

## **Impact of cognitive teaching strategy on divergent thinking among fifth grade literary students in history**

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### **Abstract:**

The current research aims to identify the impact of the cognitive teaching strategy on divergent thinking among fifth grade literary students in history, to achieve the aim of the research, the experiment was carried out on female students of the fifth literary grade in Al-Sajayya Preparatory School for Girls as a sample for the research, which was chosen randomly from among 7 preparatory and secondary schools affiliated to the Directorate of Education of Al-Qadisiyah. The research sample consisted of (62) female students, (31) female students in each of the two groups, both groups were rewarded, to verify the research hypothesis, the researchers prepared the divergent thinking test in history, where the test consisted of (12 paragraphs) essays, and their validity and reliability were verified and applied after the end of the experiment. The results showed that there were statistically significant differences between the mean scores of the divergent thinking test in history between the students of the experimental group and the students of the control group, in favor of the students of the experimental group. It was concluded from the research the effectiveness of the cognitive teaching strategy in divergent thinking among fifth grade literary students in the subject of history.

**Keywords:** Cognitive teaching strategy, divergent thinking.

### **First: The research problem:**

Teaching history faces a number of problems, including the prevailing trend in its teaching, which remained dependent on the use of traditional methods that emphasize theoretical aspects without students having an actual contribution to educational situations. Indoctrination on the part of the teacher and memorization and memorization on the part of the students were reflected in the poor academic achievement and retention of the study material for a large number of secondary school students, this was confirmed by the study of (Al-Sakry, 2022) and the study of (Al-Jizani, 2012), which attributed this to the fact that teaching the subject focuses on historical information without paying attention to the students' attitudes and skills. (Al-Zubaidi, 2014: 184).

Recently, some complaints about the prevailing education system and its programs have appeared in various parts of the Third World, especially in the Arab world and Iraq in particular, which has led to loud shouts and criticisms directed at educational institutions, accusing them of negligence and inaction in educating students. (Al-Karawi, 2011: 2).

Hence the focus of the Ministry of Education, which is responsible for the educational process and achieving its goals, on holding periodic conferences or various working papers, including the secondary education working paper No. Low

level of keenness and weak motivation to study and scientific excellence. (Ministry of Education: 1995: 10-12).

The two researchers, through their conducting a questionnaire related to the reason for the decline in divergent thinking of students for a sample of supervisors of the specialty and teachers and teachers of social subjects in the subject of history

The results of the questionnaire revealed the low level of divergent thinking. It turned out that this is due to the reliance in teaching on traditional methods, so it became necessary to use modern strategies, contribute to raising the scientific level of students and make them desire to learn, there has been a need for scientific studies concerned with providing appropriate and new strategies in learning to replace the old traditional methods used, which is now unable to meet the students' needs, tendencies, and attitudes, as it often depends on memorization and indoctrination, the study problem can be formulated with the following question: **((What is the effect of cognitive teaching strategy on divergent thinking among fifth grade literary students in history))**.

#### **The importance of the research:**

The importance of the research can be summarized in the following points:

1. The current research can be considered a scientific attempt aimed at studying an important and exciting topic that has not been previously addressed by researchers at the local level (as far as the researchers are aware) with the scarcity of research that dealt with the cognitive teaching strategy.

2. The current research allows to identify the aspects of strength and weakness in the content of history books for the secondary stage and work to increase their sobriety and raise the level of divergent thinking among female students.

3. The current research allows to identify the aspects of strength and weakness in the content of history books for the secondary stage and to work on increasing their sobriety.

#### **Research goal:**

The current research aims to identify the impact of the cognitive teaching strategy on divergent thinking among fifth grade literary students in history

#### **Research hypothesis:**

There were no statistically significant differences at the level (0.05) between the mean scores of the students of the experimental group who study according to the cognitive teaching strategy and the average of the students of the control group who study according to the usual method in the test of divergent thinking in history.

#### **Research limits:**

The limits of this research were limited to:

1. Human Boundaries: All female students in the fifth literary grade in government day schools affiliated to the Directorate of Education of Al-Qadisiyah for the academic year 2022-2023

2. Temporal limits: the second semester of the academic year 2022-2023

3. Objective boundaries: the last three chapters (fifth, sixth, seventh) of the book Modern and Contemporary History of America and Europe, 9th edition of 2019.

#### **Define terms**

### **First: The impact**

**1. (Ibrahim, 2009):** It is the ability of the factor under study to achieve a positive result, but if this result is absent and not achieved, then the factor may be one of the direct causes of negative repercussions (Ibrahim, 2009: 30)

**2. (Al-Hariri, 2011):** A set of procedures and means used by the teacher to enable learners to have planned educational experiences and achieve educational goals. It includes ideas and principles that deal with a field of human knowledge in a comprehensive and integrated manner to achieve specific goals (Al-Hariri, 2011, 291)

**The researchers know the effect procedurally:** It is that change that occurs in the cognitive, psychological or motor aspect intentionally, which occurs among the students of the experimental and control research groups (the experimental who study European history using the cognitive teaching strategy and compare it with the control group who study according to the usual method).

### **Second: Cognitive teaching strategy:**

**1. Atallah (1992):** It is that type of teaching that is based on confronting students with an event from the events of the world around them and showing a problem in it that cannot be fully explained by its scientific concepts. (Atallah, 1992: 14).

**2. Al-Sharqawi (1992):** It is the one that seeks to activate human cognitive processes such as attention, remembering and thinking (Al-Sharqawi 1992: 119).

### **Third: divergent thinking:**

**1. (Saada, 2003):** that it is: divergent thinking that requires the individual to present many different responses to one question or one problem. (Saada, 2003: 243).

**2. (Al-Atoum, 2007):** It is the thinking that results in the production of many different solutions or responses without restricting the individual's thinking to predetermined rules. (Al-Atoum, 2004: 200).

**The researchers define divergent thinking procedurally:** The ability of the students to respond correctly to the items included in the test that the researcher adopted specifically for this study, which consists of all kinds of fluency (verbal, intellectual, relational, and expressive) and flexibility of all kinds (automatic and adaptive), which is expressed in the grades obtained by the student in the divergent thinking test.

### **2. Theoretical framework and previous studies:**

#### **1. Theoretical framework:**

##### **First: the cognitive theory:**

Cognitive learning and teaching is a revolution in understanding cognitive processes, if cognitive theory changes the concepts, planning and design of the learning process and the different roles that led to the development of the learner's ideas, information and expectations after he was marginalized in the traditional methods of education. The emergence of cognitive theory began in the year (1967 AD) by the American scientist (Alirik Naiser), who was the first to write in his book (Cognitive Psychology) "This theory needs a teacher with educational skills and competencies in order to be able to apply the concepts of this theory and show

through its tools knowledge of the mind of the recipient And its keys to increase its role in bringing about what it wants in terms of concepts, information and skills, and changing what exists in reality. (Asfour, 1992: 78).

Qatami indicated that the theory relies on mental or mental schemas, which represent the way in which the learner looks at the world and the events that take place around him. Complete, strong and specific units in which the cognitive and skill performance units are interconnected so that these diagrams form an overall mental image of the state of knowledge existing in the learner in his educational developmental stages before education and after its applications and practices by the learners (Qatami 2005: 67).

### **Cognitive structure:**

Piaget assumes that the cognitive structure represents a set of crude schemes that are almost instinctive. Piaget) that these schemes are developed and direct experiences contribute to improving their comprehension and use, and the cognitive learner aims in the kinesthetic process to reach a state of cognitive balance that helps him represent what he sees of things, materials, and assets surrounding him.” (Qatami, 2013:139).

Likewise, Piaget assumes, "that the sensory image of the thing that exists in reality does not represent a mental structure in the learner's cognitive experiences, so that it becomes a mental structure when the learner interacts with this material sensory thing, and it may be a phase for him as a singular, a symbol, or an image in the form of a word, then without The coding process and the absence of the perceptible thing become non-existent in experiences. (Martin, 2000,: 23).

### **Cognitive processes:**

Cognitive processes “means the ability of the cognitive learner to operate his mind, as the learner can change the form of processes or organize them if these things are present in his environment or familiar to his experiences without being processed manually, i.e. in the absence of this manual processing, mental processing becomes a cognitive process and cognitive processes are defined It is an internal mental work of the individual and the thing that is not visible or tilted to the eye internally.” (Qatami, 2013: 142).

From Piaget's point of view, the concept of operations always aims to use the learner's apparent cognitive performance, as a guide to identify the cognitive structure that was named for the cognitive learners at a stage of the age development of the learner called sensory processes, as Piaget meant by the concept of the process similar to what he meant in the kinesthetic schemes, and it always includes action or performance in the world surrounding the cognitive learner in order to achieve understanding It is similar to the concept of the plan and not separate from it.” (Abdul Hamid, 1999: 35).

### **The cognitive theories on which cognitive teaching is based are:**

#### **1. Gestalt theory:**

One of its most prominent pioneers (Kahlrokovka) considers this theory that learning occurs through insight into the situation, and what this insight does in terms of realizing and organizing the existing relationships in the overall picture of the

subject and understanding it, and not the existing relationships between its parts separately because the overall form of the subject is greater than the sum of the parts and takes into account Learning through clairvoyance has many foundations, the most important of which are:

The previous experiences of the individual. How similar are they in the organization of the situation and the wrong attempts made by the individual to examine the assumptions he makes in order to understand the meaning.

- Repeating the successful clairvoyance method in solving similar and emerging problems.

(Al-Azghoul, 2003: 168-167) The theory also confirms that learning is not just a process of forming associations between stimuli and a response that strengthens or weakens depending on the reinforcement results or the principle of punishment, and these associations cannot be formed automatically based on the principle of trial and error, but rather based on Cognitive processes that involve realizing all the elements of the situation and the relationships between these elements, and it sees that the process of acquiring behavior takes place suddenly as it is discovered through the process of insight (Insight), through which the person reorganizes the sensory perceptions in the situation according A way that enables him to discover the full structure in it (Ashcraft, 1998: 253).

## **2. Field Theory - Curt Levine:**

(Lewin) believes that the learning of the individual takes place through the cognitive interaction between the mental and emotional forces and between the forces of the environment and what they represent in terms of experiences and stimuli surrounding people, and learning appears in the form of many behavioral manifestations in the personality of the learner and because of the interaction that occurs between the elements in the cognitive field, an imbalance occurs in this Relationships and their balance, and here comes the learning to reorganize and balance them again correctly, another organizing component necessary to determine the psychological orientation of the learner, and that spatial learning appears in different behavioral changes, which are:

Cognitive organization: It is the acquisition of new information and knowledge.

Value organization: It is the acquisition of group values and standards.

Motor organization: This organization is represented in acquiring performance skills.

(Levine) explains that there is a metaphysical world that falls outside the scope of sensory perception and another physical world that falls within the scope of sensory perception, and within this world there is a person surrounded by a psychological environment. (Hill, 1990:156).

### **Cognitive strategies:**

Weinstein & Mayer (1985, Weinstein & Mayer) mention that the main goal of cognitive learning and cognitive teaching is to help learners to process information in meaningful formats or frameworks so that they become independent learners through learning strategies. Learning strategies mean; Behaviors or responses, thinking

patterns, and intentional methods used by the learner during learning, which have an impact on the learner's tests, acquisition, organization, reception, processing, and processing of new information. (Abu Riash, 2007:32)

Flavell (1995) believes that education strategies are essential to bring about any progress or cognitive development, and their types are:

**1. Learning Elaboration strategy:** It means analyzing the information that is intended to be retained into the largest possible number of details that help to strengthen, stimulate and retain memory.

**2. Organization strategy:** This strategy is used to organize and increase the ability of meaningful materials to memorize, as it is used in the free retrieval of information (Flavell, 1995:182).

### **Cognitive teaching:**

It is teaching that seeks to improve the learner's mental cognitive skills so that the learner can live his life satisfactorily, and there are many of these different and multiple models of cognitive teaching, but a profession has been built to carry out cognitive teaching through the theory of successful intelligence, which is a theory that can be used in teaching not only on Narrow and thin scope but also in various areas of life to understand Cognitive Teaching which is an interesting learning theory that focuses on scientific thought, encourages the learner's cognition to reflect on their own thinking as a way to help them open up a particular concept or topic that they are struggling with, and Cognitive Teaching can help in enhancing the learner's participation And stimulating effective positive activity, and cognitive teaching a new way of looking at themselves and their minds, and perception is the key to unlocking influential knowledge and mental strength for learners and increasing their creative skills, this guide will delve into this theory and help teachers learn how to use it in their different classrooms (Nashwati, 1996:151).

Cognitive teaching is an active learning method, method, and strategy based on helping to learn how to maximize the cognitive potential of the mind. It facilitates the process of connecting new information with current ideas in new life situations, and thus deepening memory and the ability to retain memory (Qatami and Naifah, 1993: 16).

When it comes to cognitive teaching, everyone is different, which is why so many approaches and learning methods are needed to help different students reach their academic potential. (Al-Zayyat, 2009: 30).

The researchers see that cognitive teaching is one of the common teaching and learning strategies, which depends mainly on students' cognitive mental processes, through which knowledge is obtained, stored, or retrieved when needed to solve problems facing them. Cognitive teaching ensures learning a dynamic process where learners build their own knowledge, by interacting with the world around them and the life situations they face.

### **Stages of Cognitive Teaching:**

Educational literature in the field of knowledge unanimously agrees that cognitive teaching has three stages:

**The first stage:** The preparation stage for education, at this stage, students begin to think about the phenomena that will be explained in the lesson, discuss their explanations, and become aware of the limits of their simple explanations. Therefore, this type of activity allows the teacher to estimate the quality of the background that the students possess, and this type of assessment helps the teacher to determine the amount of support he requires in their learning of the new material.

**The second stage:** is to present the content to be learned (presentation). The activity that takes place during this stage is represented in many ways with a continuation of what it started in the preparation stage or attracting attention. At this stage, teachers explain basic scientific principles and theories, which include the objectives of the activity in this introduction stage to prove and refine predictions, and clarify the ideas that came with them and of course Make sense of the material just presented.

**The third stage:** The stage of expansion and application, at this stage, students apply scientific principles to new phenomena, as they integrate these theories and principles into their scientific and personal knowledge. At this stage, students are urged to identify the similarities and differences between the new knowledge they have acquired and the previous knowledge they possess and apply them to new life situations. (Anderson, 1989:92).

#### **The importance of cognitive teaching:**

Cognitive teaching is of great importance in the educational process, which can be summarized in Maya T: -

**1. Enhances learning:** A theory that promotes cognitive learning, that is, lifelong learning. Learning can build on previous ideas and apply them in modern terms to knowledge that already exists in our daily lives.

**2. Boosts confidence:** The learner becomes more confident in handling the tasks as they get a deeper and more accurate understanding of new topics and learn new skills.

**3. Enhances understanding:** Cognitive teaching improves and enhances learners' understanding and assimilation of scientific material in order to be able to develop and present knowledge and information in a new way, as it is easier for the learner to accept, receive and understand it.

**4. Improves problem-solving skill:** Cognitive teaching provides all parties to the educational process (the teacher, the student, the educational content) with a set of skills they need to learn efficiently, and thus they are able to develop problem-solving skills that they can apply in light of the difficult tasks assigned to them.

**5. Contributes to learning new things faster:** By the learning experience, the educational teacher will be able to recycle and use the same learning methods and methods that worked previously, and this helps them learn new things faster because they already know what is appropriate for them when it comes to obtaining new knowledge.

**6. Learn to form the concept and the abstract verb:** Cognitive teaching teaches all aspects of the educational process and the formation of a set of diverse concepts and facts such as easy perception of information and its interpretation and

directing in an orderly and sequential manner that can enhance creativity and lead to innovation in the workplace (Abu Al-Shawish, 1998: 29-19).

### **Principles of cognitive learning:**

**First:** Learning is an active, continuous, integrative, ordered, and purpose-oriented constructive process. This assumption contains a set of learning contents represented in:

1. Learning is a collaborative process.
2. Active client learning.
3. Learning is an objective-oriented process.

**Second:** The conditions are prepared when the learner faces a real problem, and whenever the problem is related to the life of the learner, this helps the success of the learning process and their confidence grows.

**Third:** The learning process includes rebuilding the learner's knowledge and experiences that he gained through a process of dialogue and group and social discussion with other individuals.

**Fourth:** The prior knowledge of the learner is a major condition for building meaningful learning (Al-Titi, 2004:55).

### **Second: Cognitive Teaching:**

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### **Advantages of cognitive teaching in educational teaching:**

**1. Enhance the skills of deep understanding of experiences and information:** It is done by obtaining new ideas and developing a deep understanding of educational materials in or outside the school, and it also works to improve how the learner follows faster and more accurately the new topic given to him, and helps learners to acquire new ideas faster because they know the techniques through the experience of the usual learning methods Which used to work with them in previous age stages. In this way, learners apply new concepts and link between what they know of information and what they should know at the present time.

**2. Enhancing the confidence of both the student and the teacher:** They tend to have an in-depth understanding of new topics, and learn new, higher-order and powerful thinking skills from it. They enable learners and teachers to think in an abstract way, which means that they can form a set of unique and distinctive concepts such as how the teacher conducts his discussion and talks about the class in a more Fun, and in this way the learner can instill a spirit of love and cooperation in learning, which helps them develop a lifelong love of learning. (Abu Allam, 2004: 245).

### **How learning takes place in cognitive teaching:**

**First:** Receiving information from the learner's environment through the five senses of the learner, sending it to the central nervous system in the brain, and storing it selectively.

**Second:** storing this recollected information in the active working memory, which has limited storage of information and keeps information for a short period of time and loses it, as this period does not exceed twenty seconds only, then this information is transferred to the third stage.

**Third:** Entering information into long-term memory with encoding, which is linking this information to something special that distinguishes it from other information, so that the learner can retrieve it by remembering this code of his own.

**Fourth:** Retrieving information and experiences previously stored in the long memory, passing through the short memory when a response or stimulus occurs that calls for its retrieval at an earlier time. Peterson, 1991: 175.

**Principles of cognitive learning:**

**First:** Learning is an active, continuous, integrative, ordered, and purpose-oriented constructive process. This assumption contains a set of learning contents represented in:

1. Learning is a collaborative process.
2. Active client learning.
3. Learning is an objective-oriented process.

**Second:** The conditions are prepared when the learner faces a real problem, and whenever the problem is related to the life of the learner, this helps the success of the learning process and their confidence grows.

**Third:** The learning process includes rebuilding the learner's knowledge and experiences that he gained through a process of dialogue and group and social discussion with other individuals.

**Fourth:** The prior knowledge of the learner is a major condition for building meaningful learning (Al-Titi, 2004:55).

**The role of the teacher in cognitive teaching:**

1. Helping students to understand the learning information and previous experiences that must be brought to progress in the new learning.
2. Taking into account the planning of the new lesson subject, which the learner has from previous mental knowledge structures.
3. Facilitating and organizing knowledge and experiences in a way that students can link knowledge and experiences to become meaningful to them (The Master, 1979:67).

**The role of the learner in cognitive teaching:**

1. He is able to modify his thoughts and behavior.
2. He uses his five senses in the learning process.
3. The learner is selective in seeing what he wants to see, and hearing what he wants to hear.
4. Its directions and values are determined to create new meanings and direct them in the right direction (Torrance, 1982: 24).

**Previous studies**

**First:** The studies that dealt with the strategy of cognitive teaching, summarized by the two researchers in the form of Table (1).

Re	Study	Purpo	Sa	Stud	Sta	Result
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searcher Name, year and country	Title	se of the study	mple size and type	y tools	tistical methods	s
Ata Allah (1992), Jordan	The impact of cognitive and metacognitive teaching strategy for basic stage students on their scientific thinking and their achievement of scientific concepts	Identifying the impact of the cognitive and metacognitive teaching method for basic stage students on their scientific thinking and their achievement of scientific concepts	70 male	1. Scientific thinking test 2. Achievement test for concepts	t-test for two independent samples	There is a statistically significant difference between the averages of the scientific thinking test and the achievement of concepts for the experimental and control groups, in favor of the experimental group.
Al-Arabi (2004), Jordan	The impact of the cognitive and meta-cognitive teaching strategy on the reading comprehension of higher basic stage students of scientific concepts	Identifying the effect of using the cognitive and metacognitive teaching strategy on the reading comprehension of tenth grade female students	72 female	Achievement test	t-test for two independent samples	There is a statistically significant difference between the experimental and control groups in reading comprehension, reasoning and evaluation, in favor of the experimental group.
Al-Rikabi, (2010) Iraq	The effectiveness of cognitive teaching in achieving and developing divergent thinking among fifth-grade female students in biology	Identifying the effectiveness of the cognitive teaching strategy on the achievement and divergent thinking of fifth grade female students in biology	66 female	achievement test and divergent thinking test	t-test for two independent samples	The performance of the students of the experimental group was superior to the students of the control group in both the achievement test and the divergent thinking test
Al-Hadidi, (2009), Iraq	The effect of using the cognitive teaching strategy on the acquisition of mathematical concepts by fifth-grade students and the	To identify the effect of using the cognitive teaching strategy on the acquisition of mathematical concepts by fifth grade students and	63 female	1. Concept acquisition test 2. Critical thinking test	t-test for two independent samples	The students of the experimental group outperformed the students of the control group

	development of critical thinking	the development of critical thinking				
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**Second:** Previous studies that dealt with divergent thinking, which included four previous studies, and Table No. (2) explains this

Table (2) Previous studies that dealt with divergent thinking.

Researcher Name, year and country	Study Title	Study Approach	Goal	Class	Sample sex and size	Specialty	Tools	Results
Ali (2006), Iraq	The effect of using the Thelin model (collective investigation) in the divergent thinking of the fifth grade literary students in the subject of history	Experimental	The study aimed to identify the effect of using the Thelin model (collective investigation) on the divergent thinking of the fifth grade literary students in the subject of history.	Fifth	1 female	History	Divergent thinking test	The results showed that there was a statistically significant difference at the level of significance (0.05) between the experimental and control groups in divergent thinking, and the difference was in favor of the experimental group.
Al-Jabbali (2013), Iraq	The impact of teaching using the (PLAN) strategy on divergent thinking among fifth grade literary students in European history	Experimental	The study aimed to identify the effect of teaching using the (PLAN) strategy on divergent thinking among fifth grade literary students in European history.	Fifth	4 male	History	Divergent thinking test	The results showed that there was a statistically significant difference at the level of significance (0.05) between the experimental and control groups in divergent thinking, and the difference was in favor of the experimental group.
Al-Aydi (2016),	The effect of the 5555	Experimental	The study aimed to identify	Fourth	4 female	Sociology	1. Achievement test	The results showed that

Iraq	strategy on the achievement and divergent thinking of fourth-grade female students in sociology		the impact of the 5555 strategy on the achievement and divergent thinking of fourth-grade female students in the subject of sociology.				2. Divergent thinking test	there was a statistically significant difference at the level of significance (0.05) between the experimental and control groups in divergent thinking, and the difference was in favor of the experimental group.
A l-Shanjar (2017) Iraq	The effect of mental training strategy on the collection of geography and the development of divergent thinking among fifth grade literary students	experimental	The aim was to identify the impact of the mental training strategy on the collection of geography and the development of divergent thinking among fifth grade literary students	fifth	0 male	Geography	An achievement test Divergent thinking test	The superiority of the experimental group that was taught using the mental training strategy over the control group that was taught according to the traditional method in the divergent thinking test

### 3. The method and procedures:

**First: The research methodology:** The current research seeks to identify the impact of the cognitive teaching strategy on divergent thinking among fifth grade literary students in history. The researchers followed the experimental approach to achieve the research objective. Because the experimental approach is one of the most important methods of accuracy and efficiency in testing the validity of hypotheses and framing the relationships between variables, so the features of the scientific method of thinking appear well. (Ibrahim, 2000: 137).

**Second: The experimental design:** It is known that it is an action plan for the method of applying the experiment, and by experience it means planning the conditions and factors surrounding the phenomenon that we are studying with a specific plan and then observing what is expected to happen (Abdul Rahman and Adnan, 2007, 487). Choosing the appropriate experimental design for the research is of great benefit by clarifying the relationship between the research questions and the

plan set by the researcher to collect data that enables her to test research hypotheses and answer his questions (Al-Qawasmeh et al., 2012: 126).

Table (3) Experimental design.

Groups	Equivalencies	Independent variable	Dependent variable	Tool
Experimental	1. Age in months	Cognitive teaching	Divergent thinking	Divergent thinking test
Control	2. intelligence 3. Collection for parents 4. Divergent thinking			

### Third: the research community and sample

**1. The research community:** it is known that it is the vocabulary of all the phenomena that the researcher studies, and the study community must be defined accurately and to know its elements, so the community can represent all the values and vocabulary that the variable can take and who wants to get conclusions about it (Al-Asadi and Sondos, 2015: 35)

**2. The research sample:** The method of selecting the sample for the researcher is one of the most important steps in the research stages, which reveals the extent of consistency and connection between the research problem, its objectives and tools (Mahmoud, 2006: 73), and since the study communities. Mostly they are of a large size, the researcher has to choose a sample in order to faithfully represent this community. (Melhem, 269: 2010), as the researchers chose Al-Sajaya Preparatory School for Girls randomly (by drawing lots) in order to represent the sample of the current research, and the researchers also randomly chose division (A) to represent the experimental group and Division (B) to represent the control group, and the researchers worked to exclude All students who failed because they may have a previous collection of scientific material, which may affect the results positively or negatively in the final results of the research, as the number of students who failed was (3) students, (2) students of them in Division (A) and (1) students in Division (b) Thus, the total number of female students subject to the experiment became (60) female students in the two groups, with (30) female students representing the experimental group and (30) female students representing the control group. Table (4) shows this.

Table (4) represents the size of the experimental and control sample.

Groups	Sample No.	Chosen sample No.	The number of female students who were statistically excluded
Experimental	34	31	3
Control	32	31	1
Total	66	62	4

**Fourth: The search tool:** The two researchers prepared the divergent thinking test in the subject of history, consisting of (12 paragraphs), in its final form, and it

was verified for its validity, stability, and application after the end of the experiment. The statistical software SPSS and Excel were used to calculate the t-test for two independent samples, as any square, discriminatory power.

**Fifth: Preparing daily teaching plans:** (24) teaching plans were prepared for each group (experimental and control) in light of the content of chapters (fifth, sixth, and seventh) of the history book to be taught to fifth grade literary students for the academic year (2022-2023) and behavioral purposes, as the experimental group plan included presenting the subject By using (cognitive teaching strategy), as for the teaching plans of the control group, which were taught according to the usual method, they contained the items of the daily teaching plan. Light their opinions to be finalized.

**Sixth: applying the experiment:** The students of the experimental group studied the chapters (fifth, sixth, and seventh) of the history book for the fifth literary grade for a period of eight weeks, at three sessions per week, using (cognitive teaching strategy), and the students of the control group studied the same subject with the same school, place, and time period, but in the usual way.

#### 4. Presentation and interpretation of research results

##### First: Verifying the null hypothesis, which states that:

There are no statistically significant differences at the level (0.05) between the mean scores of the students of the experimental group who studied according to the cognitive teaching strategy and the average of the students of the control group who studied according to the usual method in the test of divergent thinking in history.

In order to verify the validity of this hypothesis, the researchers calculated the arithmetic mean and standard deviation of the scores of the students of the two groups (experimental and control) in the divergent thinking test of history subject, as shown in the following table (5).

Table (5) represents the results of (t-test) to find out the significance of the difference between the mean scores of the experimental and control groups in the divergent thinking test for history subject.

Gro ups	Fe male students No.	an	Me	Sta ndard deviation	T- test value	T- test tab.	g. Si g nificant
Exp erimental	31	032	18.	3.1 14	7.4 03	2	
Con trol	31	935	11.	3.3 65			

The results showed that there were statistically significant differences between the mean scores of the divergent thinking test between the students of the experimental group and the students of the control group, in favor of the students of the experimental group, as the average score of the students of the experimental group was (18,032) degrees, with a standard deviation of (3,114), while the average score of the students of the control group was (3,114). (11,935) with a standard deviation of (8.135), and using (test-t) for two independent samples, it turned out that the difference between them is statistically significant at the level of significance

(0.05), as the calculated t-value was (7.403), which is greater than the tabular t-value (2) with a degree of freedom (60) and as a result Therefore, the first null hypothesis is rejected and the alternative is accepted. This means that the students of the experimental group who studied using the cognitive teaching strategy outperformed the students of the control group who studied in the usual way in the divergent thinking test of history.

The researchers calculated the effect size of the cognitive teaching strategy in divergent thinking, history subject, and its value was (0.439), and this value is considered average according to the interpretation of (Grissom, 2005), as in Table (6).

Independent variable	Dependent variable	Ita	Effect size	Effect amount
Cognitive teaching strategy	Test, divergent thinking	0.691	0.477	medium

(Al-Dardir, 2008; 79)

### **Interpretation of the results**

The results showed that there is a statistically significant difference in favor of the experimental group, and the researchers believe that this difference could be due to the use of the cognitive teaching strategy. The researchers explain that this superiority was due to several reasons, including:

1. The cognitive teaching strategy contributed to activating the students' self-learning. Each student invested her intellectual and scientific skills in searching for information, re-analyzing it, and researching within the presented text. This helps them to better comprehend what was read and deduce
2. The (cognitive teaching) strategy worked on organizing the students' thinking as it made them take rational and specific steps and stages to reach their goals accurately in understanding the subject.

### **Conclusions:**

Through the results of the current research, the researchers concluded the following.

1. The effectiveness of the cognitive teaching strategy in teaching history to fifth grade literary students to increase their divergent thinking from the method.
2. The use of cognitive teaching strategy in teaching is more effective than the traditional method to raise the level of divergent thinking in: (verbal fluency, expressive fluency, relational fluency, intellectual fluency, and automatic flexibility).

### **Recommendations**

Through the results reached, the researchers recommended the following

1. The use of the cognitive teaching strategy by male and female teachers in teaching history, after its effectiveness has been proven through the current research.
2. Working on setting up training courses for female teachers and male teachers that focus on the latest modern trends in teaching history, including the cognitive teaching strategy.

proposals

### **Complementing this research, the two researchers suggest:**

1. Working on, conducting studies that work on using the cognitive teaching strategy in teaching the remaining academic subjects.
2. The need to develop areas of divergent thinking among female students in history and for the remaining stages.

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