

The Effectiveness Of Divergent Thinking Strategies In Developing Deep Understanding Skills When Teaching Second Intermediate Class Students The Social Studies

Prof. Saadah Hamdi Suwaidan

College of Education for Human Sciences / Anbar University, saada@uoanbar.edu.qi

Prof. Dr. Najdat Abdul Rau'f Abdul Radeh

College of Education Ibn Rushd / University of Baghdad, najdat.a@ircoedu.uobaghdad.edu.qi

Abstract

The principal aim of the research is to identify the effectiveness of divergent thinking strategies in developing deep understanding skills among second intermediate class students. The sample of the research was (64) students, who were divided into two groups equally between experimental and control, where the parity was conducted in the variables (age counted by months, general average, previous knowledge, degree of intelligence). (150) behavioral objectives were formulated and the six levels of Bloom's classification were approved. 16 plans were prepared for each of the two groups. An achievement test was prepared with (40) test items of a multiple choice type. The tools were presented to a group of arbitrators and experts. Their approval and the results showed that there are statistically significant differences at the level of (0.05) between the mean scores of the test of deep understanding of the experimental group and the control group and the favor of the experimental group.

Keywords

divergent thinking strategies - deep understanding skills - social subject - second intermediate class students.

Article Received: 18 October 2020, Revised: 3 November 2020, Accepted: 24 December 2020

Research problem:

Along with the new change in the social curriculum for the second intermediate class, the usual or traditional method may not suit for it, and it has become inconsistent with the new scientific and knowledge developments. The subjects of social studies were presented in a manner that stimulates thinking and deep understanding among the students, and this is supported by many teachers of the second average for the subject of social studies gathered in a training course prepared by the training department in the Anbar Education Directorate, where the researcher was a lecturer in and they were about 20 teachers.

They agreed that the new curriculum needs modern strategies in teaching. When meeting some female students of the second intermediate class during field visits in application and observation lessons (for female students / teachers) in the geography department, they emphasized that the new curriculum (social

studies) and some of its activities requiring unanswerable questions, and we sometimes need to use the Google to find some answers. This is what assured that the new curriculum calls for deep thinking and understanding of the material, developing a deep understanding, which is a mixture of types of thinking at the top of the goals of teaching social subjects in various educational stages in general education to suit it with the nature of the material based on analysis and deep understanding of phenomena and linking them with environment.

Therefore, there should be new teaching strategies that help in developing thought, and producing new ideas that lead to deep understanding where they seek to activate the students' role. These strategies should urge them to think of all kinds in order to reach different answers by provoking them with questions giving them opportunities to express opinions in an atmosphere of freedom, working on extending

ideas without stopping such as strategies of divergent thinking. Interest in divergent thinking strategies has increased as a natural result of studies and research conducted on the human mind, as revealed about new horizons of teaching, working to free the minds of students, while training them on the speed of effective and appropriate responses to the nature of situations different (Muhammad, 2018: p.126). Therefore, the current research attempts to answer the following main question of the research problem: What is the effectiveness of divergent thinking strategies in developing deep understanding skills when teaching second-class intermediate students the subject of social studies?

Importance of research:

The importance of the research is summarized as follows:

1. This research is in response to global and local trends calling for the need to pay attention to teaching methods and strategies based on constructivism theory as one of the important and necessary outputs that must be taken care of during the learning process.
2. The research will apply modern teaching strategies concerned with the student and developing his/her understanding that can be applied and generalized in other academic stages.
3. The research can be considered within the limits of the researchers' knowledge among the first studies that dealt with divergent thinking strategies in developing deep understanding skills in the subject of sociology, due to the scarcity of studies and research in this field. So, this highlights the importance of this research and the need to benefit from its results in promoting the teaching of male and female social workers and transferring experience to their students.
4. The research may address a problem that most teachers of social studies face, which is the knowledge of the potential and impact of different methods of presenting knowledge where the student can acquire and apply it in other situations.

5. This research may direct the teachers' attention in general, and teachers of social studies in particular, to the need to diversify teaching strategies and pay attention to teaching students how to understand.

6. The results of the research may lead to presenting a method of teaching for male and female teachers in our schools, which raises the efficiency of the educational process in general, and improves students' attainment of knowledge of the social subject matter.

Research objective

The aim of the research is to identify the effectiveness of divergent thinking strategies in developing deep understanding skills when teaching second grade intermediate students to the subject of social studies.

Research hypothesis

To achieve the goal of the research, the following two hypotheses were developed:

- 1- There is no statistically significant difference at the level of (0.05) between the average scores of the deep understanding skills test among students of the experimental group who are studying with divergent thinking strategies and the average achievement of the control group students who are taught in the usual way.
- 2- There is no statistically significant difference at the level of (0.05) between the average scores of the test for deep comprehension skills, pre and post, among the experimental group students who are studying divergent thinking strategies.

Research limits

This research is limited to intermediate second-class students in Anbar Governorate (Ramadi) in government-run middle and high day school of the General Directorate of Education in Anbar and the subjects of the book of social studies to be taught to them the first semester of the academic year (2019 - 2020).

Defining terminology

First: effectiveness: It was defined as the amount of change desired in the experimental study that the independent variables cause in the dependent variables on which the design of the experimental research is based (Khammas, 2018: p. 336).

Procedural definition: It is the volume of change in achievement for second-class students' achievement in the subject of social studies in the second intermediate class. After teaching in the method of divergent thinking strategies during the period of application of the experiment, which is measured statistically by the impact factor (its square ²), between the mean scores of control and experimental groups applying acquisition equation.

Second: Cooperative learning strategies help students generate new ideas, which help them to be creative and increase intelligence average. (Roger & Paul, 2012: p. 310).

Procedural definition: Teaching strategies which are based on brain-based learning and depend on a series of successive and branching questions related to the rules of social studies that stimulate thinking to answer questions in a non-standard way. It depends on five strategies (hypothetical thinking, inverse thinking, symbolic systems, symmetry, and viewpoint analysis).

Third: Development: it is a process of creating growth, progress and positive change or adding new components. The purpose of development is to raise the level and quality, and it includes an aspect of change and quality and creating conditions for the continuation of this change (Gret, 2011: p. 19). Procedural definition: the positive change and increase in the deep comprehension test between the pre and post application of the second class students, during teaching geography measured by statistical means.

Fourth: Deep understanding skills: Critical examination of new ideas, facts and their placing in the existing knowledge structure and making multiple interconnections between these ideas and assessing conclusions from the information presented in the training curriculum (Fletcher, & et al, 2019: p.183).

Procedural definition: The set of mental processes employed by second-class students to understand the content of the social subject based on skills (interpretation, intellectual fluency, prediction, and decision-making) and is measured by the degree obtained by the student on the prepared scale. Interpretation skill: it includes translating and clarifying information, explaining the reasons and logical relationships, imputing judgments and inferring evidence from the Qur'an or Sunnah. Intellectual fluency skill: it includes generating ideas, arranging events, producing one meaning for a group of ideas and reformulating an idea in multiple ways.

The skill of forecasting. It includes setting expectations, analyzing data and suggesting solutions to problems

Decision-making skill: it includes diagnosis, developing alternatives for a decision, evaluating decision results and implementing the decision.

Fifth: the subject of social studies, which is known as acquiring thinking skills and helping them to employ the knowledge they have learned and the skills they have acquired in new life situations benefitting their community. Procedural definition: a sociology curriculum for intermediate second-class students that contains geographical and historical knowledge about the Arab world with the aim of acquiring civic values, skills and trends that aim to inculcate notions of good citizenship by organizing the content of social writers in the form of an integrated and interconnected knowledge matrix. The second intermediate class: The second class of the middle school has three years in which students are admitted after passing the first class.

Divergent thinking

Divergent thinking is one of the modern terms in the educational arena, and it is the thinking that includes divergent and diverse trends. Divergent thinking is essentially deviating thinking. Divergent thinking represents a high level of thinking that has a major role in reaching creative and diversified solutions to the presented situation. That is why we find that many

educational and psychological scientists have been interested in this field and its beginnings when the American psychologist Guilford delivered his speech about divergent thinking at the conference of the American Psychological Association. Accordingly the interest in diverging thinking became increasing, as his word was the spark that directed many to study divergent thinking until such studies include a prominent status in research on the process divergent thinking. Some of them resorted to studying the results of divergent thinking, and others resorted to studying the divergent thinking process. A third team resorted to studying the personality traits distinguished by divergent thinking, while the fourth team resorted to a study Manifold thinking position,

Guilford compares two types of thinking, namely normal or convergent thinking and divergent or divergent thinking, as the first is a single or unique response. Thinking is tight and positioned in the direction of this response, and it is not clear or measured except for the testing intelligence average. (Razuki & Latif, 2018: p. 21).

The philosophy and theories underlying divergent thinking

Divergent thinking is based on a number of philosophical theories and there are those who combine them with the constructivist theory, which is based on the idea that there is a human drive that leads the individual to understand the world, instead of receiving knowledge negatively. Knowledge is constructed by students' activity by integrating new information and experiences with previous information, and that constructivist theory views learning as a continuous, active and purposive building process. That is, it is based on the learner's invention of new knowledge structures or rebuilding his or her knowledge structures or system depending on his outlook to the world. Education is not an accumulative process of knowledge, but rather a process of creativity that brings about revolutionary changes in the cognitive structures of the student. Divergent thinking and brain-based learning theory support each other. The theory of brain-

based learning through which the idea of diverging thinking is reached through what is based when the brain is exposed to a problem; it stimulates new connections between nerve cells in the nerve network in the brain. This in turn diverge learner's thinking to produce a greater number of ideas. So, the theory of brain-based learning approaches divergent thinking.

Brain-based learning is also consistent with Ozbel's theory of mental representation. Ozbel's mental representation investigates in the internal mechanisms and psychology of the brain, building knowledge such as forming concepts and how to acquire new knowledge which mainly depends on the appropriate ideas, principles and concepts that are firmly established in the learner's knowledge structure. The practice of exercises and activities of brain stimulation enhance learning opportunities in the brain holistically and leads to stimulation and challenge students' minds. Brain stimulation exercises can be incorporated into the daily routines of the school classroom to enhance learning, and may be increased learning through movement of blood flow to the brain, which helps improve focus and memory. There are exercises to activate the left and right sides of the brain that help coordinate the work of both sides of the brain together. 87).

Divergent thinking strategies

Both Thomas Cardelicio and Winda Field indicated that there are seven strategies by which to increase the neural network in the human brain, which would contribute to achieving the requirements of good learning, and providing students with sufficient data and information to overcome the problems they face when they learn. (Al-Hudaibi, 2012: p. 41).

First: hypothetical thinking strategy:

It is represented in a group of activities and intertwined and complex processes carried out by the brain that stimulate the individual to deal with himself or with those around him when he is exposed to a stimulus that is received by one of the senses or more. Thus, it results in a response

or a group of different responses that differ according to the conditions he is going through. Hypothetical thinking is one of the types of thinking through which an individual can use his abilities to present hypotheses supported by evidence unleashing his thinking, carefulness and slowing down in making judgments. Hypothetical thinking gives a strong stimulus to neurological growth because it encourages the individual to adopt a perception or assumption of problems with other, sometimes unexpected consequences. Thinking includes visualizing and imagining possibilities about a phenomenon, and exploring its results through a mental simulation. It includes many of the high-level cognitive functions that humans use on a daily basis, represented by testing hypotheses and deductive reasoning for decision-making and different thinking (Abdul-Malik, 2012: p. 230).

Second: The reverse thinking strategy

The strategy of applying symbolic systems depends on guiding students to start from the end, reverse the results of the situation, or depart from the usual by looking at the situation or event in a reverse way. It deepens students' perception of events and situations and thinking about what behind it, moving from the acquired knowledge to thinking with thinking and gives a new vision. This type of thinking helps students to understand the relationships that exist between concepts and situations, and develops ability on the holistic view through a more in-depth view of the situation. So that if a certain thing changes in the situation displayed in the readable text, whether it is submitted, delayed, or a difference in the arrangement of the results, the student would aware of the changes occurring in the whole lesson material according to this change (Ibrahim, et al. 2014: p. 128).

The strategy of applying symbolic systems helps to track pathways of thinking, and to develop thinking skills

Third: the strategy of implementing the various symbolic systems:

It is the use of different symbolic systems in learning situations, in order to better understand the elements of the educational situation, and linking its parts, expressing them in own style through planning, equations, or drawings that illustrate the relationships among the components of the situation. When using this strategy in teaching the teacher should ask the student to draw a map or lines to express a sequence of situations or events, convert textual information into diagrams and equations, or summarize specific content in a tiered diagram in the levels, which whereby the content is presented (Muhammad, 2018: p.135).

Fourth: similarity strategy (symmetry)

This strategy depends on finding relationships between things in terms of similarities and differences, so it increases realization of the mind and it's branching into thinking as a result of clarifying the relationship between the elements, and this strategy supports the opportunity to search for relationships between things and works to activate mental capabilities and actions of the mind. Questions regarding this strategy are:

What are the similarities and differences between two or more things?

What are the differences between two or more things?

Mention of things that resemble a particular thing?

Mention of things different from a specific thing?

(Al-Hudaibi, 2012: p.45)

Fifth: The Fifth Strategy: Analyzing the Point of View:

This strategy motivates the student to think about his opinions and beliefs, as the viewpoint expresses what the teacher believes in terms of ideas, principles, values and opinions in various situations, which in turn affect his vision of things and his interaction with events.

The teacher's analysis of a point of view provides opportunities for further deepening of thought about it, and to reflect on its validity and suitability to the situation or to solve the problem at hand and analyze the point of view. It may result in its support and acceptance entirely if it is

appropriate and correct, or modified if necessary, or rejected entirely if it is not appropriate or incorrect. This strategy can be used in educational situations by asking the learner to do the following:

Mention his point of view on a certain matter.

He mentions the justifications that made him agree to something.

He mentions the justifications that made him refuse something.

Examples of using this for a strategy include:

What do you think about the relationship between the three sciences of rhetoric?

Do you agree that there is a difference between limiting the adjective to the modified and limiting the modified to the adjective? Why?

Sixth: Complementation strategy

This strategy depends on the presence of a natural instinctive drive in individuals to complete the incomplete thing. Completing things urges the student to think in multiple directions (branching his thinking) to try to find and define relationships between the existing elements, so that it helps him to know the missing element, or find a relationship. Between events help him predict what might happen. Examples of this strategy achieved include:

Complete a specific event or situation.

Predict an appropriate ending to a given sequence of events.

- It completes certain spaces in a text submitted to it.

- He chooses one of the ideas given to complete the readable text, and we ask students to complete the deleted part. (Muhammad and Abdul-Azim, 2011: p. 265)

Seventh: The Seventh Strategy: Network Analysis:

This strategy aims to analyze events that have many results, or different and complex phenomena, through a series of examples about the relationships that make up the event, the different phenomena, to identify the interconnected relationships and results of events, and to know the extent to which each of them is

related to the rest of the elements. Analyzing this network of events, relationships and phenomena serves as training and excitation of brain cells to form nerve cells. This strategy relies on developing the ability to discover and express these relationships, deduce the connections between them and try to simplify them, and determine the methods of complexity of phenomena, and the goal of discovering relationships is to further understand the situation, events, phenomena and things, as well as discovering relationships, knowing connections and identifying methods of interaction. As training for brain cells and stimulating them to bifurcate the student's thinking, and develop new mental skills and capabilities, including creative skills, and train him to perform habits of the mind on an ongoing basis. (Ibrahim et al., 2014: p. 130)

Deep understanding

Understanding means the student's ability to perceive the meanings and express his information in clear terms and this type of learning goes a step further than just remembering the content. It is clear that students are always getting acquainted with new experiences that include components of scientific knowledge of the subject, and we expect them to be able to it according to the specific standard enabled. Students learn these experiences separately from each other, not trying to transfer what they have learned to solve real situations, evaluate what they have learned in new situations, or link them together, then we say that their knowledge of these experiences does not rise to a higher level than mere knowledge of something. But if the students knew these experiences, understood their relationship to each other, and knew how to use them, when to use them, and why we can say that his knowledge would have risen to the level of understanding (Razooqi, et al., 2018: p.117).

Any learning that does not reach the level of comprehension is considered incorrect learning, and the circumstances of both the teacher and the student should be noted and the reasons affecting both of them. Understanding consists of mental

procedures, and it occurs when internal representations meet as a result of understanding a specific content. These procedures are done in three stages:

- 1- Mental perceptions of the content of the topic.
- 2- A comparison between the new pictures and the mentality of the student.
- 3- The student's response to questions.

The level of comprehension by asking the student to comprehend the meanings of the subject he is reading or hear, understand its true meaning, and then formulate it in a variety of new forms (Faraj Allah, 2019: p. 41)

The design shown in Diagram 1 was approved as follows:

Dependent variable	Independent variable	Equivalence	Group
Post-test deep understanding	Divergent thinking strategies	.Chronological age .1	Experimental
		Previous achievement. .2	
		The average .3	
	Traditional method	Intelligence. .4	Controlling
		Parents' academic .5	
		Pre-test deep understanding. .6	

This design requires the creation of two equivalent groups in some of the variables that may affect the dependent variable. The researcher has been keen on controlling these variables through the equivalence of the two research groups.

Second: Defining the research community.

The research community includes female students of the second intermediate class in the Anbar Governorate Center (Ramadi city) for the academic year (2018-2019) distributed on middle and high school day.

Third: Selecting the research sample.

After taking the fundamental approvals from the College of Education (Ibn Rushd) University of Baghdad and the General Directorate of Education for Anbar, Al-Kawakeb High School for Girls was chosen to conduct the experiment. The school includes (75) female students in the second class,

Research procedures

First: the experimental design

For the purpose of achieving the research objectives, the experimental design, which is called the quasi-experimental design, was adopted, whereby divergent thinking strategies were used in teaching the experimental group, while the control group was taught using the regular method, and as shown in the following chart (1):

average distributed in two divisions, their numbers respectively (39 and 36). One of the two classes (B) was chosen randomly to represent the experimental group and division (A) to represent the control group, and (11) female students restudying the previous year were excluded statistically for the purpose of ensuring parity in research. Thus, the number of sample individuals reached (64) students, and each group was (32) students.

Fourth: parity of the two research groups.

The arithmetic mean and variance of the degrees of the variables were calculated and the T-test was applied to two independent samples as follows: Table (1) summarizes the information obtained by the researcher for parity of the two groups as follows:

Statistical significance	T-Value		Controlling students (32)		Experimental (32)		Group Variables
	tabular	Calculated	Disparity	Medium	Disparity	Medium	
Non-significant at 0.05	2.0062 degree of freedom	0.3915	15.44	18.75	10.76	17.84	Deep understanding test
		0.3363	191.5	167.84	360.19	171.25	Age by months
		0.8074	124.4	67.69	100.67	66.78	Average
		0.7647	116.45	69.72	153.99	68.56	Previous knowledge
		0.9859	4.929	22.59	5.22	23.03	Intelligence

1. Parents' educational level:

After obtaining the data related to this variable through a questionnaire that was presented to the students, the statistical method, Chi Square (Ka2), was used to find out parity. When using the Chi-square test to test the difference between the experimental and control groups in the educational level of the parents, the results showed that there is no statistically significant difference at the level of significance (0.05), which means that the two groups are equivalent Search for this variable

Fifth: Research Requirements:

1- The scientific subject: - The scientific subject that he will teach is determined based on the sociology book to be taught to students of the second intermediate class in schools in the country and for the academic year (2019-2020), which is the first chapter on the geography of the Arab world from the book and includes : -

- Chapter one: its geographical location, its area / natural characteristics.
- Chapter Two: Population and Economic Activity.

2- After analyzing the content of the subject matter and specified in chapter one, chapters (I and II) of the decided sociology book, and reviewing the general goals and special goals, (150) behavioral goals were formulated and the six levels were adopted:

(Knowledge = 47, comprehension = 41, application = 24, analysis = 12, structure = 18, evaluation = 8)

The behavioral goals were presented to a group of experts and specialists, and the Ka-2 test was used to calculate the differences between those who agree and disagree with the paragraphs. It becomes clear that the experts agree on the goals, so (150) valid goals were established and some of them were modified according to the experts' opinions.

The teaching plans were prepared for the two research groups according to the research strategies. He prepared instructional plans (16 plans for each group) for the experimental group using divergent thinking strategies. He also prepared teaching plans for the control group using the usual method. Examples of these experimental plans were presented to a group of experienced arbitrators, and in the light of their opinions and observations, some modifications were made to them, if they were adopted in teaching the subjects decided during the experiment.

Deep understanding test.

After reviewing some studies that dealt with deep understanding in various teaching materials In the absence of a study or scale dealing with geography, a deep understanding test was prepared for the second intermediate students, by following the steps:

1. Determine the test goal.
2. Determining the test skills after reviewing the aforementioned previous studies.

3. Preparing the test items in its initial form.

The profound comprehension test, in its initial form, consisting of (40) items, distributed over four skills, was presented to a group of specialists. The instructions for the deep comprehension test, the type of questions, and how to answer were precisely formulated, and no paragraph was left unanswered. It gave one score for the correct answer and zero for the incorrect answer, and the missed paragraph or more of the answer is treated as the incorrect paragraph. Thus, the total score is to test the deep understanding (40) degrees and the lowest score (zero) and the hypothetical mean (20) degrees.

The deep comprehension test was applied to a sample other than the experimental research sample, the number of which was (20) students, for the purpose of calculating the time taken to answer and ensuring the clarity of the paragraphs and instructions. It has been evident from the application that all the paragraphs are clear and understandable by the students, and that the average time taken to answer is (45) minutes. It was calculated by adding the times of all the sample students and dividing them by the total number. The exploratory application of the deep comprehension test: - The deep understanding test was applied to an exploratory sample, the same as the achievement test sample of (100) female students.

Statistical analysis of test paragraphs:

After correcting the students' answers, the students' deep understanding test scores were ranked in descending order. 27% higher group and 27% lower group.

1- Paragraph difficulty factor:

Its values ranged between (0.44-0.74), Appendix (21), and accordingly, the test items are good and have an appropriate difficulty factor according to the criterion (0.24-0.75), which is acceptable and average ease and difficulty (Hariri, 2012, p.139).

2- Discrimination strength: When calculating the discriminatory strength of each paragraph of the deep understanding test, it was found that it ranges

between (0.37-0.67). The test items are acceptable in terms of their discriminatory ability and Appendix (21) clarifies the difficulty and discrimination factors for the comprehension test the deep.

3- The effectiveness of false alternatives:

The students' answers to the paragraphs of the multiple choice question were arranged separately, and they were divided into two groups, upper group was (27%) and lower one was (27%). After using the formula for the effectiveness of mutilations (wrong alternatives), it was found that the wrong alternatives had negative values, meaning they attracted to it. There are more students from the lower group than the higher group, and it was decided to keep the alternatives as they are.

Test stability:

Coder-Richardson 20 equation was used to calculate the test reliability because it is a "measure of the internal compatibility, homogeneity, or consistency of the test material". Accordingly, by relying on the data obtained from the application of the deep understanding test to the survey sample consisting of (20) student, it was found that the reliability coefficient is (0.80), which means that the test has a good reliability rate according to the criterion (0.75) (Al-Tamimi, 2016: p.94).

Presentation of the results related to the null hypothesis which states:

There is no statistically significant difference at the level of significance (0.05) between the average classs of students who study according to divergent thinking strategies and the average scores of students who study according to the usual method of teaching in the post-deep comprehension test. In order to verify the validity of the second null hypothesis, the arithmetic mean of the students' scores of the two groups was calculated on the deep understanding test. So, the arithmetic mean of the experimental group was equal to (26.34), and the arithmetic mean of the control group was equal to (21.81). This indicates an apparent difference in the arithmetic averages

of the students' performance in intermediate second class in deep comprehension test. To find out the statistical significance of the difference between the two previous arithmetic means, the t-

test was used to calculate the differences between the arithmetic means of the two groups, as shown in Table (1).

Significance sat the level 0.05	t-test		Free dom degr ee	Disparity	Arithm etic mean	Nu mbe r	Group
	Tabular	calculate d					
Statistically significant	2.00	5.052	62	13.851	26.34	32	Experi mental
				11.089	21.81	32	Control ling

That is, there are statistically significant differences at the level of (0.05) between the average scores of the achievement of the experimental group and the control group and the favor of the experimental group.

This indicates the superiority of the experimental group students who studied according to divergent thinking strategies over the control group students who studied in the usual way of teaching in the deep understanding test.

The value of the effect size of the t-test was calculated according to its formula:

$$\eta^2 = \frac{t^2}{t^2 + df} = \frac{(5.052)^2}{(5.052)^2 + 62} = 0.29$$

Compared to the reference table of value (0.29) for determining the size of the effect, we find that the size of the effect is very large.

Interpretation of deep understanding results:

The results showed that there is a statistically significant difference between the two research groups in the variable of deep understanding, and the researcher explains this as follows:

1. The divergent thinking strategies made the students the focus of the educational process, and gave them great opportunities to think of all kinds including deep understanding.
2. The questions raised by the teacher, especially in the divergent thinking strategies, through which it aims to reach a solution to the question or

problem, which is an important incentive to stimulate the thinking of students and develop their deep understanding skills in particular.

3. The divergent thinking strategies allow students to discuss, debate, experiment and reflect during solutions to exercises, and this contributes to the development of thinking in general and deep understanding in particular.

Third: Conclusions

In light of the researcher's findings, she concluded the following:

- 1- The positive effect of divergent thinking strategies as a teaching method in increasing achievement, compared to the usual method for second-class intermediate students.
- 2 - The positive effect of divergent thinking strategies on the deep understanding of second-class intermediate students.
- 3 - Teaching through using divergent thinking strategies to a large degree encourages students to think freely and express what is going on in their minds in terms of questions and answers, identifying mistakes and correcting them, as well as encouraging their positive participation during the lesson through the researcher's observation during the application of the experiment. This is an indication that they have an internal drive to learn, which increases achievement and deep understanding.
- 4 The use of divergent thinking strategies in teaching leads to a quality interaction between the

school and the student, and between the students themselves.

5- Teaching according to divergent thinking strategies helps to provide an educational environment that stimulates thinking, and this can contribute to improving the student's ability to comprehend. This leads the student to play a positive role in showing her thinking processes in an issue, organizing her knowledge, following it up and evaluating it during learning and increasing her ability to monitor herself.

6- Teaching procedures according to divergent thinking strategies are consistent with what modern education focuses on in making the student the center of the educational pedagogical process and adopting work and experience as a basic pillar of education.

7- Teaching according to divergent thinking strategies has been effective in increasing students' awareness of what they think. They can describe what is on their mind when they think, and describe what they know and what knowledge they need to perform a specific task.

8- Divergent thinking strategies contribute effectively to the learning process and problem-solving. They also help achieve learning goals and help students reach the application of cognitive processes that are concerned with better task accomplishment.

Fourth: Recommendations:

In light of the research results, the researcher recommends the following:

1) That sociology teachers should adopt modern teaching strategies that help students to think and motivate them to increase their awareness and comprehension of the mental processes that they carry out during learning. They should not be limited to the usual method of teaching that is based on memorization and indoctrination, such as divergent thinking strategies because of its positive impact on achievement and deep understanding.

2) The Ministry of Education and its directorates should work to train and develop the skills of social studies teachers in particular, and other

materials in general, on how to use modern educational strategies, especially divergent thinking strategies, through holding educational courses and seminars.

3) Enriching the established social studies textbooks with various activities that stimulate students to deep understanding and not be limited to theoretical examples.

4) The need to provide an interesting educational environment aimed at teaching students how to think about different learning situations, in order to work towards achieving the desired goals in a better way.

5) The methods and strategies for teaching students thinking, as well as modern teaching methods and approaches that develop thinking should be included in the curricula and methods of teaching in the Faculties of Education.

6) Paying attention to modern teaching strategies aimed at developing students' mental abilities.

7) Encouraging teachers to pay attention to teaching thinking as a mental activity that helps transfer the impact of learning into practice and practical life.

References

1. Ibrahim, Ahmed. Mahmoud, et al. (2014). The effectiveness of a program based on divergent thinking strategies to develop creative reading comprehension skills and some habits of the productive mind among first-class secondary students. *Journal of the College of Education in Asyut*, Volume (30), Issue (4), Egypt, pp. 116-165.
2. Al-Tamimi, Asma Fawzi Hasan, (2016). *Higher Thinking Skills: Creative Thinking, Critical Thinking*, 1st Edition, Depono Center for Teaching Thinking, Amman, Jordan.
3. Al-Hudaibi, Ali Abdul-Mohsen, (2012). *The Effectiveness of Divergent Thinking Strategies in the Development of Rhetorical Concepts and the Trend Toward Rhetoric*. For learners of the Arabic language who speak other languages, the Arab

Journal for Speakers of Other Languages - Institute of Arabic Language at the International University of Africa - Sudan No. (14)

4. Al-Hariri, Rafidah, (2012). Educational Calendar. 1st Edition, House of Approaches for Printing and Publishing, Amman, Jordan.

5. Khammas, Nagham Falah, (2018), The Effectiveness of Using Differentiated Education in Achieving History for Fifth Class Literary Students. Journal of the College of Basic Education for Educational and Human Sciences, Babylon, Issue (37) February.

6. Razuki, Raad Mahdi, and Latif, Istabraq Majeed Ali, (2018). Thinking and Its Patterns (1), Dar Al-Kutub Al-Ilmiyya, Beirut, Lebanon.

7. Razzouki, Raad Mahdi, et al. (2018). The Thinking Series and Its Patterns. (4), Dar Al-Kotob Al-Ulmiah for Publishing and Distribution, Beirut, Lebanon.

8. Abdel-Malek, Loris, (2012). Developing the skills of information generation, evaluation and cognitive achievement in biology among students Secondary School Using Teaching Strategies That Encourage Neural Bifurcation. Journal of Scientific Education, Volume (15), Issue (2), pp. 203-248

9. Muhammad, Hanan Mahmoud, (2018). The effectiveness of using divergent thinking strategies in teaching biology to develop reflective thinking skills. Self-regulation of learning among secondary school students. Journal of Scientific Research in Education, Issue (19).

10. Muhammad, Wael and Abdel-Azim, Reem Ahmed, (2011). School Curriculum Design. 1st Edition, Amman, Jordan, Maisarah House for Publishing and Distribution.

11. Fletcher, T., & et al, 2019, Developing deep understanding of teacher education practice through accessing and responding to pre-service teacher engagement with their learning, Professional Development in Education, Volume 45, 2019 - Issue 5.

12. Gret, Haller. 2011, Definition and development of human rights and popular

sovereignty in Europe (Science and technique of democracy No. 49).

13. Jensen, E. (2010): 10 most effective tips for using brain based teaching. Jensen Learning • PO Box 291 • Maunaloa, HI 96770

14. Roger, Beaty, E. & Paul, Silvia, J. (2012): Why do ideas get more creative across time? An executive interpretation of the serial order effect in divergent thinking tasks, Psychology of Aesthetics, Creativity, and the Arts, 6 (4), 309-319.