.600	3.224	11.340	2.14	0.05

### 4. Discuss the results

It was discovered by the data that we saw in the preceding tables that there are considerable variations between the pre and post test results, with the post test results of the experimental group being more favourable. The researchers attribute these differences to the Idea Gardens strategy's success in helping students learn research skills and cultivate reflective thinking because it had a significant impact on students' ability to perform skillfully, which is characterized by accuracy and smoothness in performance.

Presenting information in the form of a problem that is subject to questioning and discussion prompts students to retrieve the largest amount of information by stimulating the mental abilities of thinking, as the Idea Gardens strategy contributed to encouraging students to create new ideas, absorb these ideas and develop them in detail, and also contributed to raising suspense and harmony among students, as well as enhancing Their correct responses so that the learners can perform the performance of the skills with the availability of activities during the lesson

Thus, the objectives of the research have been achieved by using the strategy of the Gardens of Ideas in learning some of the skills of the symbol tool in rhythmic gymnastics, as well as the research hypotheses were achieved through post-tests and in favor of the experimental group, and this is what the researchers sought to prove and confirm as well (Yasser and Muhammad 1995) "The student's motor performance is the result of a close relationship and an integrated interaction

between the theoretical and practical aspects of the study," as confirmed by (Magda Ibrahim 1995). From its motivation towards learning, assimilation, and creating as much good as possible".

Since this strategy has clearly invested in the process of organizing thinking and searching for solutions and ideas, it contributed significantly to achieving progress in the post-tests, as well as practice, repetition, and the use of various educational means that contributed to the emergence of sound and sequential performance. In this regard, this strategy contributed to achieving thinking in a more contemplative way among the students of the experimental group, it was distinguished by giving female students the opportunity to meditate and present their ideas freely, in a well-thought-out scientific manner that is aware of the different educational situations, as the student at this stage of study needs to be given the opportunity to practice the intellectual reflection of the positions and criticize them, and analyze them in order to reach the ideas that can be implemented independently, and this has led to the development of a sense of confidence and the sense of responsibility through the enthusiasm shown by them during the implementation of the skills exercises, this is consistent with (Amayreh, 2005) <sup>[3]</sup> that giving students the opportunity to learn, express their opinion, and reveal their capabilities gives them an opportunity to develop themselves and increase their expertise in delving into the topic, idea, or skill, and understanding the existing relationships between its parts The researchers also attribute the reason for the

experimental group's superiority in The post-test of reflective thinking, to the stages of the strategy that calls for thinking about solutions and answers issued by students, and this was confirmed by (Marwan Abdel Majeed), "Understanding movement and its performance is very necessary in learning and developing skills, especially if this perception is linked to the intellectual aspect resulting from the explanation and clarification of motor skills." Attention has been paid to the process of reflective thinking within the curriculum, as reflective thinking is one of the patterns of thinking that must be paid attention to and encourage learners to practicing it reduces haste and routine thinking and enables them to see things and work in a deliberate and approved manner to achieve specific purposes. It depends mainly on the knowledge, experience and information provided by the teacher within the vocabulary of the prepared educational curriculum.

## 5. Conclusions and recommendations

### 5.1 Conclusions

- The Ideas Gardens strategy had a major role in the students' learning of some of the skills of the symbol tool in the students' rhythmic gymnastics.
- There was a positive effect of the Ideas Gardens strategy in learning the skills of the person's tool in favor of the experimental group.
- Teaching using the Ideas Gardens strategy raises the adequacy of the knowledge acquisition of third-stage students, as it makes them the focus of the educational process through their reliance on the knowledge structure that they have in a large way.
- The use of cognitive strategies works to increase the achievement and development of the ability to think and reflect among the students of the experimental group. Hence, reflective thinking is developed because it gives the students an opportunity to practice mental operations to a better degree than methods based on memorization and remembrance.

### 5.2 Recommendations

- The possibility of using the Ideas Gardens strategy in teaching other activities in rhythmic gymnastics and other games.
- The need for change and diversification in the use of methods and strategies that make the learning process of the skill more interesting for students.
- Using educational strategies commensurate with the levels and abilities of students in performing skills
- Ensuring cooperation in order to develop students' reflective thinking and their ability to learn effectively by educating teachers by conducting seminars and developmental courses for teachers of physical education and sports sciences.

## 6. References

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