

The effect of Esther - Strategy (Think - Retrieve – Link – Make a decision) on the lateral thinking skills of the fifth grade primary school students in science curriculum

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Abstract

The aim of this research is to know the effect of the strategy (think – retrieve – link – make the decision) on the lateral thinking skills of the fifth grade in science. The researcher adopted the experimental design with partial adjustment to the experimental and control groups, and the research community represented the fifth grade primary schoolgirls for the academic year (2021-2022). The sample was chosen intentionally, with (64) students for the experimental group and (32) students for the control group. The two research groups were rewarded with variables (chronological age in months, intelligence testing, previous information testing, and lateral thinking). After determining the scientific material, the behavioral objectives were formulated, and the other (261) were for the purpose of analyzing the test on Sunday and ended on Tuesday, 25/1, corresponding to (9/1) weeks. The test was used to treat the results.

- There is an effect of the strategy (think – retrieve – link – decide) in the skills of lateral thinking in the subject of science for fifth grade primary students and for the benefit of the experimental group, as the calculated T-value was (4,89) and the tabular value was (2).

Keywords: Strategy (Think – Retrieve – Link – Decide), lat Skills.

INTRODUCTION

First: the problem of research

In recent times, the world has witnessed tremendous development in various areas of life, including the field of education for the tremendous amount of scientific knowledge, and despite this development, the methods and methods used in teaching at the present time are still based on memorization and indoctrination, which led to low levels of education among students and poor thinking. Teaching methods in our schools need attention and actual application in the classroom.

The researcher has noticed, through her modest experience in the field of teaching science at the primary stage, the neglect of school

management and teachers of the subject for the practical side and laboratories and teaching it in a theoretical manner based on narrative and preservation as any other study material, despite the scientific ideas and concepts carried by this material and related to the student's environment. Preservation does not stimulate his thinking and prevents him from benefiting from his mental abilities and different intellectual skills, as he becomes the keeper of information without understanding it and quickly forgetting it.

Therefore, the researcher felt that there was a real problem that prompted her to search for modern methods and strategies that raise the level of thinking of students, and in order to overcome this problem, she tried to experiment

with a strategy (think – retrieve – link – make a decision) that she hopes will have an effect on increasing the thinking of female students in science .

Accordingly, the current research came to know the extent to which the strategy of (think – retrieve – link – make the decision) reflected in the skills of lateral thinking, and the problem of the current research was formulated:

-) What is the effect of the strategy of (think – retrieve - link - make the decision) on the lateral thinking skills of fifth grade primary students in science?)

Second: the importance of research

The world is in an accelerated development in quantity and quality in the fields of knowledge, forcing various individuals in all sectors and professions to keep pace with this development with great care and sensitivity. Individuals possess skills and knowledge depends on quickly adapting to everything that is new on the world stage in this era where it is characterized by tremendous scientific progress that is accelerating, leaving positive effects in achieving human well-being. In light of this scientific, technical and technological development, education has an important responsibility to keep pace with this development in various areas of life. Samarrai, 2013: 48)

Education faces a great challenge and the responsibility of preparing individuals capable of adapting and harmonizing and benefiting from the new developments of the age and keeping pace with what is new in the future (Al-Omrani, 2014: 64) It represents a basic pillar and an important factor in raising the level of the individual in his society, as it helps him to become familiar with knowledge, information and experiences, which reflects on the development and progress of society. Khazaala, 2012: 14)

And that education is the tool of education in achieving its objectives, adopting the means, methods and methods that work to provide students with knowledge and skills and develop their mental abilities, the subjects are a vessel for education and education that provides science and knowledge to the student and provides him with skills and helps him to develop his intellectual abilities (Halima, 2014: 330)

Educators recommended the need to guide the teaching of science in order to provide integrated experiences for students that are appropriate to their level and characteristics of their mental development and that are relevant to their needs and problems and develop thinking skills that enable them to create and innovate (Salama, 2002: 11)

(Lateral thinking) is one of the modern patterns of thinking and is related to the world (Edward de Bono), which sees a new trend in research and thinking about solving problems in non-traditional ways. It is the process of linking a familiar idea with another unfamiliar idea in order to generate a new understanding to reach new information. (Mahmoud, 2006: 198) defines it as a pattern of thinking that relies on the innovation of the largest number of solutions and alternatives and through which it looks on more than one side in the problem or situation, it is not ordinary thinking but complex.

(De Bono, 2010: 13) confirms that lateral thinking is closely related to creativity, but creative thinking is concerned with describing the result, while lateral thinking focuses on describing the process, it is linked to new ideas, and that creative thinking is part of lateral thinking, where the achievements of lateral thinking constitute original creations, and sometimes it is a new way to look at things without being fully creative, as creative thinking needs a talent to think, while lateral thinking is open to all those interested in new ideas, and has many benefits in expanding the area of imagination and thinking about many possibilities, it helps to develop intelligence significantly and solve problems facing the student. (Sweden, 2008: 337)

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

- 1- The absence of an Iraqi or Arabic study - as far as the researcher is aware – that dealt with the strategy of (think – retrieve – link – make a decision) that works to stimulate the students' thinking by linking their previous experiences with new experiences to reach an appropriate solution to the problem.
- 2- The importance of using problem-solving strategies in raising the level of awareness among students, by linking what you learn to the reality of their daily lives.

3- The importance of training students in thinking skills, including lateral thinking , in order to prepare a thinking, self-responsible and useful generation for himself and society.

Third: The goal of the research

The current research aims to identify:

The effect of the strategy (Think - Retrieve – Link – Make a decision) on the lateral thinking skills of the fifth grade primary school students in the subject of science.

To achieve the objective, the following null hypothesis was formulated:

There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group who study according to the strategy of (Think - Retrieve - Link – Make a decision) and the average scores of the control group who study according to the normal method in testing the skills of lateral thinking.

Fourth: The Limits of Research

Current research is limited to:

1- Female students of the fifth grade in primary schools affiliated with the General Directorate of Anbar Education/Amiriyah Al Samoud Department

2- Science book for the fifth grade of primary school, fourth edition of the year (2019).

3- First Semester of the Year (2021-2022)

4- Modules (Second and Third) of the Science Book for the fifth grade primary, including:

- Module Two (Human Body and Health)
- Module 3 (Material)

Fifth: Definition of terms

- Strategy (Think – Retrieve – Link – Make a decision) :

(Zayer et al.,2015) defined it as:" One of the strategies for solving problems based on confronting the problem with scientific and practical thinking at the same time, as the student faces the problem, so ideas are generated as an initial attempt to solve them , and then the process of retrieving information and previous

experiences and trying to link them to reach a solution and after finding the logical relationship comes the decision to provide a solution that is acceptable to uncles " (Zayer et al.,2015: 241)

The researcher defines it procedurally as: A series of steps that the researcher applies to the students of the experimental group for the fifth grade in science by identifying their previous knowledge structure and trying to link it to new information to reach a decision for the most appropriate solution to the problem at hand

- Lateral Thinking

(Muhammad:2016)defined it as: A pattern of thinking that is resorted to by those who can break the constraints of vertical thinking and can see more angles to the problem that enable them to produce more ideas to solve it , and this method remains rational for its owner and irrational for others with vertical thinking. (Mohammed,2016: 529)

Procedurally, the researcher defines it as: The sum of behaviors that enable the student to deal with life and work situations in an unconventional manner.

Chapter Two

Strategy (Think - Retrieve – Link – Decide):

It is one of the strategies for solving problems that are based on confronting the problem with scientific and practical thinking at the same time, as the student faces the problem and has ideas as an initial attempt to solve them, and then the process of retrieving information and previous experiences and trying to link them to reach the solution and after finding the logical relationship comes the decision to provide the generalizable solution. (Zayer et al.,2015: 241)

The importance of this strategy is highlighted in the fact that it works to stimulate students' thinking by exposing them to a problem that requires a solution, based on the previous information in the formation of new information and integrating it into the student's cognitive structure to reach temporary solutions to the problem and then choose the best solutions and generalize it. It makes them discover the information themselves by developing their ability to think. (Ahmed, 2010: 81)

Steps:

First: Think: This step begins when the teacher asks the students questions after what has been explained to the lesson, as it gives them time to think about the question asked and each of them is asked to think calmly and then record the answers in the specific paper. This step takes a few minutes, as each of them asks his idea inside the group and then agree on one answer, as giving them an opportunity to think helps them to form multiple answers, express their ideas and give them an atmosphere of familiarity and comfort and gain him the skills of teamwork inside and outside the classroom and reduce the level of fear and embarrassment.

(Abdulhadi, 2003: 97) defines thinking as a holistic process through which the inputs that come from the environment are processed through the five senses, and (Zaytoun,2006: 3) defines it as a mental activity that occurs in the brain, which is intangible and invisible and is inferred from the student's apparent behavior, such as speech, movement, emotions, and signals .

Second: Recover

This step begins after the students think about the questions asked by the teacher, which is a process for students to retrieve information from the memory they have acquired from the experiences and skills they have been exposed to in advance, and that these steps enable them to provide the best results in order to retrieve information from memory and use it in understanding and absorbing the subsequent material because the review makes the information in a situation and state that is easy to recall when needed and put it in short-term memory, and that the processes through which the stock is retrieved go through regular, consecutive and successive stages, which is the stage of researching, experience, collecting, arranging and organizing information, and the stage of measuring and evaluating any knowledge of its effectiveness and strength in processing new situations and its suitability and providing the services for which it was stored.

Third: Tie

This step contributes to making the student able to understand the events and phenomena that are taking place around him, and thus be able to adapt to all the difficult circumstances and problems that can be faced. When new information enters the student's mind linked to

the previous information, it stores it in the cognitive structure, which means that the new information is of the same quality as the existing information or similar to it, as each of us has some kind of mental structure for educational experiences, and when a new experience passes, it helps him to enter new information for the previous structure so that it becomes an integral part of it, and whenever the entry of new information continues, it continues to be linked to the previous information of the student, and then changes and interactions occur, and thus learning takes place

IV. The decision was taken

The decision-making process comes after a series of steps that must be followed after collecting information. The student may start with possible solutions and his task will be to reach the best of these solutions to achieve his goal. It helps him to think deeply and benefit from his previous experiences to summon and benefit from them before making new decisions. It is a process through which an evidence-based decision can be reached.

(Mustafa, 2005: 219) indicates that the decision-making process is "a serious attempt to reach positive results on a certain situation or issue, or is an attempt to reach a solution to the problem, and the decision-maker can choose the most appropriate solution to this problem where he has correct information and data related to the problem."

Lateral Thinking

The Italian thinker (Edward Dibono) is the first to invent the term (lateral thinking), which is a new vision of creativity without restriction in the presentation of ideas, and an integrated creative style that helps the student to devise new ways of thinking, which is reflected in the way of performing daily tasks, where it will be characterized by speed, accuracy and high quality. (De Bono, 2006: 17)

It is a mental trend that includes the desire to try to look at things in several ways. It has been called (De Bono) by lateral thinking to distinguish it from vertical thinking based on logic or what a person is used to. He looks at the problem from different angles and tends to be surrounded by different points of view, i.e. it starts away from what is familiar in thinking, so

it is a creative method of solving problems. Saeed, 2008: 198)

Lateral thinking opens new horizons and ways to see things. It moves in multiple directions, works flexibly, tries to reach logical solutions to the problem without restricting walking within specific paths or steps. It seeks to change concepts instead of trying hard and wrong ones. It seeks many methods, suggestions and opinions before making a decision, and uses dialogue, imagination, feeling, re-description and thinking in multiple angles.

He defined it (Arafa, 2006: 188) as " a pattern of thinking that seeks to devise as many solutions and alternatives as possible, through which more than one view of the problem can be considered. When using this type of thinking, the student puts before him many views, all of which are correct, so he does cognitive thinking and works to discover things completely

(Qatami and Naifa, 2001: 445) defines it as "an advanced mental process, in which the student deals with situations in an unfamiliar way, and then the task of training him in creativity is a civilized task that enables them to adapt to contemporary values in a successful manner"

Importance of lateral reasoning: (Debono, 2005) identified the importance of lateral reasoning as follows : -

- 1- Its importance is gradually increasing until it occupies its main place in the future .
- 2- It is a pattern of creative thinking that can be learned and rehearsed .
- 3- His methods have proven that he can be learned. When we need to learn a new idea, it is possible to use organized methods to produce new ideas.
- 4- Lateral thinking works to build the student's personality. It is a cognitive process governed by the information available to the student in the way he is accustomed to and learned by the practice and experience he has acquired, and in this way it affects in one way or another his performance or actions, and affects the construction of his integrated personality.
- 5- The student's practice of lateral thinking skills makes him think outside the limits of traditional thinking, as he generates an idea through other ideas, and develops new ideas, to

face problems with ideas that enable him to obtain immediate results. De Bono, 2005 : 411)

Lateral thinking skills: (Debono) identified lateral thinking skills with five skills:

- 1- The skill of generating new perceptions: It is the understanding or cognitive awareness, where the student becomes aware of things by thinking about them and (DeBono) confirms that thinking and perception is one thing, its purpose may be to achieve understanding, decision-making, problem solving or doing something. (Abu Jada and Mohammed, 2007: 468)
- 2- The skill of generating new concepts: DeBono sees that concepts are general ways or methods of doing things, and are used all the time in dealing with situations, and there are three types of them: purposeful or goal-oriented concepts related to what the student is trying to achieve, and automatic concepts that describe the amount of effect that is inferred from a work, and concepts of value that represent how the work gains its value. Noval, 2009: 56)
- 3- The skill of generating new ideas: (DeBono) indicates that the idea is a mental image conceived by the mind, and must be specific and put into practice, to generate new ideas, and warns against rapid rejection of them, that is, the idea that does not correspond to these restrictions tends to reject, but it requires thinking in a way that indicates optimism to obtain new creative ideas. Al-Kubaisi, 2013: 131)
- 4- The skill of generating new alternatives: (DeBono) showed that lateral thinking is concerned with generating other methods to reorganize the available information and find new solutions instead of walking in a straight line, which leads to the development of a single pattern, as the search for alternative methods is normal, but research through lateral thinking goes beyond natural research, as research through lateral generation allows the generation of many alternatives according to the ability of students, and alternatives are not necessarily subject to logic. Dibono, 2005: 181)
- 5- The skill of generating new creations: (DeBono) confirms that creativity is the creation of something new instead of the analysis of an old event, and the generation of familiar ones is often fast, while the production of original

creations occurs slowly, and the student is not required to have a high level of intelligence. (Al-Kubaisi, 2013: 132)

Literature Review

First: Studies dealing with a strategy (think – survey – link – make a decision)

Name of researcher, year and place of study	The Aim of the Research:	Sample	RESEARCH TOOLS	Statistical means	The most important results of the BHS
Al-Yazidi, Hadil and Hab Razzaq (2019) University of Babylon/ Faculty of Basic Education	Knowledge of the effect of the blended education strategy on the biological achievement of fifth graders and their lateral thinking skills in chemistry	(69) female students with (35) female students and (34) female students for the control group	Lateral reasoning test	T-test (T-test)	There is a statistically significant difference between the two research groups and in favor of the experimental group in the achievement test and lateral thinking.

Second: Studies dealing with lateral thinking

After research and investigation, the researcher did not find previous studies identical to the current study. Therefore, this study is the first study in Iraq that dealt with the strategy of (Think – Retrieve – Link Decision-making). As for the dependent variable, there is no study in Iraq that applied lateral thinking skills to the primary stage, so it is the first study in Iraq that applied this variable to the primary stage.

Chapter Three

Research procedures

First: Experimental design: The researcher adopted the experimental design with partial adjustment for the two post-test research groups to test the skills of lateral thinking, as this design includes two equal groups in a number of variables, the first group studied as the experimental group according to the strategy (think – retrieve – link – make a decision) and the second group studied according to the usual method.

Second: Determination of the research community: The research community represents the fifth grade primary school students in the daytime primary schools for girls in Anbar Governorate/Amiriyah Fallujah City for the academic year (2021/2022).

Third: The equivalence of the two research groups: In order for the research to be honest, in which the difference between the two research groups is attributed to the independent variable and not to any other extraneous factor or variable, the researcher conducted an equivalence between the experimental and control groups in the following variables (intelligence, lateral thinking skills, chronological age in months, previous information), and after calculating the arithmetic means and standard deviations of these variables for each of the two research groups and then applying the test that is independent samples, the results are included in the table below

Variable	group	Number	arithmetic mean	standard deviation	T value	
					tabular	Calculated
IQ	Experimental group	32	17:09	6:41	2	96

	Control group	32	15:46	7,04		
Lateral thinking skills	Experimental group	32	11:28	4-55	2	0,20
	Control group	32	11:06	4,05		
Prior information	Experimental group	32	7,96	2,95	2	08
	Control group	32	8,03	2,94		
Chronological age	Experimental group	32	129,21	7:52.	2	97
	Control group	32	127,28	8 (32)		

It is clear from the table that the calculated T-values for the four variables were less than the tabular T-value (2) at a significance level (0,05) and a degree of freedom (62), and this indicates the equivalence of the two research groups in each of the equivalence variables.

Fourth: Research Requirements:

- Determination of the scientific material: The scientific material covered by the research that will be taught to the students of the experimental and control research groups has been determined from the textbook of science for the fifth grade of primary education, which includes four chapters on the subject of science (circulation and respiration, digestive and urinary systems, material, compounds and mixtures)

- Formulation of Behavioral Objectives: phrases that formulate a clear behavioral formulation to express the desired and expected change in the learner's behavior that can be observed and measured during and after the learning process (Kavah,2003: 126)

Therefore, the researcher formulated (261) behavioral goals based on the general goals and topics that will be studied during the experiment, and the goals were formulated according to the classification of Bloom)) in the cognitive field,

and since the study sample are the fifth grade primary school students, the behavioral goals include four levels (remembering , comprehension ,application , analysis), and it was presented in its initial form to a group of arbitrators and specialists in the field of education and methods of teaching science , to indicate their views on the accuracy of formulating behavioral goals , and it obtained an agreement rate of (90%) or more of the opinions of the arbitrators, and some goals were slightly modified according to the level to which each behavioral goal belongs, and the behavioral goals were settled in their final form on (261) behavioral goals .

- Preparations of the study plan: The researcher prepared a number of teaching plans for the students of the experimental and control research groups in light of the content of the science book to be taught to the fifth grade primary students for the academic year (2021-2022) and the behavioral goals derived from it, as (23) plans were prepared for the experimental group according to the strategy (think – retrieve – link – decide) and(23) plan for the control group according to the usual method , and presented two examples of these plans to a group of arbitrators and specialists in the field of methods of teaching science, measurement, evaluation and psychology to benefit from their

opinions and observations in order to improve the formulation of the plans and make them fairly sound, and in light of what the arbitrators expressed, some modifications were made to both plans to prove their final form .

Fifth: Determining the research tool: The researcher adopted one tool to measure the variable of the students of the two research groups, as she prepared a test for lateral thinking skills , and some of the extraction of the psychometric properties of the test was applied to both experimental and control groups, and the procedures of this tool are as follows:

Lateral thinking skills test:

The researcher relied on DeBono's theory and its theoretical premises in describing lateral thinking as skills that develop in the individual and specified to five skills which are (the skill of generating new perceptions, the skill of generating new concepts, the skill of generating new ideas, the skill of generating new alternatives, the skill of generating new innovations)

The researcher prepared a test for lateral thinking skills consisting of (25)by (5) paragraphs for each of the lateral thinking skills

- Test validity: To verify the validity of the test, a group of arbitrators and specialists in the field of measurement, evaluation, educational and psychological sciences, and methods of teaching science, were presented to express their views on the validity of the test items. Most of the test items received more than (85%) agreement, and the researcher made amendments to some paragraphs based on the instructions of the arbitrators, thus achieving the apparent validity of this test

The exploratory application of the lateral thinking skills test: To ensure the clarity and accuracy of the test items, and the clarity of its instructions, and to determine the time it takes the students to answer the test, the researcher applied the lateral thinking skills test on Tuesday corresponding to (18/1) on an initial survey sample without the research sample consisting of (30) students from the Qabas School for Girls, affiliated with the Directorate of Anbar Education/General Department of Resilience. The time taken to answer was calculated after the application of the test through the fastest rate of three students who

completed the answer after the passage of (30) minutes, and the rate of the last three students who completed the answer after the passage of (40) minutes of the lesson time, and then the average time taken to answer the test paragraphs, which reached (35) minutes, as the researcher did not face any inquiry from the students of the initial survey sample, which indicates the clarity of the paragraphs of the lateral thinking skills test.

- Test stability: After applying the test and correcting its paragraphs by giving two grades for the correct answer and a score of (0) for the wrong or abandoned answer, the researcher extracted the stability coefficient through the method of halving using the Pearson correlation coefficient, as this coefficient reached (76%). The correlation coefficient was corrected using the Spearman-Brown equation, so the coefficient of stability after the correction was (0,76). This means that the test is characterized by a high degree of stability, which is an acceptable coefficient of stability, indicating (1976, (Gronlund) the value of the non-regulated test stability coefficient is acceptable if its value ranges between (0,65-0,85).125, 1976,(Gronlund

- Testing the skills of lateral thinking in its final form: After the completion of the statistical procedures related to the validity of the test paragraphs of the validity, stability and coefficient of discrimination and the strength of the correlation of the paragraphs, the test of the skills of lateral thinking consisting of (25) paragraphs is ready for application.

Sixth: Correction of the research tool

The researcher specified (two degrees) for the correct answer and (zero) for the wrong or abandoned answer, thus the total score of the test ranged from (zero minimum to 50 maximum) .

Seventh: Procedures for the safety of the experimental design

To ensure the external safety of the experimental design, the researcher tried to avoid the effect of some extraneous variables that could affect the experiment and its results, so she managed to control and control it.

Eighth: The application of the experiment: After the sample was chosen, the study plans were prepared, the lateral thinking skills were tested,

and the schedule of classes was organized on the two research groups. The experiment began on Sunday, 21/11, as follows:

- 1- The actual teaching of the two research groups began on Sunday, 21/11, and ended on 25/1, Tuesday.
- 2- Both groups studied the first semester of the academic year 2021/2022.
- 3- The researcher was keen to provide educational aids to the students of the two research groups in terms of the similarity of blackboards and the use of colored pencils and stereoscopic models as well as the topics to be taught.
- 4- The side reasoning skills test was applied on Tuesday for 23/1 after the students were told well in advance of the test.

Ninth: Statistical means: The researcher used the Statistical Portfolio for Social Sciences (SPSS)

RESULT INTERPRETATION

In order to verify the validity of the zero hypothesis, which states that "there is no statistically significant difference at the level of significance (0,05) between the average scores of the experimental group's students who are

studying according to the strategy of (think – retrieve – link – decide) and the average scores of the control group who are studying according to the normal method in lateral thinking skills".

In order to test the validity of this zero hypothesis, the researcher refuted the scores of the experimental and control groups, where the law of the T-test was applied to two independent samples, and it was found that the arithmetic mean of the scores of the experimental group was (18,31) and a standard deviation of (6,70), while the arithmetic mean of the scores of the students of the control group was (10,93) and a standard deviation of (5,25). The calculated T-value was (4,89) at the level of significance (0,05) and a degree of freedom(62), which is greater than the tabular value equal to (2), which indicates the superiority of the students of the experimental group who studied the science subject according to the strategy (think – retrieve – link – take the decision) on the students of the control group who studied the science subject according to the usual method in the achievement test, thus rejecting the zero hypothesis, and accepting the alternative hypothesis

Arithmetic mean, standard deviation, and T-value (calculated and tabular) of the scores of the two research groups (experimental and control) in the lateral thinking skills test

group	Sample individuals:	Mean arithmetic	standard deviation	T value		Statistical significance at the level of (0,05)
				tabular	Calculated	
Experimental group	32	(18:31).	6/70	2	4,89	Function
Control group	32	10,93	5 - 25			

The researcher instructs the reasons for the experimental group's superiority over the officer, which may be attributed to:

- 1- The first step of the strategy is a thought step, which used the students to practice thinking and use interactive mental activities to answer the questions asked, and all this leads to improved lateral thinking among the students,

which emphasizes the understanding expressed by De Bono in awareness

- 2- The division of female students into cooperative groups of varying levels led to the exchange of views between female students and the benefit of low-thinking female students from their well-thought colleagues, which strengthened their thinking, especially lateral thinking.

3- The use of activities, teaching aids and modern techniques in the presentation of the content of science has increased the students' acceptance of the material and their impulse to it, which has led to an increase in their thinking.

4- Thinking, retrieving information and linking new information to the previous experiences of female students while providing activities led to the provision of a developmental environment for creativity, which is an important part of lateral thinking skills.

5- The use of the strategy of (think – retrieve – link – make a decision) has increased the ability of students to present their ideas creatively and enjoy a great imagination

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