

The Effect of the Strategy of Applying Principles on the Development of Critical Thinking Among Sixth Grade Literary Students in the Subject of History

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The aim of the current research is to identify (the effect of the strategy of applying the principles on developing critical thinking among sixth-grade literary students in history subject), and to achieve this goal, two null hypotheses were formulated, which were randomly selected secondary. (Adeb) for boys affiliated with the General Directorate of Education in Baghdad - Al-Karkh 2, and they used the experimental design with two non-equivalent (control group experimental group) with the post test, which is a test for critical thinking, and the choice of bidirectional random assignment to represent the sample consisting of 69 students, Of 35 students for an experimental group that studied according to the strategy of applying the principles, and (34) students for a control group that studied according to the method. The researcher is rewarded for two groups of research statistically in the variables (life span, achievement of the previous semester in the history of the sixth grade literary, intelligence test, and the pre-critical thinking test), and the research requirements were prepared (scientific determination). Article, behavioral formulation purposes, preparation of teaching plans. The researcher prepared a critical thinking test, the final form of which is (25) standing with (75) items with three options, and includes testing five skills (knowledge of assumptions, interpretation, evaluation arguments, inference, and conclusion), Stability of test items was found using Kiodr-richardson 20 reaching (85, 0), the experiment applied in the first semester and continued for more than 12 weeks after the end. The experiment was an applied research tool on the two research groups to measure critical thinking, and the data processing showed statistically the results of the research on the experimental group that studied according to the application of strategic principles of the control group and which is studied in the usual way of critical

thinking. In light of the research results, a set of conclusions were reached and a set of recommendations and proposals were presented.

Key words: *Strategy, Critical thinking, Literary, Education*

Research problem

The subject of history suffers from the abundance of academic vocabulary and the huge amount of theoretical information, especially the subject of history, as the complaint increased in the multitude of events and years, the rigidity of the material and the difficulty of understanding and comprehension. (Al-Anbaki, 2002: 1) It has become a heavy burden on the shoulders of teachers and learners, and this is reflected in the teaching methods that teachers resort to, such as teaching and giving lectures to accomplish the required in the curriculum and on the methods of study by the learners, which are based on memorization and memorization by heart, and this is what I felt By the researcher through her humble experience in teaching, where she found that most of the information and facts learned without understanding and awareness of the relationships between them, let alone mixing them. Another problem identified by several studies is the inability of middle school learners to practice thinking skills such as critical thinking. Since learning theories confirm that thinking skills are learned and can be developed, it is an active interaction between the individual and knowledge grows according to the sequencing coordinator, adds (Kitami 2000, 57) "Thinking is the way in which an individual receives the individual. The ideal experience is organized, recorded, stored and thus incorporated into his repertoire. Cognitive, and researchers believe that thinking style is synonymous with teaching style, as it is the name that differs while the content is the same. (Al-Qutami, 2000: 593) The function of education comes in developing correct critical thinking among students, and this is what was confirmed (Tuani, 1962) when he said: "Giving appropriate opportunities for the growth of thinking energies is a matter of life. And death for any society." (Al-Alousi, 1985): 71-79) Therefore, teachers should follow teaching strategies and methods that fit, increase and nurture thinking skills, because the ability to think critically does not grow automatically, but rather needs to guide the educational process. Toward this goal, as the traditional teaching methods common in our educational institutions focus on conservation and preservation, and thus it limits the development of students' mental abilities that restricts their skills. Accordingly, the researcher believes that it is necessary to search for new teaching methods and strategies that will develop learners' achievement abilities, and at the same time develop their mentality of all kinds, to keep up with and face the doubling of human knowledge and try. To fill this gap by focusing on the learning activity and making it dependent on itself in gathering knowledge, it is able to solve problems and reach conclusions, and based on the above, the research problem arises in an attempt to answer the following question: What is the impact of the critical strategy of applying principles on the development Thinking of literary sixth graders in history?

Research importance

The strategy of applying principles is one of the strategies of anticipatory thinking that has an effective effect in motivating students to understand with high accuracy and efficiency, which leads to improving their academic level. Al-Khalili (2005) indicated that one of the components of a successful teacher is choosing the appropriate method or strategy. (Al-Khalili, 2005: 27-271) Qatami, 67, 2001) affirms that implementing the strategy of applying principles is not only an educational option, but rather an indispensable educational necessity, and they attributed this to a number of considerations, including: Applying the strategy to students leads to a deeper understanding of the cognitive content they learn through the processes. The higher mentality through thinking, and this applies to the general objectives of the subject because learning is based on the process of thinking, and employing thinking in education transforms the process of acquiring knowledge from an inactive process to a mental activity, which is reflected in a better mastery of the cognitive content, and the linking of its elements together. (Al-Qutami) (2001: 331) in light of the multiple characteristics of the strategy of applying the principles, the most important of which are focus, infinite precision, the use of analysis and logical interpretation, and the extraction of results in times of insufficient information, and that they need to continuously retrieve information, and link the apparent causes together, in order to Getting to the underlying causes that have a relationship with the merits of the problem or situation that must be thought through, drawing conclusions, classifying and reviewing them. This type of thinking is characterized by its reliance on little information to reach results by delving into the analysis, and it takes a long time to think (Walid and Nabil) , 229: 2009 (this cannot be) through the use of modern strategies that take it upon themselves to activate the thinking process of students, and among these strategies is the strategy of applying principles, it is one of the strategies iv) Thinking strategies that have an effective effect in motivating students to understand With high accuracy and efficiency, which leads to improving their academic level, through which students can be urged to research and reflect on the same universe, so that the educational process transforms from an educational method based on memorization.

To preserve and teach to know, understand, link and analyze information and make use of it. The subject is through the use of the mind and the generation of ideas and questions, thus creating a cognitive impulse, as learners make their predictions, so that they feel more responsibility in their learning, and their role is more positive. The importance of this strategy is that it is based on developing the intellectual capabilities of learners. The learner who does not have thinking skills and science processes will face many difficulties in his scientific activities and studies (Zaitoun 1996: 25) strategy of applying principles has a great role in developing the (mental) cognitive aspect of the learner through what the learner acquires from new knowledge and its codification on the one hand, and what It develops it from a methodology in thinking and research on the other hand, as it provides the learner with a number of higher skills, most notably analysis and organization .. In this way the strategy works

to develop the cognitive skills of learners through their acquisition of concepts that are difficult for them to acquire in ancient teaching methods, as a strategy for applying principles to raise the level of information processing. It helps the learner to summarize specific principles for the purpose of understanding and applying them in the learning environment and storing them and summarizing experiences in expert sentences. Simple (Ghanem 2002: 320) the strategy of applying principles is an advanced mental process that is employed in various fields, and enables students to benefit from it. A in understanding the academic content, and developing his knowledge, experiences and ideas, to be able to do so. Producing new ideas that can be analyzed in order to improve its performance to reach a level of constructive criticism and creativity. Modern education in the modern era has tended to use concepts in building and organizing modern teaching methods, as a solution to that. - The problem of students memorizing and storing information without understanding, distinguishing and being able to present due to their lack of storage (Al-Anbaki, 2002: 1). Through it, students can be stimulated to think, interpret, analyze, conclude, develop ideas, and create a classroom environment that raises an intellectual challenge for them. If education aims to prepare citizens who have the ability to make decisions, solve their problems, and choose what they want based on their right to free choice, then this calls for the attention of educators to develop this type of thinking.

Research Aims

The current research aims to know the strategy of applying principles in developing critical thinking among literary sixth-grade students.

Research hypotheses

To achieve the goal of the research, the researcher put the following hypotheses:

1. There is no statistically significant difference at the level (0.05) between the average scores of the experimental group whose students study the history course according to the strategy of applying the principles and the average scores of the control group whose students study the same subject according to the traditional method of examining critical thinking.
2. There is no statistically significant difference at the level (0.05) between the mean scores of the experimental group in the test of critical thinking before and after the experiment.

Research limits

The current research is determined by the following:

1. The human limit: Sixth grade literary students in middle and high schools.

2. Spatial boundary: preparatory and secondary schools of the General Directorate of Education in Baghdad - Al-Karkh 2.
3. Time limit: the academic year (2018-2019).
4. Scientific limit: History book chapters for sixth-grade literary students to be taught in the first semester.

Defining the terminology

Principles Application Strategy: (Aisha, 2011) It is one of the strategies of anticipatory thinking that aims to provide students with multiple predictive experiences, and provide students with the opportunity to use the information developed in new situations” (Al-Aishah, 2011: 505-509) Action Definition: The steps that the researcher used in teaching history to the experimental group students, which include (presentation, discussion, identification of main ideas, formulation of proposals, presentation of evidence, explanation and detail (suggestions)

The researcher defines it procedurally as follows

The score obtained by the sixth-grade literary students in the critical thinking test prepared by the researcher for the purposes of the current research with his five skills identified by both Watson and Claeser, which are knowledge of assumptions, interpretation, evaluation of evidence, conclusion and conclusion."

Sixth literary grade

What is meant by the literary sixth grade is the third grade of middle school and the sixth of high school, and students in this grade study the humanities, and prepare a preparation process for the last phase of middle and high school (Ministry of Education, 1990: 89)

Theoretical background

A strategy for applying the principles

Applying the principles application strategy

The learner can learn using this strategy in the following cases: - Adequate skill in the process of understanding the concept and its characteristics - Has the ability to give a name, term, or concept to the things or events that he observed and described in groups. The ability to interpret the information gathered which is partially realized each time, and the learner establishes a relationship between things or reveals an implicit relationship through observation, investigation, exploration and then access to the results. I collected with him) in a specific order to reach conclusions and from the above we can conclude that this strategy requires the

following: reasonable operations, great effort, and longer time compared to other strategies. (Hu 73: 2003)

Strategies for the skill of applying principles

The skill of applying the principles can be achieved according to three sub-strategies: A strategy for predicting results, explaining unusual phenomena, and formulating hypotheses: This strategy includes the following mental skills: the skill of predicting results and interpreting m. Hara's phenomenology is a familiar skill of formulating hypotheses. The learner is asked to use the information they gathered in order to address the problem raised by the teacher, and this stage requires the learners: to form predictive conclusions based on the information. Review this information and extract information from it. The question that can be asked at this stage: What would happen if that....? For example: If the talk was about energy, and gathering the appropriate information, then the teacher was able to ask the question as follows: What would happen if the whole world ran out of oil? Dear reader, note that this hypothetical question assumes that there is a problem related to feeding the information collected and processed in the previous stages about energy. Note that this hypothetical problem requires predictive inferences related to the depletion of oil and its impact on people's lives. All research and thinking in sounding adapts to a new phenomenon (the entry of oil into action), and reaching predictive inferences about the problem and prediction of alternative energy. (Al-Kafi: 2003: 174).

The teacher's role in this strategy

1. Assist learners in accessing the building and formulating the results that can be accessed from the data collected, and ensuring that it is properly formulated and linked to the available data that the learners achieved during the treatment of the case.
2. Discussing familiar phenomena and experiences by identifying the characteristics and elements, what belongs to them and what we belong to, then helps learners to determine the basis of the strangeness or non-conformity and then find money to do things around with them.
3. The formulation of assumptions is based on information and discussions, so that learners usually rely on, justify and support the implications contained in the data collected to formulate appropriate assumptions.

Strategy to explain forecasts and support hypotheses

This strategy aims to provide learners with experiences with multiple predictions, and to allow learners to use the generalizations developed in new situations.

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1. Their generalizations will be strengthened.
2. And it gives an opportunity to appear over and over.
3. It takes on new and deep meanings.

This strategy requires a set of conditions ,namely

1. The teacher's ability to practice high-level mental processes, using a series of probing examples, which are assigned to:
 - Determine and know the mental level of the learner.
 - The depth of its stock.
 - And the extent of compatibility in the stages of knowledge development in which he goes.
 - Preparing a large number of predictions that the teacher needs to prepare before coming to the learners and discussing them with them.
 - The teacher collected evidence supported by pictorial predictions or written on cards that are used as mental stimuli to think about specific aspects at the beginning, then leave the room to ask to think in the way they want.
2. Providing assistance in every stage of the forecasting stages, supporting the assumptions that have been formulated, and then withdrawing and reducing the level of assistance by training until it reaches the level of independence in explaining the forecasts and supporting the assumptions that have been established.
3. helping learners explain the predictions and support the hypothesis (Explain the predictions that have been generated and provide evidence that contributes to supporting hypotheses that were formulated in earlier stages)
4. Helping learners to identify and mention a causal relationship that could lead to a hypothesis or prediction.

It is expected of the learner at this stage

- Interpret and justify the assumptions that have been formulated.
- Present evidence to justify the assumption that was formulated.
- Clarify the data and indicators available in the data collected by the learner, whether completed from a textbook or the experience of an expert, a reference or a source.
- Formulating the collected data to appear in the form of evidence or data to support or explain the hypothesis.

- Learners participate in the discussion of the aspects of the hypothesis and Sandim in the data and information that they collect. (Katami and Kitami 2000: 251).

Importance of questions appearing in the strategy to explain forecasts and support assumptions: As for the questions asked by the teacher, the learners need, in order to:

- Guiding learners and enthusiasm for thinking beyond the information presented.
- Helping learners gain experience at multiple levels.

Knowing that the questions asked by the teacher require answers from the learners, and this illustrates the need to build a retrospective table that organizes many information cells. The importance of a retrospective schedule in this setting is that it helps learners:

1. Draw generalizations and clarifications.
2. Make predictions.
3. Providing learners with a basis to support the inferences to arrive at, by organizing the information and the presented series.

The teacher's role in this strategy

1. Good preparation for training that enables learners to explain predictions and support hypotheses.
2. Create the appropriate conditions for the interaction of learners
3. Providing possible resources and materials for learners to interact with and assist them in assimilating the necessary expertise, and even enriching the predictions that they formulated, and even detailing aspects of the hypothesis experience and the available data he has.

Steps to implement a strategy to explain forecasts and support hypotheses

1. Presenting a text to the learners and then asking them to read the text to understand the reading.
2. Discuss learners with text content.
3. Determine the main ideas in the language of the learners themselves in the text.
4. Formulating assumptions and predictions on the basis of what is stated in the text.
5. Provide evidence and data from the text about the predictions and assumptions that have been formulated.
6. Explanation and details of expectations and assumptions.
7. Explain and detail the evidence and data contained in the text.

Training on strategy to explain forecasts and support hypotheses

The aim of training learners on a strategy to explain predictions and support hypotheses: Training on this strategy aims to deepen learners' understanding to explain predictions and support hypotheses.

The success of the training on the strategy to explain the predictions and support the hypotheses

Of the order to the success of the training in this strategy, the requires

1. Conducting detailed discussions of the assumptions and predictions that have been formulated, because they contribute to the formulation of generalizations based on evidence and approximate data of specific value for the learner's thinking, and increase self-confidence. And provoked David to continue in this teaching position.
2. That the teacher works to increase the opportunities that work to make the mission of the trained learner succeed in practicing this type of thinking, especially since proactive thinking requires patience, knowledge, experience and training.

Can the teacher implement teaching on the strategy to explain predictions and support the hypotheses of through the steps of the following?

1. Asking learners to read the text for proper and expressive reading.
2. Discuss the learners with the contents of the text.
3. Identify the main ideas in the language of the learners themselves.
4. Formulating assumptions and predictions on the basis of what is stated in the text.
5. Provide evidence and data from the text about the predictions and assumptions that have been formulated.
6. Explanation and details of expectations and assumptions.
7. Explanation and detail of the evidence and statements contained in the text.

Lesson objectives

- Provide evidence that clarifies the expectations and assumptions contained in the text.
- Describe the general atmosphere as a background to the predictions and assumptions in the text.

The teacher can implement the strategy steps by explaining the predictions and supporting the hypotheses according to the diagram as follows, and the following table shows the activities and mental processes and questions that provoke investigative thinking. Strategy to ensure that predictions or hypotheses are verified (experiment or test) It encourages the use of a strategy

to ensure that predictions or hypotheses are verified (experimenting or testing). (Live 2009: 321)

This strategy can be used in human studies to find out

- The effect of independent variables from dependent variables.
- Ensuring the validity of the hypothesis assumed by the researcher in the study.

Can summarize the steps and stages of training on the thinking sounding of through the strategic application of principles ,within the materials of study on as follows:

- Access to assumptions and predictions.
- Explain and support assumptions and predictions.
- Verify assumptions and predictions. (Modern, 2001: 372).

The concept of critical thinking

The (critical) reaction in the basic Arabic dictionary means distinguishing dirhams and looking at it to know its good from its evil and to criticize something in the sense between good and evil (Arab Organization for Education, Culture and Science, 1989: p. 1220). As for the English word criticism, it is derived from the Latin origin Criticus or The Greek Kritikos, which means the ability to distinguish or make judgments, and the linguistic connotation of the word may explain the traditional view of thinking established and adopted by three philosophers of Socrates, Plato and Aristotle, and summarize that the skills of analysis, judgment and debate are sufficient to arrive at the truth. Although the concept of critical thinking in contemporary educational literature is affected by this traditional opinion, many researchers point out that the truth cannot be reached by simply criticizing the validity of the hypothesis or information, and the task must be completed by moving to another advanced stage such as solving the problem or developing hypotheses. New (Jarwan, 2010: p. 60)Critical thinking is a form of thinking that an individual uses to evaluate things and make appropriate decisions. This type of thinking conflicts with other thinking methods such as creative thinking and problem solving and is based on many steps, and it requires the ability of an individual to think objectively, examine and evaluate all evidence, and choose appropriate alternatives with the aim of reaching the goal. Judgments or decisions (Al-Zoghoul, 2007: pp. 292-293)On the other hand, (2005) Crawford et al. (2005) view critical thinking as an entry point to thinking that emphasizes examining original claims or opinions with their reasons, and learners use them when presenting and supporting their interpretations orally or in writing, and is also used to interview and discuss the arguments and evidence of others (Crawford et al., 2005: p. 234)And the ability to choose good situations and take the appropriate decision in front of problems necessarily includes the ability to choose between available or possible alternatives and evaluate them correctly, and this is the essence of critical thinking. It is a collection of different thinking styles, it contains the processes involved in correct thinking patterns (problem solving,

scientific thinking, creativity, etc.), and it excludes the processes involved in incorrect thinking patterns and styles (such as mythical thinking, imaginative thinking, etc.) (Thinking about daydreaming etc.) (Yusef, 2011: p.177) Al-Ghariri (2007) argues that critical thinking is nothing but narration, examination, scrutiny and careful observation of facts, the use of rules of logical reasoning, and avoiding thinking bias and common mistakes resulting from generalizations in judging objects and facts through evaluation. According to agreed criteria, reaching the correct conclusion and solving the problem (al-Ghariri) (2007: p.20).

First: Research Methodology

The researcher followed the experimental approach, which is the most appropriate to achieve the objectives of the research, where the experimental research goes beyond the quantitative description of the phenomenon and rises to address the impact of a particular variable under controlled conditions to verify how it occurs, and that it is characterized by controlling the various factors affecting the phenomenon to be studied.

Second: Experimental design

Since the current research aims to know the impact of the strategy of applying principles on the development of critical thinking, the researcher chose the experimental design with partial control for two equal groups, and this design is considered one of the best designs that can be used in experimental research, taking into account the availability of the appropriate number in each group. As shown in Diagram (1).

Planner (1) Research Experimental Design

| Post test | Dependent variable | Independent variable | The pretest | Parity | the group |
|----------------------------|--------------------|----------------------|-------------------|---|--------------|
| The critical thinking test | Critical thinking | strategy | Critical thinking | 1. Chronological age 2. Parents' educational level 3. intelligence 4. Critical thinking test | Experimental |
| | | The usual way | | | Control |

Third: Determining the research community and its sample

Representation of the current research community in all sixth-grade literary students in middle and high school on the day of the General Directorate of Education, Baghdad-Al-Karkh, second academic year 201/8/2019, and the research sample represented sixth-grade literary students in

the male art school, who was deliberately chosen for its proximity to the researcher's residence area And for the school administration to cooperate with the researcher in implementing the experiment procedures and for the school to contain two divisions for the literary sixth grade, students who have failed. They were excluded statistically when analyzing the data in order to preserve the integrity and subjectivity of the experiment, so that their previous experiences did not affect the results of the research, and their number (7) students were represented in both departments. Section (a) the experimental group that was studied using the strategy of applying the principles, and section (b) the control group that was studied by the traditional method. The number of students in the two groups was (76), of whom (39) were students from Division (A), and (4) of them were excluded, so that the number is (35) students. And (37) male and female students in Division (B) were excluded (3) of them, so their number became (34) students. Thus, the sample size is (69) students.

Third: the internal integrity of the experimental design

Equivalence of the two research groups

1. Chronological age: After calculating the arithmetic mean and standard deviation of the age variable in months for each experimental and control group and using the T-test for two independent samples that are not equal, the results showed no statistically significant differences at the job level (0.05) and the degree of freedom (67) in chronological age. Where the calculated T value (1.528) was less than the tabular T value (1.997), which indicates the parity of the two groups (control and experimental) in this variable. As shown in Table (1).

Table (1)The arithmetic mean, standard deviation, and t-value of the two search groups in the chronological age variable

| Statistical significance At a level (0,05) | T-value | | Degree of freedom | standard deviation | SMA | The number of the sample | the group |
|--|---------|------------|-------------------|--------------------|---------|--------------------------|--------------|
| | Tabular | Calculated | | | | | |
| Not a function | 1.997 | 1.528 | 67 | 7.016 | 162.264 | 35 | Experimental |
| | | | | 8.759 | 165.206 | 34 | Control |

2. Parents' educational level: The researcher obtained the information related to the parents 'academic level of the students of the two research groups through the information categories form distributed to the students, and the data was classified into three (middle, under, and average). School, institute, university and above) to obtain cells with a

frequency greater than or equal to 5 and the data were processed using chi square for the academic level of parents, compared to the results of the two groups as shown in Table (2):

Table (2) Parents' educational level chi-square results for members of the two research groups

| Chi-square value | | Educational level | | | | the group | Parents |
|---------------------------------|--------------|-------------------|---------------------|---------------------------|----------------|--------------|------------|
| Tabular | Calculated | Total | University and alia | Junior high and institute | Medium Fmadoon | | |
| 5.98 | 0.174 | 35 | 21 | 9 | 5 | Experimental | the father |
| | | 34 | 21 | 7 | 6 | Control | |
| At a significance level of 0.05 | 1.124 | 35 | 14 | 11 | 10 | Experimental | the mother |
| | | 34 | 15 th | 8 | 11 | Control | |

It is clear from Table No. (2) That the value of chi-square calculated for the parents of the experimental and control groups was (0.174), which is less than the tabular value of (5.98), which indicates its absence statistically. Significant difference between the two research groups and thus their equivalence in the variable of the father's educational level. As it can be seen from the table, the value of chi-square calculated for the mothers of the two research groups was (1,124), which is less than the tabular value of (5.98). This indicates that there were no statistically significant differences between the two research groups in the variable of the mother's educational level.

3. IQ test

The researcher extracted the arithmetic mean and standard deviation of the scores of the students of the experimental and control groups, and by using the T-test for two independent unequal samples, the results showed that there is no statistically significant difference between the students of the two groups in the IQ variable at a significance level (0.05), and Table (3) illustrates this:

Table (3) The arithmetic mean, standard deviation, and t-value of the two research groups in the IQ variable

| Statistical significance At a level (0,05) | T-value | | Degree of freedom | standard deviation | SMA | The number of the sample | the group |
|--|---------|------------|-------------------|--------------------|--------|--------------------------|--------------|
| | Tabular | Calculated | | | | | |
| Not a function | 1.997 | 0.336 | 67 | 7.717 | 35.057 | 35 | Experimental |
| | | | | 9.393 | 34.372 | 34 | Control |

4. Critical Thinking Pre-Test

The critical thinking skills test prepared by the researcher was applied to the two research groups before starting the experiment. The arithmetic mean and standard deviation of the scores of the students of the two research groups were calculated by using the T test for two groups. Unequal independent samples the results showed no statistically significant differences at the level of significance (0.05) and the degree of freedom (67). Therefore, the two groups are considered equal in the variable of testing critical thinking skills as shown in Table (4):

Table (4) The arithmetic mean, standard deviation, and T-value of the two research groups

| T-value and significance indication | | | standard deviation | SMA | the number | Groups |
|-------------------------------------|------------|---------|--------------------|---------|------------|--------------|
| Tabular | Calculated | | | | | |
| Not a function | 2 | 601 . 0 | 13 . 7 | 67 . 43 | 35 | Experimental |
| | | | 58 . 7 | 56 . 42 | 34 | Control |

Sixth: Research requirements

1. Determine the scientific material

The specific scientific material that has already been included in the research and which will be taught to students of the experimental group and the control group according to the method of the book subject to be taught and the date for the sixth-grade students. The history of the literary sixth grade, which is scheduled to be taught for the academic year 20/18/20 19 AD, and the formulation of a number of purposes for behavioral measurement that can be observed according to Bloom in the cognitive domain is limited to the first four levels, a (remembering,

comprehension, application, and analysis). Then the researcher presented it to a group of experts and referees with experience and specialization in the field of education and methods of teaching social subjects, to express their views on the accuracy of formulating behavioral goals and the extent of their coverage of educational content and to determine the level that each paragraph measures. All the goals that obtained agreement of (80%) or more were approved in the opinion of experts, taking into account the proposed amendments, so that the final number is (156) behavioral goals.

Preparing teaching plans:

The researcher prepared daily guidelines for the two research groups for each group (experimental and control) and presented a sample of them to a group of experts in science teaching methods to express their opinions and approaches, and in light of this, adjustments were made. It was made to take its final form.

Seventh: the search tool

Achieving the objective of the current research and testing its hypotheses required testing critical thinking, and the following is a detail of each tool of this tool:

Critical thinking test

Determine the purpose of the test: It aims to measure the extent of the development of critical thinking among literary sixth graders.

Defining critical thinking skills

After the researcher reviewed the studies and literature that she had available, which dealt with critical thinking skills, the skills that fit the level of critical thinking for the literary sixth grade were identified, namely

1. Knowledge of hypotheses Knowledge of hypotheses: It is the rational process by which an individual determines the assumptions contained in the situations presented to him.
2. Interpretation: Interpretation: It is the mental process by which the individual judges the proposed conclusions, whether they are logically arranged with the information presented to him or not, assuming the validity of this information.
3. Arguments Evaluation: It is the mental process through which the individual distinguishes between strong and weak arguments based on their importance and their suitability to the questions presented to him.
4. Detail: Conclusion: It is the mental process in which an individual reaches a conclusion based on the existence of two logical hypotheses.

5. **Conclusion: Inference:** It is the mental process by which an individual reaches certain conclusions with varying degrees of accuracy based on facts and data presented to him.

Determine the test items

After determining the critical thinking skills, the test paragraphs were formulated in the form of multiple choices. Each paragraph consists of four alternatives, among which one is correct and the rest is wrong. The number of positions reached (25 positions) and (75) paragraphs with (3) items in each position.

Test Instructions

The researcher set a number of instructions for students so that the way to answer the test items is clear and understandable.

Establish test correction rules and instructions

1. The test is of the multiple choice type, so I was given one score for the correct answer, zero for the wrong answer, as well as the remaining paragraphs, and the paragraphs that contain more than one alternative answer. Thus, the highest score is (75).
2. The validity of the test: The validity of the test was verified by: -
 - **Apparent honesty:** This type of honesty was verified by presenting the test to a group of specialists in teaching methods and psychology, and taking their opinion on amending some paragraphs and by using the cooperative form of the arbitrators' agreement. The paragraphs got an approval rating of more than (80%).
 - **Validation of content:** The researcher presented the test to a group of specialists in teaching methods to find out the extent to which the paragraphs represented the content to be measured, as the test obtained approval from more than (80%) of them.

The first exploratory application

The critical thinking test was applied to an initial exploratory sample consisting of (40) students from the sixth grade of literature at the Future School for Boys of the General Directorate of Education in Baghdad - Al-Karkh 2, for the purpose of determining the time. What is required to answer the test, clarity of its paragraphs and instructions, and a diagnosis of ambiguous paragraphs? Wednesday 10/3/20 18 after extracting the time, the average end time for all students was the average time (40 minutes)

Second exploratory application

The test was applied to a second sample consisting of (120) students in the schools of Al-Bayaa and Zarqa Al-Yamamah of the General Directorate of Education in Baghdad - Al-Karkh 2. The test was conducted on Sunday 10/26/2020 18 and after the correction, the test items were

analyzed by taking higher papers 27 % of student answers (32) and a minimum of 27% of student answers (32). To represent the lowest group to find the following:

- Discriminatory strength of test items: The researcher calculated the discriminatory power for each paragraph of the test using the discrimination equation and found that its value ranges between (0.21 - 0.53). As indicated (Allam, 2006) that the paragraphs are acceptable if the coefficient of difference is (0.20 or more). (Allam, 2006, 116), all paragraphs are acceptable.
- Stability of the test: After applying the test to the experimental sample, the reliability of the test was verified using the (Keoder-Richardson 20) equation by means of the scores they obtained in the critical thinking test, and the reliability coefficient of the test reached (0.85), which is a good reliability coefficient.

Eighth: The application of the experiment procedures

Bachertalbagh's experience on the application of a student research sample on Wednesday Brief summary 1/10 0/20 18 It came as follows:

1- To preserve the integrity of the experimental design

1. The researcher examined the research sample.
2. The same amount of scientific material was given to the two research groups and it was identified in the first three chapters of the history course.
3. The duration of the experiment was the same for the two research groups, as it lasted (12) weeks from the first semester of the academic year 20/18/2019. It also started on Wednesday a brief summary on 10/10/2018 8 and ended on Thursday 1/3/2019.

2- Research Tool Application:

The subsequent critical applied thinking test on Thursday was a brief summary dated 3/3/2019.

Ninth: statistical means

The researcher used the following statistical methods

1. T-test (t-test) of two unequal independent samples
2. The difficulty factor for the substantive paragraphs
3. The discriminatory power of substantive paragraphs
4. The effectiveness of false alternatives
5. Keoder-Richardson equation 20
6. Chi Square
7. The percentage equation of the Cooper Agreement

The fourth chapter

First: Presenting the results

For the purpose of verifying the null hypothesis which states that “there is no statistically significant difference at a level of significance (0.05) between the mean differences in the pre and post test scores of students of the experimental group that studied according to an excerpt from the application of principles and the average differences in the scores of the two pretests. And the dimension to the control group students that I studied in the usual way to develop critical thinking.

A - The use of the T-test for two correlated samples to find the differences between the pre and post tests for each of the experimental and control research groups to judge the development of critical thinking through the data shown in Table (5)

Table (5) Test results t test for two correlated samples to find out the differences between the pre and post tests on the critical thinking test of the experimental and control group

| T-value and statistical significance | | | standard deviation | SMA | the test | the number | Groups |
|--------------------------------------|---------|------------|--------------------|---------|-------------|------------|--------------|
| indication | Tabular | Calculated | | | | | |
| Function | 04 . 2 | 81 . 3 | 13 . 7 | 67 . 43 | Tribal | 35 | Experimental |
| | | | 37 . 6 | 9 . 47 | Dimensional | | |
| Not a function | 04 . 2 | 93 . 1 | 58 . 7 | 56 . 42 | Tribal | 34 | Control |
| | | | 21 . 6 | 81 . 43 | Dimensional | | |

Table (5) shows the arithmetic mean of the pre and post tests for the critical thinking test of the experimental group, which is (43.67 and 47.9), respectively, with a standard deviation of (7.13 and 6.37), respectively, and the T-value of two correlated samples of (3.81) and comparing it with the value of Tabular T at the level of significance (0.05) and the degree of freedom (34) which is (2.04), we find that. The calculated T value is greater than the tabular value, and this indicates the high level of critical thinking among students of the experimental group and in favor of the post-test, i.e. the development of critical thinking among students of the experimental group. (5) The data also shows the arithmetic mean of the pre and post tests for the critical thinking test for the control group, which is (42.56 and 43.81), respectively, with a standard deviation of (7.58 and 6.21) respectively, and the mean T. The value of two correlated samples calculated (1.93) and comparing it to the tabular value of T at the level of significance (0.05) and the degree of freedom (33) from (2.04), we find that the calculated T value is smaller. From the tabular value, although the arithmetic mean of the post-test is greater than the

arithmetic mean of the pre-test, the difference value is not statistically significant, and this means that there is no development in critical thinking among students of the control group.

B- The use of the T-test for two independent samples for the rates of differences between the pre and post tests to test critical thinking for the experimental and control research groups, as shown in Table (6).

Table (6) Test results T test For two independent samples of mean differences between the pre and post tests to test critical thinking for the experimental and control research groups.

| T-value and statistical significance | | | Standard deviation of differences | Average differences | the number | Groups |
|--------------------------------------|---------|------------|-----------------------------------|---------------------|------------|--------------|
| indication | Tabular | Calculated | | | | |
| Function | 2 | 2.33 | 6.17 | 4.23 | 35 | Experimental |
| | | | 3.66 | 1.25 | 34 | Control |

A data table (6) shows the arithmetic mean of the differences in value between the scores before the post test and the experimental group thinking test (4.22), the standard deviation of the differences (6.17), and the mean value of the differences. Between the pre and post test scores of the critical thinking group and the control group and the adult (1.25) and the standard deviation of differences (3.66), and the value of T calculated (2.33), and when compared to the value of T, it was tabulated on the abstract level (0.05) and the degree of freedom (61).) And (2), and it turned out to be greater than the table, that is, there are statistically significant differences between the mean differences and approval from the mean of the differences in the experimental group, and this means rejecting the null hypothesis and accepting the alternative hypothesis that states that “there are differences of interest. Statistical significance at a level of significance (0.05) between the mean differences in the t-scores of Wo tests The pre and post test for students of the experimental group that was studied according to a strategy that applies the principles of differences in the scores of the pre and post tests for students of the control group that were studied by the usual evolutionary method of critical thinking.

Second: Interpretation of the results

The current semantic study indicates that there are statistically significant differences between the students' scores for the two groups of experimental and control students in the development of critical thinking in favor of the students of the experimental group that transformed the strategy of its applied principles. The results of the current study can be explained through the educational activities and situations as well as the training activities on the application of the principles strategy that was used with a group of students the experimental content and

knowledge of history science subject of ideas, concepts, problems and attitudes of new students unfamiliar before and which aroused the educational enthusiasm of the students and participate in the discussion process within Primary school, this encourages the development of special critical thinking and procedures for preparing and designing pedagogical and educational activities. The training situations adopted in the experimental group plans include simulation skills and overlap with critical thinking skills such as analysis, use of reasoning, evaluation, judgment, conclusion, and giving students the necessary time value. Reflection and critical reading, especially with regard to training that raises real-life attitudes and trends, and the effectiveness of using the strategic application of principles in reaching appropriate solutions and explanations, and encouraging him to develop critical thinking skills, so thinking and criticism was improved for students of the experimental group. They are statistically superior to students of the control group who had no such simulation.

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