

**The effectiveness of divergent thinking strategies in
achievement and generative thinking skills in history among
fifth-grade literary students**

Prepared by



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Abstract

The current research aims to identify (the effectiveness of divergent thinking strategies in achievement and generative thinking skills in history among fifth-grade literary students)

The researcher chose Khalid bin Al-Walid High School in Salah al-Din Governorate / Tikrit District, in which there are three classes for the fifth literary class. The usual, the two groups of research have parity in some of the variables, including (chronological age in months, previous achievement in history, IQ score, parental educational level) And he used two tools for the research, the first of which was an objective achievement test of the multiple choice type (40) test items, while the other tool was to test generative thinking skills (30) test items, and by using the appropriate statistical means for the research, the results showed that there are statistically significant differences at the level (0.05) between the two groups in the mean scores of the achievement test and the average scores of the generative reasoning test in favor of the experimental group.

Keywords: divergent thinking strategies, achievement, generative thinking skills

1- Introduction

Classroom teaching is an important subject of education that needs continuous updating and development in order to keep pace with the advanced technological age that we are going through, As it became imperative for us to work to make it suitable by finding modern and advanced teaching methods to suit the learner we want, Hence, it has become necessary to invest in knowledge revolutions in order to accommodate the scientific developments that take place to accommodate educational institutions in this change (Al-Kubaisi, 2013: 10)

And there has become an urgent necessity to follow strategies and models of teaching methods that require students to participate in different methods of teaching effectively (Al-Tamimi, 2011: 34)

As a result of the changes, it became necessary for educational institutions specifically to put in place a mechanism to keep pace with this development and the transition from the fixed to the transformed, and because the changes covered all the different aspects of life called for a review when formulating the school curriculum because it is the basis on which the new learning theory is adopted (Al-Hashemi and Al-Dulaimi, 2008: 56)

The curriculum has a permanent and close relationship with the teaching methods, as it is the important method when translating the curriculum, and this is what the school

seeks to create the habits, attitudes and values of its students, Accordingly, the researcher believes that it is necessary to search for modern methods, methods and strategies that will develop students' thinking abilities and at the same time develop their thinking mentality of all kinds, Especially generative thinking to face the doubling of human knowledge and try to bridge the gap by focusing on activity for the learner. (Alawneh, 2002: 88)

The importance of history lies in being a primary means of self-knowledge and an important tool for revealing a nation's creative capabilities (Al-Kubaisi, 2014, 14).

The importance of awareness of history comes in the assumption that a nation that does not understand its history and is not aware of itself is impossible to know its path towards progress (Masrawy, 2007, p. 36).

Therefore, it has become imperative for teachers and students to focus on achievement and think about the unit of study because the pressure of information and facts is no longer the goal of learning, because such facts are quickly dispersed and forgotten, students forget separate facts quickly. (Saleh, 2012: 253)

Search problem:

Carrying out this study may contribute to improving students' abilities and enable them to increase their level of achievement and renew their ideas, arrange and organize them around the topic at hand. And the effect of this strategy on increasing the collection of historical concepts, and based on that the current research problem is determined by answering the following question:

What is the effectiveness of divergent thinking strategies in achievement and generative thinking skills in history for fifth-grade literary students?

Research importance:

We can summarize the importance of the study with the following:

1. Directing workers in the educational field to the importance of using modern thinking strategies in teaching history.
2. Divergent thinking strategies may make history teaching meaningful for both the student and the teacher.
3. Benefit specialists and those who process the development of the curricula in the preparatory stage in the development of new teaching methods, strategies and appropriate.
4. Divergent thinking strategies may provide a study model for history teachers on how to reformulate the scientific material taught to fifth-grade literary students, which leads to achieving the desired educational goals of learning and teaching history.

Research objectives

The present study aims to identify the effectiveness of divergent thinking strategies in

- 1- Fifth-grade literary achievement in history.
- 2- Generative thinking skills of fifth-grade literary students when studying history.

Research hypotheses

In order to achieve the goal of the research and answer the questions, the two null hypotheses were formulated:

-There is no statistically significant difference at the level (0.05) in the mean scores of the experimental group students who study history with divergent thinking strategies, and among the control group students who study history in the usual (traditional) way in the achievement test.

- There is no statistically significant difference at the level (0.05) in the mean scores of the experimental group students who study history with divergent thinking strategies, and among the control group students who study history in the usual (traditional) way in the generative thinking skills test.

Search limits

- 1- Fifth-grade literary students in secondary and middle schools for boys in Tikrit district in Salah al-Din Governorate, the first semester of the year 2019-2020.
- 2- History book for the fifth grade literary decided by the Ministry of Education and accredited for the academic year 2019-2020.

Define terms

Effectiveness: (Zaitoun, 2003) "as the ability to influence and achieve goals and achieve the desired results in the best possible way.

The researcher defines them procedurally as: The effect of the independent factor (divergent thinking strategies) on the dependent variables (generative thinking skills, achievement).

Divergent thinking strategies:

It is "a set of procedures and mental processes through which the student receives, assimilates, and organizes historical knowledge, integrates it into his knowledge structure, and connects it with his previous historical experiences and knowledge, and employs them with the aim of solving a new problem situation for him" (Abdel Fattah, 2016: 135).

Procedurally know

"A strategy based on the workings of the brain represented by successive and branching questions related to a specific historical topic that arouse the minds of fifth-grade literary students to new stimuli, Such as finding a solution to the existing problem, making a judgment, or predicting future events, which results in new and innovative solutions to achieve the goal, It consists of seven strategies, three of which were taken in this study, namely: hypothetical thinking strategy, reverse thinking strategy, analog strategy.

-Collectible

Known theoretically: The historical knowledge that the student acquires through a unit of study, measured by the degree obtained by the student through the test prepared for the purpose of achieving the goal.

Procedural definition of collection: It is the amount that fifth-grade literary students achieve after passing through educational experiences related to history topics measured by the degree they get in the final achievement test prepared by the researcher for this purpose.

Generative thinking: It is known as "the student's ability to generate a large number of ideas, information, or alternatives, or problems, or other knowledge, such as responses to certain stimuli while taking into account the ease and speed of generation." (zaiton, 2003)

Procedurally: A group of skills that help fifth-grade literary students generate ideas that enable them to reach solutions to problems through the topics of the first four semesters.

1- The theoretical framework

First: thinking

It is the process that the mind uses to make it more compatible with adaptation and coexistence, and from this point of view thinking derives its characteristic, as it is the mental activity that takes place in the brain after a sense of reality, which leads to the mental interaction between the capabilities of intelligence and the experiences of the thinking person, The third millennium saw a lot of difficulties, particularly with regard to the explosion of knowledge or information technology, As this led to many problems that required humans to find appropriate solutions to them through various

thinking and its different patterns And thinking patterns are the person's way of dealing with the information that revolves around him in order to achieve the desired goal (Al-Kubaisi, 2016: 244)

There are types of thinking patterns, including intuitive, logical, creative, convergent, critical, divergent, divergent, and the researcher decided to address the strategy of divergent thinking in this study as one of the types of thinking.

Divergent thinking

Drevdahl defines it as the ability of a person to create a new and necessary production, structure, or idea, a term characterized by modernity, As a result of the efforts of researchers and specialists in this regard that were conducted on the brain, And this is what the specialists in curricula and teaching methods called for, The idea of divergent thinking was developed by the psychologist Guilford, as it is thinking that includes the production of many solutions and various responses without restricting a person's thinking to predetermined rules.

Hypothetical Thinking

Thinking that aims to create new information.

Inverse thinking (inversion)

It is the exposure of the individual to events in reverse form from the end and ends at the beginning.

Applying symbolic systems:

It is the use of symbolic systems in a familiar form

- Representative metaphor

It is an attempt to find similarities and similarities according to a new vision between the elements to absorb information (Al-Hudaibi, 2012: 78).

Second: Strategies for divergent thinking

A healthy human brain is characterized by capabilities that help it creativity and diversity and in order for these capabilities to emerge, it is necessary to use teaching strategies that rely primarily on the brain and that work to raise the efficiency of the human brain and it goes beyond the perception stage to the training stage for the mind in speed to issue effective responses to the situation it deals with, Among those strategies that emphasize developing the activities of the mind for the student are the

divergent thinking strategies presented by (Thomas Cardelicho) and (Wendy Field) in the research published in 1997.

Divergent thinking strategies are among the strategies that are characterized by modernity as they work to achieve the requirements of quality education, By expanding the neural network of the brain and the resulting bifurcation of thinking for the student and opening new ways of thinking, which contributes to producing and generating new ideas and obtaining information and data that help him overcome the problems that the student faces during learning.

Due to the modernity and importance of diverging thinking strategies, they have gained the interest of educators and the literature of their uses in the study has diversified, and for this reason the definitions of these strategies varied according to the diversity of theories, and among these definitions is one (Zarnouki, 2015: 87)

He defined it as "a set of questions that are asked to students and require a multiple and varied response in different directions. It gives freedom of expression to the student so that his answer is more profound and broad."

As for Ibrahim, he defined it as: "A group of strategies that work individually or collectively by creating a rich educational classroom environment that stimulates and stimulates the interest of the student to think and helps him to use different ways of thinking" (Ibrahim, 2014: 227)

- 1- **Hypothetical Thinking Strategy:** It is a strategy based on the principle that the teacher directs many hypothetical questions to students, and the questions are sequentially, So that the questions motivate these students and encourage them to think about the causes and consequences that result from them. (Abu Zaid, 2014: 135)
- 2- **The reverse thinking strategy:** It is a strategy based on deepening students' vision of events and situations by directing to start from the end, Or looking at the situation in the opposite way, or a reversal of the existing position and a departure from the norm, and thus the vision is given that transfers the student from his acquired knowledge to thinking beyond knowledge. (Abdel-Azim, 2009: 234)

Based on that, the researcher believes that this type of thinking increases the student's ability to have a holistic view, and his awareness of the continuous relationships between events through a holistic view of the situation and its more depth, Where if something changes in the academic subject, such as a change in a different concept, the student understands this change that occurs in the entire educational situation according to these changes.

- 3- Different symbolic systems strategy: This strategy uses various symbolic systems in contradiction to educational situations, such as drafting a map that clarifies the relationship between situations and educational events.

The teacher's role in divergent thinking strategies: The teacher also has a role in avoiding the threat that occurs during learning by providing students with the opportunity to express their opinions and ideas completely freely, by creating a safe environment that contributes to the launch of creative ideas, and the establishment of social relationships that develop emotional aspects between students and their teachers on the one hand and on the other hand among students. And each other. (Solomon, 2016: 149).

Thus, the researcher sees the importance of the teacher having extensive knowledge of the tasks he performs and his role within this strategy, and he has the ability to conduct a meaningful dialogue and sound discussion so that the strategy achieves its desired goals.

The student's role in divergent thinking strategy

The student's role for this strategy can be summarized as follows:

- 1- The student's response to the questions that he discussed with the teacher to reach the results.
- 2- Preserving knowledge information through discussion and exchange of the ideas that have been reached and the possibility of their application in the renewed situations.
- 3- Enables the student to comprehend the similarities and differences between the elements of the academic subject.

Pros of divergent thinking strategies

- 1- Encouraging students to think outside the traditional and broad by creating a rich learning environment in the education process.
- 2- Increase the student's confidence in his mental abilities by developing his sense of responsibility for learning, as he personally achieves knowledge.
- 3- It helps the student to develop creativity in thinking to produce new ideas that help him adapt to the changes that occur around him. (El Hanan, 2013: 67)

It became clear to the researcher that divergent thinking strategies have the ability to create a new opportunity for students to express their ideas about the subject of study, to be an effective element in the learning environment.

Third: generative thinking: It is the set of mental abilities that enable students to generate answers when they are presented with a question they have never heard of

before or a problem that is not traditional is raised, especially when these problems or questions are not the same.

The researcher knows it: that the student performs a correlation process between the previous information he has and what he obtains from new information used to solve the problems he is exposed to in different situations.

Generative thinking skills: The skills that work to make the thinking process take place in an open format and the production in it is characterized by a specificity that is distinguished by it, which is the diversity of productive answers that are not stopped by the available information (Al-Titi, 2004, p.115)

The researcher chose two skills: fluency and flexibility, for their relevance to the research topic:

Skill fluency: It is the ability to produce a large number of solutions, products, or ideas with little time when responding to a specific stimulus. Fluency can be measured in many ways, including:

1. Word fluency: is the rapid thinking of giving consistent and specific words.
2. Collective fluency: is the ability to mention words associated with a single word.
3. Fluency of ideas: is to classify ideas according to needs.
4. Expression fluency: is the ability to organize words and put them into a large number of meaningful phrases and sentences.
5. Fluency of shapes: It is the ability to make some additions to certain shapes in order to create real drawings.

The skill of flexibility: it is the diversity of the student's ideas. The creative student shows flexibility using the new concepts that were developed by him.

There are three forms of flexibility:

1. Automatic flexibility: it means the student's ability to produce a large number of ideas related to a specific situation.
2. Adaptive flexibility: it means the student's ability to change his mental aspect of the situation and find an appropriate solution.

Previous studies

The first axis: Studies related to divergent thinking strategies

- 1- Study (Al-Badry, 2019)
- 2- Study (Ramadan, 2017)

The second axis: Studies dealing with generative thinking:

1. Study (Al-Juhani, 2107)
2. A study (Abu Sharekh, 2017)

Search procedures

First: the experimental design

The researcher chose the experimental design, which is called (the semi-hermetic experimental design).

Second: the study population.

The research community is represented by fifth-grade literary students in the Salah al-Din Governorate Center (Tikrit District) for the academic year (2019-2020) distributed to secondary and middle schools in the governorate.

Third: Selecting the study sample.

Khaled bin Al-Walid High School was chosen from among several high schools and middle schools in the district of Tikrit, the governorate center, The school includes (94) students in the fifth grade literary and distributed into three classes of numbers respectively (32, 33 and 32).

Research conclusions

1. The positive impact of using divergent thinking strategies in teaching to increase achievement compared to the usual method for literary fifth students.
2. The positive impact of using divergent thinking strategies on generative thinking on literary fifth grade students.
3. The use of divergent thinking strategies in teaching leads to quality in the interaction between teacher and student, and between students themselves.
4. Teaching procedures using divergent thinking strategies are consistent with what modern education focuses on by making the student the center of the educational process and adopting thinking and experience as an essential pillar of modern education.

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