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The Effectiveness of a Proposed Program Based on Pivotal Thinking Skills in Developing Geographical Thinking for Fifth Literary Grade Female Students

By

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Abstract

The research is set to the following two goals:
1- Building a proposed program based on the Core thinking skills among the literary fifth grade students.
2- Knowing the effectiveness of land and land in the development of investment development

Keywords: Core thinking skills, development of thinking

1. Introduction

1.1 Collection Hypothesis

The degree of statistical significance at the significance level (0.05); Literary V.

In order to achieve the two objectives of the research and verify the null hypothesis prepared by the researcher, all the requirements and tools of her research are:

A-Building a proposed program based on Core thinking.
B-Teaching plans for the two research groups to teach the content to be taught in the subject of geography.
T-A test of the scale of development of geographical thinking, before and after, to determine the effectiveness of the program based on the Core thinking skills in the development of geographical thinking.

The researcher verified the validity of the test and applied it to a pilot sample that achieved reliability, distinction, difficulty and effectiveness of the alternatives.

The current research was limited to fifth-grade literary female students at Al-Zahraa Secondary School for Girls to be a field for conducting research for the academic year (2021-2022). The research consists of two groups, the first is experimental, and the other is control, as the experimental group is taught based on the proposed educational program, and the control group is taught by the traditional program. And the number of its students is (48) students, and the section (A) is to be the control group that will study its students in the usual way, and the number of its students is (42) students.

After excluding the students who did not statistically, who numbered (6) students, the total of the final research sample became (84).

The two groups were rewarded in the variables of chronological age, intelligence, previous information, father and mother's achievement. Behavioral goals have been formulated for this study, which focuses to (203) behavioral goals, and study plans linked to (10) study plans, consisting of (9) study plans for the experimental group and (1) study plans for the control group, and the collection tool was built, and the researcher calculated the honoresty and extracted the discriminatory power of the test items and the stability coefficients, as it shows that all the calculated correlation coefficients are statistically significant, and the data performed statistically using several statistical methods, including the t-test for two independent samples and the ki-square and others. From the equations, the results showed the following:

Results Related to The Development of Geographical Thinking

The students of the experimental group who studied according to the proposed program outperformed the students of the control group who studied according to the traditional group in developing geographical thinking.

To complement the research, the researcher suggested conducting studies that reveal the effectiveness of a proposed educational program based on Core thinking skills in teaching other subjects, and conducting a study to find out the extent to which teachers of geography use the Core thinking skills in their teaching

Abstract: The following objectives were developed for research:

1- Building a proposed program based on the core thinking skills of the fifth-grade literary students.
2- To know the effectiveness of the proposed program in the development of geographical thinking.

Keywords: Core Thinking Skills, Geographical Thinking Development**.**

1.2 AcquisitionHypothesis

There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who study the natural geography in the proposed program based on Core thinking skills and the average scores of the control group students who study in the usual way in the scale of developing geographical thinking among the fifth-grade literary students.

In order to achieve the objectives of research and verification of the zero-hypothesis prepared by the researcher, all the requirements and tools of her research are:

A) Building a proposed program based on Core thinking.

B) Teaching plans for the two research groups to teach the content to be taught in the subject of geography.

C) A test of the measure of the development of pre and post geographical thinking to find out the effectiveness of the program based on the Core thinking skills in the development of geographical thinking.

The researcher verified the validity of the test and applied it to an exploratory sample that calculated the reliability, excellence, difficulty and effectiveness of the alternatives.

The current research was limited to female fifth grade literary female students at Zahraa Girls High School to be a field for conducting research for the academic year (2021-2022), and the researcher used the experimental design with partial adjustment with two equal groups with a post-test to measure the development of geographical thinking, as this design is suitable for the research conditions, and the research consists of two groups, the first experimental, and the other control, as the experimental group is studying based on the proposed educational program, and the control group is studying the traditional program, and the research sample reached (84)female students distributed over two divisions (a, b) The experimental group that will study her student according to the Core thinking skills, which is (48) female students, and Division (A) To be the control group that will study her female students in the usual way, which is (42) female students.After excluding the 6 students who did not statistically, the total of the final research sample became (84).

The two groups were rewarded in the variables of chronological age, intelligence, and previous information, the achievement of the father and mother, and the behavioral goals of this study were formulated to reach (203) behavioral goals, and study plans were prepared to reach (10) study plans with (9) study plans for the experimental group and (1) study plans for the control group. The collection tool was built, and the researcher calculated the validity and extract the discriminatory strength of the test items and the stability coefficients, and it was shown that all the calculated correlation coefficients are statistically significant, and the data were processed statistically using several statistical means, including the test that is for two independent samples and a square as any other equations, and the results showed the following:

1.3 Results Related to the Development of Geographical Thinking

Female students of the experimental group who studied according to the proposed program are superior to female students of the control group who studied according to the traditional group in the development of geographical thinking.

As a continuation of the research, the researcher proposed to conduct studies that reveal the effectiveness of a proposed educational program based on the Core thinking skills in the teaching of other subjects and to conduct a study to find out the extent to which teachers of geography are using the Core thinking skills in their teaching.

2. Chapter One: Definition of Research

Research's Problem: The world is undergoing an information revolution that has placed it in the face of great challenges in order to keep pace with its development and progress. Thus, attention has been directed to scientific research and its applications. Educational institutions have had to modernize their educational systems and develop teaching methods on modern scientific bases in order to absorb this huge amount of knowledge (David and Majid, 1991, p. 109). Developing the mental abilities of learners in order to adapt them to their environments by solving their problems and the problems of their society.

The researcher believes that our educational reality shows that the educational process suffers from many problems in all its elements, which does not encourage this to employ and use these modern methods, and because the nature of educational content is based on the curriculum of separate subjects, and thus does not encourage the development of Core and

geographical thinking among students because there is a clash of vocabulary in the expression of their own ideas as well as their absence from educational and learning activities that have a great impact on the development of Core thinking skills, and many studies have diagnosed the existence of weaknesses in geographical schooling in the development of thinking among students, including the Hassan study (1995), the Saudi study (2,200) , and the Phili study (2014).

The subject of geography is a fertile field for the conscious teacher to instill the spirit of innovation and develop the necessary capabilities for thinking skills, and it must be studied in effective ways that reflect its nature and achieve its objectives , especially the development of the ability to think geographically and increase the ability to analyze and explain and link the causes and results with a careful study of the figures that are filled by any geographical phenomenon, whether natural or human , and the process of training in geographical thinking comes through the application of the scientific method of thinking and discrimination between geographical realities and study and fully explain their causes and realize their relationship and analyze their statistics and reach related results and make decisions towards them. (Amer, 2000 :55)

Based on the above, the results of the exploratory study support the researcher's orientation using Core thinking skills by following one of the directions of teaching thinking skills, which may contribute to raising the level of academic achievement and the development of geographical thinking among fifth grade female literary students, and this is confirmed by the study of (Jalal, 2017) and the study of (Mays, 2018) and the study of (Wafa, 2015).

Accordingly, the problem of the current research has been identified by answering the following main question:

* Is there an impact of the effectiveness of the proposed program based on the Core thinking skills in the development of geographical thinking among fifth grade literary female students?

3. Importance of Research's

The current century witnessed a great scientific and technological revolution that had a clear impact on various aspects of life, prompting man to search and investigate new ideas, methods and strategies capable of meeting the requirements and challenges of the age, and keeping pace with rapid developments in all aspects of knowledge, as well as the need to benefit from technical developments that give us the ability to search for information and collect it in a shorter time and less effort

(Ali, 2001: 83), Social subjects are one of the components of the basic curriculum, because of their impact on the formation of the personality of learners and their socialization on sound foundations and a desired direction to make them good citizens in society, so that they can assume their responsibilities and understand the problems surrounding them and their society in order to develop the right solutions for them (Al-Amin et al., 1992: 103).

Thinking is the primary goal that must be at the top of any subject's learning objectives. It is closely related to all subjects and the accompanying methods, activities, teaching aids and evaluation processes to help learners become thinkers. The process of improving thinking is one of the priorities of efforts to develop education. (Pumice, 2011 :244), and contemporary education seeks to teach the individual how to learn and how to think, and sees this as one of

its most important priorities in order to have the ability to learn subjectively and continuously, and to keep pace with cognitive and social changes, and if we want the learner to be a good thinker, then he must be taught thinking skills through a set of clear steps, suitable for his stage of development, ability and absorption, and this orientation is based on the researchers' conclusion that the ability to think is acquired or created more than it is innate, and that teaching thinking skills achieves positive effects for achievement and creativity (Al ofoun and Al anqabi, 2015 :111).

Interest in the teaching of thinking has become the core of the work of many educational institutions through the establishment of many training programs that have meant in this field (Al-Afoun and Abdul Sahib, 2011 :37) , and studies have shown that there is a consensus among scholars about the need to teach and develop the thinking skills of all individuals in different age groups, especially schools and universities, to build a thinking generation taking into account that these skills do not grow automatically, and De Bono (1989) confirms that thinking can know, because thinking simplifies matters and cases and does not work to complicate them, and we must look at them as a simple and automatic process, and this will not be done without teaching thinking. (Alatom et al., 2009 :43).

Core thinking skills are one of the dimensions of thinking created by Marzano et al, 1988:17), Robert Marzano and his colleagues (Marzano at al, 1988) emphasize in their book the dimensions of thinking; that the teaching of Core thinking skills can take place at any stage of school education because they are learnable through scientific content as well as for their practical applicability within the classroom (Abogado and Novel, 2007: 73-78).

Referring to books, references, research, and studies related to thinking skills, it was found that Robert Marzona and his colleagues, with the support of the American Educational Curriculum and Supervision Association, identified the Core thinking skills with eight main skills (focus, information collection, recall, organization, analysis, generation, integration, and evaluation), from which (21) sub-skills are derived (Marzona et al.,2004, 165) .

The development of geographical thinking in geographical approaches helps learners to focus on environmental problems because these problems result from man's interaction with his environment and man is the one who depletes environmental resources and may use them incorrectly (Irfan, 2003, 126).

Hence, it is noticed that geographical thinking is an important product of the educational products that the content of the geographical curricula seeks to acquire and develop the skills of the learners at various educational stages, due to the nature of that article because of its close relationship and close association with geographical thinking, the interest in the field of geography teaching has not become limited to the preservation and recall of information only, but rather the interest has become directed towards giving students the skills of geographical thinking because of its prominent role in the interpretation of various geographical situations and phenomena and ease of application in practical life, and this is confirmed by the results of some studies that have been concerned with geographical thinking and its role in teaching and learning geography (Amer, 2000, p. 3). The researcher believes that geographical thinking, including the skills of (observation, comparison, classification, analysis of geographical data, summarizing, interpreting, and perceiving the relationships between natural phenomena, evaluating information, and predicting geographical information) helps the learners on how to practice thinking due to the geographical material, especially (natural geography for the fifth grade of the literary) of a close relationship with geographical thinking by observing the phenomena and working to classify them according to their characteristics

and working to interpret them and develop appropriate solutions. Therefore, the proposed educational program was built based on the Core thinking skills according to some appropriate teaching strategies to acquire skills and develop geographical thinking.

The researcher chose the preparatory stage as a field in the application of her study, because the students possess it at the appropriate level of mental maturity and age of the stage, as they can understand the role of education and its importance in their lives and draw their future, so at this stage the school is in front of its students who own it more mature and deeper mind and understanding (Amer,2008, p. 128).

Based on the above, the importance of research can be highlighted as follows:

- The importance of building a proposed program based on the core thinking skills associated with the curriculum in order to reduce the severity of educational problems and work to link theoretical aspects to the applied aspects in order to reach educational results that are effective in keeping with the technological development.

- *The importance of geography lies in being one of the sciences that has direct contact with society because it studies what exists and revolves around it of natural phenomena and different human beings interested in it.

- *The importance of developing geographical thinking as it helps the learner on how to practice thinking through the skills of geography (observation, comparison, classification, analysis of geographical data, summarizing and interpreting, understanding the relationships between natural phenomena, evaluating information and predicting geographical information).

4. Objectives of the Research

The current research aims to identify the effectiveness of a proposed program based on the Core thinking skills in the development of geographical thinking among fifth grade literary female students.

5. Research Hypotheses

There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who study the natural geography in the proposed program based on Core thinking skills and the average scores of the control group students who study in the usual way in the scale of developing geographical thinking among the fifth-grade literary female students.

6. Research Limitations

The current research islimited by:

1. 5th Grade Literary female Students in Government Secondary and Secondary Schools of the General Directorates of Baghdad Education (Rusafa I).

2. The first semester of the academic year 2021-2022.

3. The first three chapters of the book Natural Geography for the fifth grade literary.

Terminology
Program

- (Muhyieddine,1978) that: "A fundamental change in traditional lifestyles, addressing the changing trends towards inherited values, setting goals and using new means." (Mohideen, 1978, p. 17)

3- Core Thinking Skills

-Abu Jadu and Muhammad (2007) : "Thorough and sensitive mental processes interfere with each other when we start thinking, and these skills are the basis on which the" influential thinker "is based, and the skills are used repeatedly to carry out tasks or thinking processes aimed at reaching a meaning, vision or knowledge" (Abu Jadu and Muhammad, 2007: 76-77).

5. Geography

- (Hassan, 2006): It is the science of studying the surface of the earth and its human and natural phenomena, taking care of the spatial distribution of these phenomena and studying the extent to which they are affected by the various manifestations of the natural environment. (Hassan, 2006: 305)

Geographical Thinking

- (Tantawi 1991): "It represents a number of abilities such as the ability to make geographical comparisons and interviews, reading and understanding charts, and maps, and drawing information and results from them, the ability to smartly interpret and use rules and generalizations in interpreting new situations, and the ability to recognize relationships and apply generalizations in practical life situations" (Tantawi, 1991, p. 210).

Chapter Two: Theoretical Frameworks

The First Topic: Educational Programs

Design in the educational-learning process has its origins in research in the fields of psychology and education, especially in studies related to theories of learning, although educational design stems mainly from those theories,but educational design looks at finding the best educational methods that lead to the desired goals, and the importance of educational design is that it is the bridge between theoretical and applied sciences. (Al-Haila,1999: 29). The main goal of building educational programs is to improve the required performance, and apply the most appropriate teaching methods to obtain a change in behavior and development in performance, and to achieve the goal, a number of theories and strategies emerged to serve the educational process. (Salama, 2001, p. 91)

The Second Topic: Thinking

Thinking of its simplest definition is a series of mental activities carried out by the brain when it is exposed to an stimulus that is received by one or more of the individual's senses (Groan, 2007 :40), while (Abu Jadu, 2009) defines it as a series of invisible mental activities carried out by the brain when it is exposed to an stimulus that is received by one or more of the senses in search of a meaning in the situation or experience , which is an evolutionary purposeful behavior consisting of the interference of capabilities, personal factors, cognitive

and supracognitive processes, and knowledge about the subject that is being thought about (Abu Jadu.2009 :427).

It is also known by (Ghanim, 2009) as a sequence of specific gloss or symbolic concepts raised by a problem and aimed at a goal (Ghanim, 2009 :20), as well as by (Qatami, 2009) as mental processes that include adjusting, modifying, changing and building the internal representations of events (Qatami, 2009 :12), while (Abu Al-Nasr, 2009) defines it as the process of using the mind in an attempt to solve the problems facing man (Abu Al-Nasr, 2009 :33) .

Third Topic: Core Thinking Skill

Core thinking skills are one of the dimensions of thinking created by a group of cognitive scientists (Marzano, R.J., Hughes, C, S., Brandt, R. S., (Rankin, C, S., Jones, B, F., & Suhor, C. With the support of the American Society for Supervision and Curriculum Development to teach thinking in their book (Dimensions of Thinking, 1988) which is (Thinking Thinking Thinking, Critical Thinking and Creative Thinking, Thinking Processes, Core Thinking Skills, and the Relationship of Content Knowing to Thinking) (Marzano et al, 1988:17.

The following are the main and basic Core thinking skills (Figure 1) that the researcher will adopt in teaching the natural geography subject:

Sr. No.	Master skills	Cross-Defense Skills
1	Concentrations Skills	Problem Identification Skill Goal Formulation Skill
2	Information Gathering Skill	Observation Skill Question Formulation Skill
3	Remembrance Skill	Coding Skill Summon Skill
4	Organizational Skill	Comparison Skill Classification Skill Ranking Skill acting skill
5	analytical skill	Skill of defining attributes and components The skill of identifying patterns and relationships Key Idea Identification Skill Error Identification Skill
6	Generating Skill	Reasoning Skill Forecasting Skill Expansion Skill
7	Integration Skill	Summarizing Skill Reconstruction Skill
8	**Evaluating** Skill	Criteria Builder Skill Verification Skill

Figure 1. Core Thinking Skills

Core thinking is one of the types of thinking that can be acquired at any educational stage. Core thinking skills are mental cognitive processes that can be counted as one of the building blocks of thinking used uniformly or coherently to achieve a specific goal. Core thinking skills are one of the five dimensions of thinking published by the American Society

for Supervision and Curriculum Development to teach thinking by a group of cognitive scientists and methodologists in their book (Dimensions of Thinking) to form an integrated framework for thinking (Marazano et al, 1998: 35).

The researcher relied on the classification of Marzano et al. for Core thinking skills, which prepared a list of twenty-one basic thinking skills classified in eight main categories. The classification of these skills works to provide us with a way for the teacher to organize special skills in order to help his students to become good thinkers. These skills are: (Nofal, 2010: 33)

The Fourth Topic: Geographical Thinking and Its Relationship to Geography:

God Almighty blessed people with the blessing of thinking as he prepares the finest mental activities, and the individual practices it naturally when exposed to a problem, and this practice varies with individuals according to their proficiency in the skills that they learn and practice until they reach the stage of accuracy and mastery.

The literature indicates that thinking is " a series of mental activities carried out by the brain when exposed to an exciter that is received by one or more of the five senses, touch, see, hear, smell and taste." It is also known as (the individual's intellectual activity in order to reach an appropriate solution to a problem that the individual is unable to solve or overcome in light of his previous experiences and information).

Since the last decades of the twentieth century were characterized by the great development of geography, where statistical analysis and the mathematical processing of information and geographical data were introduced in order to help learners to keep abreast of the recent developments in the surrounding environment. This has also been accompanied by a great development in space and satellite research and the use of computers. This technical development in geography education and learning has led to the use of many methods and strategies that help to develop important geographical thinking skills that must be emphasized within the content of geographical curricula.

Teaching thinking through certain situations and with pre-prepared thinking tools makes it a habit of a mentality practiced by the learner in specific educational situations that ensures the transfer of the impact of education to the problems and attitudes he faces in his daily life.Tantawi, 2007: 236).

Those interested in teaching geography emphasize the importance of developing the skills of geographical thinking and considering it a basic goal of teaching it in general and teaching them how to think in order to achieve a goal. Thinking may take them to multiple problems. Thinking back to the experience of the past is different from thinking to plan for the future (Arafa, 2005: 107).

Geoscience is one of the most important renewable sciences in the current era, from which other sciences branch out and still branch out. The process of geographical thought is based on the reception of perceptions and the interpretation of natural changes related to the phenomenon. It is considered an important goal to teach geography due to the close relationship of geographical thinking with understanding and meaning , as this is evident in a number of abilities such as the ability to make comparisons and geographical interviews, read and understand graphs, charts and maps, and draw information and results from them, the ability to intelligent interpretation and use rules and generalizations in interpreting new situations, and

the ability to perceive relationships and apply generalizations in practical life situations (Al-Tamimi, 2014: 11).

Those interested in teaching geography emphasize the importance of developing the skills of geographical thinking and considering it a basic goal of teaching it in general and teaching them how to think in order to achieve a goal. Thinking may take them to have multiple problems. Thinking back to the experience of the past is different from thinking to plan for the future (Arafa, 2005: 107)

The development of thinking among learners has become one of the main objectives of the geography curricula, as it helps students on how to think by forming and organizing ideas and information by the learner and thinking takes many forms, including thinking back to the past is different from thinking planning (Arafa, 2004, 107-108).

The need to think is important for the purpose of searching for sources of information and choosing the information necessary for situations , and the use of information to address problems, and all of this achieves adaptation to the requirements of the age of technology as well as helps to solve problems, and the researcher emphasizes that the school of geography, especially after the knowledge revolution, must have a good knowledge of what the skills of geographical thinking are (observation, comparison, classification, analysis of geographical data, summarizing and interpreting, and recognizing the relationships between natural phenomena, evaluating information and predicting geographical information) because it helps him to know many geographical phenomena well and thus facilitate transfer to students and benefit from time and effort and break the state of regularity, rigidity and routine within the classroom.

Chapter Three: Research Methodology & It's Procedures

This chapter includes the research approach and the procedures followed in it, starting from the appropriate experimental design, and identifying the research community, its sample and tools, and ending with the appropriate statistical means to analyze and process the data, as follows:

7. Research Methodology

The research approach is a key element of educational research as it helps the researcher to determine the way they collect, analyze, discuss and interpret data, as well as helps in judging the quality of research (Noah, 2004 :147).

The researcher relied on two approaches: the descriptive approach in building the educational program and the experimental approach in demonstrating the effectiveness of the program in achieving the subject of geography with the Core thinking skills of fifth grade female literary students.

: **Geographical Thinking Test:** One of the requirements of the research is also the preparation of a tool to measure the geographical thinking of the students of the research sample, and the preparation of this tool has gone through the following steps:

A- **Determining test objective**

Before starting any test, it is necessary to know the purpose of the test, the considerations by which the purposes of the test are determined, and the aspects to be measured through it. (Barakat, 1981, p. 327).

This test is intended to measure the skills of the students of the two research groups (observation, deduction, classification, organization and arrangement of information.....Etc.) before starting the educational program according to geographical thinking skills, and at the end of the research experience after the completion of the educational program.

B- Determine Test Skill Levels

The task of determining test levels is one of the basic tasks of any test, to help the test taker determine the most appropriate learning conditions for the various work carried out by the learner. (Salama, 2001, p. 77)

In order to identify the areas of geographical thinking, the researcher reviewed the previous literature and studies that identified the skills of geographical thinking for the preparatory stage, and then sent an open questionnaire to a number of arbitrators in the specialization of geography and its teaching methods, which included a question about identifying the most important geographical thinking skills necessary for middle school students ( ) .

In light of the experts' answer about the most important skills, and the skills indicated by previous studies, and in light of the content of the material related to the research experience, the researcher identified (7) key skills (observation, comparison, classification, ranking, summary, interpretation, and awareness of temporal and spatial relations)

Steps towards Building Geographical Thinking Scale: The researcher followed the following steps in building the test for geographical thinking as follows:

1. Determine the type and wording of the test items: The type of test to be used in the measurement is determined by the type of thing to be measured. (Salama,2001, p. 147)

- Given the variety of skills that the researcher will measure, she has decided to diversify the test items to suit the diversity of these skills. Accordingly, the test consisted of (9) questions. The researcher has taken several considerations in the formulation of the test items, including:

- Put in front of each skill an item of the question that measures it.
- Suitability of the items to the level of study and their scientific experience.
- Good formulation in the preparation of the items of clarity, accuracy and a specific answer.
- The skill should be within the content to be taught.

2**. *Test instructions*:** The researcher formulated instructions forascale .

3. ***Test validity****:* To calculate the test validity coefficient, the researcher used:

Face validity

(The Guarantor, 2007, p. 113)

The test is true if it measures the quality for which it was prepared (Alassaf, 1989 :429), and this type of validity requires that the test in its initial form be presented to a group of experts and specialists related to the subject of the test (Al-Zamli et al.,2009 :240).

Accordingly, the researcher presented the items of the scale to a number of experts and specialists in teaching methods, measurement and evaluation (Appendix/18) to verify the validity of the items of the scale and their suitability for the level of fifth grade female literary students, and sherelied on an 80% agreement rate as a criterion for the validity of each item of the scale.

Construct validity: construct validity is one of the most important types of validity used with virtual features, such as intelligence, thinking, and reasoning because it forms the theoretical framework for their tests (Return, 2002: 164).

The researcher used a correlation coefficient (Point by Surreal) for the purpose of finding the correlation between the total degree of geographical thinking test and the degree of each of its items after applying it to a sample of (100) students. It ranged from (30, 0-0, 39) with a significance level of (0.05) and with a degree of freedom of (98). The specialists indicate that the calculated correlation coefficient was more than (0.22) It was a statistical significance at a significance level of (0.05)

Chapter Four: Research Results

First: Presentation of Results

The second null hypothesis stated that "there is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who studied according to the Core thinking skills and the average scores of the control group students who studied in the usual way in the scale of geographical thinking among the fifth-grade female literary students."

After applying the experiment and testing the students of the two research groups on the scale of post-geographical thinking (Appendix/), the data were analyzed and it was found that the average scores of the students of the experimental group who studied the natural geographical subject according to Core thinking skills reached (15,43) with a standard deviation (2,128), and the average scores of the students of the control group who studied the natural geographical subject according to the normal method (14,13) with a standard deviation (4,275) in the scale of post-geographical thinking, and when using the T-test for two independent samples to identify the significance of the statistical differences of the two research groups, it became clear that there is a statistically significant difference at the level of significance (0.05) with a degree of freedom (82) in favor of the students of the experimental group, as the calculated T-value reached (2,188), which is greater than the T-value of (1,990).

Second: Interpretation of the results

The research results showed the superiority of the students of the experimental group who studied according to the Core thinking skills over the students of the control group who studied according to the usual method of testing the development of geographical thinking, and this may be due to the following reasons:

1- The Core thinking skills led to the students' interaction with the lesson and increased their activity and focus on the subject as a new teaching method that the students have not been accustomed to before.
2- Building the proposed educational program according to the Core thinking skills was effective in developing geographical thinking.
3- The program focused on ensuring that the student is the main element in the educational process, its effective basis, giving her a positive role in dialogue and discussion, using previous and acquired experiences and information in mastering

new information, working to develop their abilities and knowledge structure, and moving smoothly through the learning process.

4- - The program relied on various methods of evaluation that led to raising the level of thinking of students and their care to make the necessary effort to perform work characterized by innovation and authenticity in ideas.

8. Conclusions

In light of the findings of the current research, the following shall be concluded:

1. Teaching with Core thinking skills contributed to increasing students' ability to identify, sequence and organize key and secondary ideas.
2. Teaching with the Core thinking skills contributed to in the development of geographical thinking among fifth grade female literary students.

9. Recommendations

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

1. Helping Training and preparation centers for male and female teachers to benefit from the Core thinking skills in teaching geography of the preparatory stage.
2. The need to familiarize the Ministry of Education and Geography teachers with modern strategies, models and teaching methods.
3. Encouraging the Ministry of Education to teach teachers to think as a mental activity that helps to move the impact of learning into working life.

10. Proposals

To complement the current research, the researcher developed a set of proposals, which are:

- Conducting a similar study to the current study on other subjects.
- Conducting a study aimed at building a training program to teach the Core thinking skills of middle school students and the development of thinking.
- Conducting a study to find out the extent to which geography teachers use Core thinking skills in their teaching.

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