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Research Article

The effect of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods

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Abstract

This research aims to identify the effect of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods. Pre and post test.

The researcher intentionally chose the sample, which amounted to (70) students from the third stage who are studying the subject of general teaching methods, for the academic year 2021-2020 according to the cooperation of the head of the department, since the researcher is a student in the department, where the researcher separated the students into two halls, where the first hall contains (35) A male and a female student for the control group, and the second hall contains (35) male and female students for the experimental group

The researcher himself studied the students of the two groups, the experimental with the strategy of visual thinking networks and the control ones in the usual way during the duration of the experiment, which lasted (8) weeks. teaching, gender) and then tried to control for a number of extraneous variables that the literature and previous studies indicated may affect this type of experimental designs..

The researcher prepared a test to measure the conceptual comprehension of the general teaching methods subject according to the content of the specific scientific material and according to the behavioral objectives of Bloom's levels: (remembering - understanding - application - analysis - synthesis – evaluation)

1-There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group who study according to the visual thinking networks strategy and the average scores of the students of the control group who study according to the usual method in the tribal conceptual comprehension test.

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2-There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group in the pre and post applications of the conceptual comprehension test.

3- There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group who study according to the visual thinking networks strategy and the average scores of the students of the control group who study according to the usual method in the post-conceptual comprehension test.

-4There is no statistically significant difference in the size of the effect at the level of significance (0.05) between the T-value calculated from the achievement scores of the experimental group students who are studying according to the visual thinking networks strategy and the T-value calculated from the average degrees of achievement of the control group students who are taught according to the usual method in Post-conceptual comprehension test.

First: the research problem

With the development of science and the advancement of technology, the need for innovation in teaching methods and strategies emerged, and educational institutions, including universities, became working to confront the changes that affected the joints of life and made the amount of knowledge embedding according to modern trends and presenting it in a progressive and human framework a primary goal for them, and accordingly increased interest in teaching methods. And it became imperative for all teachers to train on it, as it is with human diversity and different circumstances a decisive factor in achieving educational goals, and Al-Waeli mentions in this context, "It is known that teaching is based on goals that are intended to be achieved, and the method of teaching is what achieves those goals" (Al-Waeli 2004: . (28

Also, the teaching methods subject is characterized by a logical sequence and includes within it many concepts and relationships that require understanding and knowledge, as well as strategies. Teaching them is one of the professions that require special skills from the teacher. (Al-Aqbi, 2002, p. (164

Teaching is not just separate routine processes or skills, but rather a system of tight buildings that are closely related to each other to form an integrated structure in the end .Concepts and facts are among the basic building blocks of this building, as rules, generalizations and skills depend heavily on concepts in their formation, absorption or acquisition .This made concepts gain importance in teaching, which prompted educators to research and analyze scientific concepts in terms of their meaning, classifications, how to teach them and conceptual comprehension .They search for the best methods and methods that the teacher can use, and he is assured of their effectiveness in achieving the goals he seeks through which his students acquire the concepts accurately and clearly .(Abu Zina, 1997, p. 133)

The university stage is one of the important stages in the educational ladder, as it prepares students for professions and assumes their roles in building society. Therefore, it shows the importance of providing them with the basics necessary for their success .Teaching methods in the faculties of basic education represent a mainstay for the preparation of teachers and constitute a solid basis for

building them and qualifying them for the profession in an integrated manner that will benefit the student and students during their learning during the educational stages .

Philosophy and modern trends in teaching methods emphasize the active and positive role of the learner as the center of gravity in the educational process to increase his qualification, independence and cognitive approach) .Hassan, 1999, p. (6

Second, the importance of research

Educators emphasize that education in general is not just the transfer of knowledge to the learner, but rather a process concerned with the growth of the learner (mentally, emotionally, and skillfully), and with the integration of his personality in its various aspects. The main task is to teach students how to think and how to learn, not how to memorize courses and textbooks by heart Without understanding it or realizing it, or employing it in life .In this context, the teacher is the main key to achieving this goal. The best books, programs, and school activities, for example, may not achieve their goals unless there is a distinguished teacher who is familiar with his teaching method, teaching method, and use of his means .(Al-Hilah, 1999, p. 265)

Educators agree on the difficulty of setting fixed rules and single methods that the teacher follows when implementing the lesson, since the educational and educational process is based on interaction between the teacher and the learner, the school and the home .(Riyad Foundation..., 2003, pg. 29)

The researcher confirms the opinion that any teaching model, no matter how effective, we find in certain teaching situations becomes ineffective as a result of the different educational situations and the variation of learners and the emergence of individual differences among them) .Frederick 1994) showed that when he stressed the need to develop educational competencies that help teachers to select appropriate methods for teaching facts, skills or concepts) .Frederick, 1994, p. (28

It is known that the development that took place in the field of methods, especially e-learning, which we live and coexist with, has been linked to the scientific and technological development, which is a feature of the times, and as a result new concepts and modern topics have emerged in the curricula and methods of teaching them .indicates) Hard (that the concepts represent the link between facts and generalizations, and also refers to the necessity of defining the concepts included in any study subject when it is intended to be taught .(Hard , 1970 , P2)

The importance of concepts lies in the fact that they are the building blocks of the fabric of science, and they provide the student with a means by which he can keep pace with the growth in knowledge. The student without shaking his cognitive organization, and from the new facts, the person's concepts increase in depth and breadth .Thus, we see that concepts are open-ended, always allowing the addition of new knowledge and at the same time placing this new within the framework of the organization that makes the person constantly able to pursue the increase in knowledge .(Hamida et al., 2000, vol. 2, p. 53)

Third: Research Objectives

The current research aims to:

.1Recognizing the effect of the visual thinking networks strategy in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods.

.2Measuring the effect size of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods.

Fourth: Research Hypotheses

The researcher formulated the following hypotheses:

1- There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group who study according to the visual thinking networks strategy and the average scores of the students of the control group who study according to the usual method in the tribal conceptual comprehension test.

2- There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group in the pre and post applications of the conceptual comprehension test.

3- There is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the experimental group who study according to the visual thinking networks strategy and the average scores of the students of the control group who study according to the usual method in the post-conceptual comprehension test.

4- There is no statistically significant difference in the size of the effect at the level of significance (0.05) between the T-value calculated from the achievement scores of the experimental group students who are studying according to the visual thinking networks strategy and the T-value calculated from the average degrees of achievement of the control group students who are taught according to the usual method in Post-conceptual comprehension test.

Yesterday: Search Limits

The current search is determined by the following:

Spatial boundaries : Republic of Iraq - Baghdad - Al-Mustansiriya University - College of Basic Education - Department of Art Education.

Time limits :the academic year 2021-2020AD.

Human limits : Students of the Department of Art Education (third stage) morning study - College of Basic Education, Al-Mustansiriya University.

Objective limits : The effect of the visual thinking strategy in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods.

Sixth: Define terms

The researcher will address the terms related to his research (impact, visual thinking, conceptual comprehension, teaching methods subject.(

First, the effect

-defined by Shehata and Zainab (" :(2003 It is the result of desirable or undesirable changes that occur in the learner's capabilities because of the intended learning procedures carried out by the teacher".
(Shehata and Zainab, 2003: 22)

***-Al-Saqqaf (2007): "It** is what the learner sees of features, fingerprints, changes or effects in the thing that affects it, there is an influencer and an influencer in the sense of an independent variable that affects the dependent variable".*

(Al-Saqqaf, 2007: 19)

***And Ibrahim (2009) defined it" :**The ability of the factor or variable in the subject of the study towards achieving positive results, while the result is absent and not achieved, then the factor or variable may be one of the direct causes of negative repercussions and results) ".Ibrahim, 2009: (30*

-Al -**Saadi defined him**(2003) saying Bane) :Impression cognitive or my breath, generates a result Interaction the humanitarian and affected about I mean) .(Al-Saadi, 2012 AD, p. 31)

the definition procedural: Known **researcher** trace definition procedurally that he: Change Cognitive or psychological or kinesthetic What is meant? Which is happening when students the two groups Experimental Which The subject of General Teaching Methods is taught by visual thinking strategy and the group female officer, .will be Identify On that on road the test dimensional.

Second, visual thinking

1. **know him Mileman :(1993)It** is the learner's skill to imagine and present an idea or information, using pictures and drawings instead of a lot of fillers that we use in Communication with others .(20 :P , 1993 Mileman)
2. **Hassan (2006) defines it: a** system of operations that translates the individual's ability to read the figure The visual and the transformation of the visual language carried by that form into a written verbal language Or spoken and debriefing) .Hassan, 2006: (8
3. **Abdullah (2006) defines it :**a mental process that depends on the sense of sight, whereby the mental energy of the individual is focused on a very limited number of visual stimuli of the situation or problem.

)Abdullah Ali 2006, p. (83

4. **Amer ((2016**defines it as a pattern of thinking patterns that arise as a result of stimulating the mind with visual stimuli, and this results in the realization of one or more relationships that help solve a problem or approach a solution.. (Amer Tariq, 2016, p. 231)

Procedural definition: a system of perceptual processes linked to visual sensory aspects based on what is presented to the learner of artistic visual stimuli such as shapes, images and drawings.

Third: Visual Thinking Networks Strategy:

Al-Saqri defines it (2021): It is one of the cognitive representation strategies based on the agreement of brain formation and work on the right and left hemispheres of the brain, and it is one of the useful means for the teacher and the learner to create an active interactive educational situation) .Al-Saqry, 2014, (4

And Al-Mutairi (2019) defines it: It is one of the teaching methods used in the classroom, which consists of activities and mental skills that help the learner obtain concepts and facts through visual observations, drawings and visual aids, which in turn increase the learner's creativity, seeking to embrace the mind and ideas and invent solutions because every idea has The mind of the learner has an initial visual perception based on real foundations and confirmed information) .Al-Mutairi, 4, (2019

Practical definition: It is one of the teaching strategies that depend entirely on visual aids and on the learner's ability to link concepts with visual ideas to bring information closer to learners and increase their interaction in the classroom in order to create an active, interactive and flexible learner.

Fourth: Conceptual comprehension

1. **Jaber (2003) knows him:**

It is the ability of the student with learning difficulties to present the meaning of the material and the educational experience, to explain and expand some parts of the material, to clarify ideas, to apply them in new situations, to portray the problem and to solve it in different ways .

(2003Jaber Abdel Hamid Jaber,)

2. **and knows him Wigging and Mctighe:(2005)**

The student's ability to present the meaning of the material and the educational experience, interpret, translate and apply it effectively in new situations and different contexts, the ability to take a perspective and see things from a critical perspective, emotional sharing with others, and the learner's awareness of his mental and personal habits that constitute his own awareness (Wigging and Mctighe , 2005:25)

3. **And his request (2009) knows him:**

It is a mental process that depends on a number of interconnected and interdependent abilities, and it is evident through the explanation and clarification of scientific ideas and concepts, their interpretation and application in multiple and new situations, and identifying problems and solving them in multiple ways (Talaba, 2009, p. 119)

Abu Athra (2010) defines him:

It is the mental ability of students to understand and perceive concepts, clarify their implications, interpret them in their own way, and apply them in different situations (Abu Athra, 2010, p. 12).

procedural definition:
Students' ability to explain, interpret and apply information and skills in new situations and take perspective through their knowledge of themselves and their abilities, and emotional engagement with others.

Fifthly: Teaching Methods

Attia knows him (2008):
How to achieve the desired effect on the learner and lead to learning, or it is the planned actions that the teacher performs ;To help learners achieve specific goals, including the methods, tools, and means that the teacher uses during the educational process to achieve specific goals" (Atiya, 2008: .(342

Al-Husari knows him (1995):
It is: a set of interrelated and sequential activities and actions that the teacher plans and implements in the classroom or outside that allow him to achieve a specific goal as fully as possible) .The Exclusive, (213 ,1995

3. Saadi (2001) defines him:

It is all the conditions and capabilities that the teacher provides in a particular teaching position and the measures that he takes in order to help students achieve the goals set for that position (Saadi 2001 p.(9 .

4. Al-Kinani and his colleague know him (2012):

It is a coherent and integrated set of organized, purposeful and planned procedures for effective interaction within and outside the classroom in order to acquire specialized features in art education (Al-Kinani and his colleague, 2012, p. 164)

Procedural definition: It is the first step in which the school curriculum is put into practice, and it is also the first practical test of the suitability of the curriculum in terms of its objectives and content for the learner, for whom it was developed, hence the importance of these methods and the need to take care of them.

Chapter Two: Theoretical framework and previous studies

First, the theoretical framework

The first topic: visual thinking networks

First: think

The subject of thinking is one of the important matters that should be taken care of, and its development and maturity should be sought. It shows the awareness and culture of the human being, whether it is of scientific value or not, superficial and limited thinking. the decline in the level of scientific culture, and has been mentioned thinking since ancient times , meaning it is not recent, as God Almighty mentioned in many Quranic verses, said Ezz Almighty in his book Aziz } - :who remember Allah standing, sitting and lying on their sides and reflect on the creation Lord of the heavens and the earth that created this void Glory guide us the torment of Hell**191)** { (**Al Imran**

He says: {It is thought as} of **the Mudesir (** (**18**and the Almighty said: He who spread out the earth and make the Roissy and rivers and all fruits make the two couples covereth the night the day in that are signs for those who reflect {**thunder state 3**has singled out God son He has the characteristic of thinking, as thinking is born with man in his first mental stages of development, and the power of thinking depends on the ability of man to issue correct judgments and make right decisions, as man's thinking is of an abstract nature, he is not satisfied with the requirements of survival, nor is he satisfied with this amount of thinking His thinking goes beyond the things and phenomena that surround him, and his attempt to explain and understand them in order to adapt to the environment in which he lives, but also exploits them for his own benefit. Thinking has two important aspects: the physiological aspect and the acquired social, environmental, and cultural aspect**)** .**Amer, 2016, pg: (13**

Thinking is an aspect of human activity, and it is like the rest of the behavioral activities practiced by the learner in certain situations. Symbolic activity, dealing with symbols and how to use them.

Second: visual thinking Visual Thinking

It has several names , including (visual intelligence, intelligence visual and intelligent image, think about the visual, visual and spatial perception, and the significance of the image, visual culture, raising eye, feeding visual (generates visual perception with the birth of man, in the first months, in infancy is primitive And it is not clear, as things are vague and ambiguous, as there is no good distinction of shapes, and of the surroundings that the infant sees around him, and this stage is known as undistinguished. To give it a meaningful unity, and as the visual learning continues, the processes of recording information for the brain continue and with continuous modification, as these forms grow and develop to turn into other, more mature forms .

Where Debs developed a theory for the visual development of the child, through the three types of non-verbal languages identified by Roish and Kiss (by drawing, by event, and by object), where he mentioned the following: - The movements made by the mother of the infant in order to prepare her for his food This infant can read it even if he is hungry and crying, so he will stop crying immediately, because these children read the visual events that they see in front of their eyes, and he says that the older the children, the more their experiences and awareness of the elements of the environment surrounding him, as he becomes more aware of the visual stimuli that they represent. These elements, and when he is old he will read the signs and symbols of the visual language**)** .**Francis, 2015, pp. (8-7**

We cannot say that visual thinking began to appear recently. Rather, it has existed since the era of the Sumerians, as they were drawing shapes and symbols on clay tablets, to confirm learning for others and to keep the impact of these symbols and shapes in the memory of individuals and learners .

Visual thinking is one of the types of thinking that is concerned with its development, education, and teaching it to learners, because it is of great importance, through which a person can realize all the verses, scientific facts, knowledge and concepts that surround him.

It is like drawing closer to God and worshiping Him, as His Majesty mentioned in His Noble Book

}Have they not looked into the kingdom of the heavens and the earth and what God has created? And if it may be that their term is near, then in what hadith after it will they believe { Al -Aaraf: 185

Also, the five senses are the main outlets through which man overlooks the world that surrounds him, and discovers the marvels of God's creation. Vision is nothing but a visual perception through which man can see in two- and three-dimensional ways, and the connection of these perceptions with the past experiences of the viewer, so it can provide us with a tangible meaning. For words, seeing relationships, communication and communication between ideas, and the ability to learn to know facts, and information that can remain in the learner's memory.

(Mahdi, 2013, pp. 249-248)

Learning is one of the important matters that is necessary to be based on visual perception, as this type is suitable for visual people and people with visual intelligence, who prefer to collect their experiences and knowledge by viewing some pictures, diagrams, and sensory scenes, and then collecting information visually, through which they express what they have acquired. Sensory pictures, verbal descriptions, and maps in their various forms .

Visual thinking is one of the most important other types of thinking, as this type of thinking depends on what the eye sees, and the subsequent processes that occur inside the human brain, such as imaginations, comparisons, and analyzes, until it reaches the effect of this interaction in the human memory for a period of time. Beyond the survival of the effect in other types of thinking, visual thinking is related to the right half of the brain, as it is responsible for total perception, the ability to assemble and visual learning, and the left half of the brain is responsible for the actions of sequential, analytical, and time-related processes .

(14-13, pp.: 2016Amer,)

Visual thinking is one of the mental skills and activities that help learners to obtain information, interpret it, represent it, perceive it, and then memorize it, after which the learner expresses it and his own ideas visually and verbally. Those who think visually, employ vision, imagination and drawing in an active and graceful manner, as they move their thinking from one imagination to another. If it is considered one of the higher levels of thinking, it enables the learner to have a comprehensive future vision of academic subjects without losing any of its parts, as he looks at things with a visual perspective.

Thinking through pictures ,is considered a thinking phenomenon through visual processing, where the other alternative is thinking through linguistic or verbal processing, often non-linear as it has a formula of computer simulation, that is, the introduction of many systems into a deep production process can be obtained from the statement. On that view through language alone .

(128: 2008Ramadan Badawi,)

Visual thinking strategy

Technical educational institutions in the twenty-first century have paid great attention to the development of thinking in general and visual thinking in particular, assuming that knowledge is not a goal in itself, but rather a means to improve the learner's thinking structure, as the construction of thinking processes takes place on the basis of interrelationship between language This means that each of the arts curricula includes elements that encourage the learner to think skill, which preoccupied researchers with many questions. Is thinking capable of learning or not ?Is thinking a mental skill that can be developed through practice and direct care, or is it an innate willingness found in individuals in general ?However, thinking, by its general nature, is the skill of the individual or the learner, and it is related to the extent to which he possesses the skill of practicing it .

The visual thinking strategy appeared in the United States and began to work in the mid-seventies, by a cognitive psychologist) Abiyill Housen (and art educator) Philip Yenawine During their research in which they tried to understand the degrees of difference between the theories of people affected by a meaningful piece of art, both of them discussed understanding the calls that came for aesthetic development, based on the work of each of) Arnhein 1969 , Bruner 1972 , Likepiayet 1973 ,, Balamin 1975 , Loerinyer 1976 ,(which examined patterns of observed behavior in the world, where all interpretations were based on observations.

(106-105, pp. 2016Amer, and Al-Masry,)

This strategy included a series of systemic procedures that focused on developing a focused view on learners' education, and a professional program for the development of classroom teachers was also offered. The visual form and its transformation into a verbal or written language. The objectives of the visual thinking strategies include developing communication skills and creative and logical thinking skills, and most of all, it gives students confidence in dealing with complexity, ambiguity, multiplicity and diversity of opinions, and the cognitive and experimental evidence indicated It is based on research in the visual thinking strategy, that the development in visual forms can build cognitive development, in addition, the visual thinking strategy that is presented to learners, in different situations, may serve them when they are exposed to other topics, as well as the discussions that take place through processes Visual thinking, helps to develop the learners' style during discussion, and it also helps them in dealing with other areas of society**)** .**Mahdi and Suha, 2013, p.: (256-254**

Visual thinking strategy steps

There are several steps to the visual thinking strategy, and they are as follows:

1- Displaying the technical model or the artistic painting that expresses a purposeful awareness message.
2- See the relationships in the technical model and determine the characteristics of those relationships.
3- Connecting existing relationships through the artistic model, and deducing new relationships in light of the existing relationships in the form or the artistic painting.

4- Realizing the ambiguities or gaps through the form, after studying the existing and previously inferred relationships in the second and third steps of this strategy, and putting the areas of ambiguity or gaps under study and scrutiny.

5- Visually think about the shape or model in light of the identified ambiguities or gaps, and try to use previous evidence or theories to get rid of the specific ambiguities or gaps.

-6Imagine the final result of the message included in the artwork by seeing the painting well and examining its details, taking into account that this step includes all the previous steps, as this step is the outcome of the previous steps and the imagination of the message is mentally through the displayed form .The previous figure shows the progress of the strategy steps during the lesson.

(107-106, pp.: 2016Amer, and Al-Masry,)

The second topic: Conceptual comprehension

Learning concepts, ideas and scientific principles cannot be achieved by memorizing and memorizing without deep awareness and the surrounding awareness of their characteristics, and without knowing how to benefit from them in vital, applied situations that show their feasibility. 2010, p. .(65

A sound scientific understanding requires an awareness of the logical relationships and links between scientific concepts, and an awareness of the evidence and proofs that are employed to prove the validity of the concept .(Lawson and Thompson, 1988p76)

Despite the multiplicity of views by educators and researchers about the meaning of conceptual comprehension, they all revolve around the same ideas and meanings, such as:

Conceptual comprehension: It is the ability to perceive the meaning of scientific concepts, principles and ideas with a certain depth as determined by scholars, and to interpret and clarify their ideas and apply them in new situations.

Conceptual comprehension: It is the degree or extent of sound scientific understanding of the mental ideas and perceptions that exist in the mental structure, that is, the mental structure that resulted from the awareness of the common relationships or characteristics of concepts, phenomena, events or things (Zaytoun, 2007, (481

Judy Dewey says, “To understand a thing, an event or a situation, means to see it in its relations to other things: to see how it works or operates, its consequences, its causes, what causes it and its uses in different situations. Wiggins and McCay,2001 (57Conceptual comprehension is related to the scientific content and the extent of depth and the ability to understand its scientific components of concepts, laws, principles ,theories and scientific ideas.

It is the student’s ability to present the meaning of the material and the educational experience, and it appears in the interpretation of some parts of the material, the expansion of it, the clarity of ideas, their application in new situations, and the portrayal of the problem and its solution in different ways (Jaber, 2003, p. .(23

First: the concept of conceptual comprehension

The concept is defined as “a continuum of inference that refers to a set of observed characteristics of an object or event that leads to the identification of a specific category that entails additional inferences about unobserved characteristics.” It is “a identification of the common characteristics between several situations or things, and this abstraction usually gives a name, a title, or a symbol” (Al-Sherbiny, and Sadiq, 2000, .(34

Some have divided the definition of the concept into two types of definitions, a logical definition, which is “a set of common characteristics or features that distinguish a group of things, events, or symbols from other groups.” The other definition is a definition of the concept, which is “an idea or an image.” A mentality that an individual creates about things or events in the environment” (Aql, 2002, .(77

Shehata and Al-Najjar (2003,286) define the concept as: It is a mental formation that arises from the abstraction of a characteristic, or more than multiple partial cases (examples) in each of which has this characteristic where the characteristic isolates what surrounds it, so which of these cases is given noun or term.

Al-Laqai wa Al-Jamal (2003, 282) defines the concept as: an abstraction expressed by a word or symbol, referring to a group of things or types, which are characterized by common features and characteristics or are a group of things, or types that are grouped by certain categories.

Mahmoud Mansi (2003, p. 227) defines the concept as: a set of characteristics, or features that distinguish a group of people or things, as it determines the common characteristics between them.

Second: Strategies for conceptual change

Strategy is a relatively recent concept, especially in the humanities, and it was originally used in military life to express the rational and relatively long-range management of battles, as opposed to tactics, which means the art of managing battles one after the other. I took the term Teaching Strategies. (Ghareeb 2006, .(871

)Zaytoon, 2009, pg. 43) defines teaching strategies as: the method of teaching and learning planned to be followed by the teacher inside or outside the classroom to teach the content of a particular subject, in order to achieve predetermined goals. Do them while you are teaching that content.

)Ali, 2011, 164) defined the teaching model as an application of learning models in the classroom based on proposing a set of specific and organized procedures that
would direct the process of implementing learning and teaching activities, in a way that facilitates the educational process to achieve its
cognitive, skill and emotional goals . As for (Zaytoon, 2003), a teaching model is defined as: a specific style
of education that is coherent, comprehensive, and recognized) .Zaytoun, 2003, .(237

The conceptual change model, as proposed by Posner, is summarized in replacing the students' alternative perceptions with sound scientific understanding through two successive stages: :

First : The stage of identifying the students' alternative perceptions (misunderstanding patterns(

Second: The stage of using an appropriate treatment method and strategy to provide sound scientific understanding through :

.1The development of the individual's ability to distinguish the new concept, which is clear, reasonable and useful, and this stage was known as the stage of assimilationAssimilation

.2Achieving the process of fully accepting the new concept by the individual, by exchanging the new concept with the old one by raising the value of the new concept at the expense of the ruins of the old concept .(Al-Najdi et al., 2005: .(457

The third topic: Teaching methods

Teaching method concept.

The method in its broadest sense is nothing more than necessary steps to do something. The carpenter has his own way of preparing the requirements of a house built of wood and building for it His way of building, the mechanic his way of repairing cars and machines, the barber his way of grooming the hair, the farmer his way of farming, the doctor his way of using his scalpel, and the teacher his way of delivering his lesson within the prescribed curriculum.

In any of the study curricula, the method becomes good when it results in the teacher's success in the process of teaching and educating students in the easiest way. So what is the concept of teaching method and general teaching methods?

We would like to point out that there are dozens of definitions of the teaching method, including:

Teaching method: It is one of the elements of the curriculum that includes a series of organized, linked and sequential activities, led by the teacher inside the classroom to achieve educational goals and outcomes in the short and long term.

Teaching method: It is the approach taken by the teacher in communicating the study material to the students of information, skills and directions easily and easily through the interaction between the teacher and the student and achieving the required scientific communication.

The general method of teaching: the educational methods that are suitable for all subjects, such as the method of presentation, discussion, problem solving, exploration ... and others, corresponding to teaching methods specific to each subject .There is the method of teaching science, mathematics, art education, ... and others) Mahmoud, Shehata, 1991, p. .(75

Factors determining the choice of art education teaching method

1. The school stage (primary, secondary, university). As a result of mental and temporal age and physical maturity (the nature of the learners), what is appropriate for an educational stage may not be appropriate for another educational stage.

2. The nature of the teaching material and its scientific content (theoretical, practical.(

3. The teaching environment and the available material resources (place, time, equipment and techniques.(...

4. Desired teaching objectives.

5. Psychological foundations and learning requirements (suspense and excitement, presentation of the material, individual or group learning) .(.....Al-Kinani and his colleague, 2012, p. (138

Teaching, old and new, there are several methods, the most important of which are

The old methods depend on simple strategies that do not meet the purpose of learning and do not meet his basic needs in the teaching process. They put the learner in the place of receiving, and the most important goal that can be achieved is the extent to which the learner memorizes information. The teacher depends on the method of delivery, and there is no role for the learner here.

As for modern methods, they depend on modern methods and methods that focus their attention on the learner, and the extent of his interaction with them, while the old methods do not take into account the individual differences between students, as they look at the class as if all its students are at the same level, but the modern methods take into account the individual differences between students. It is concerned with the problems of students with learning problems .In the old ways, the learner is asked to focus on the sense of hearing and sight. The teacher explains on the blackboard. The student listens to the teacher and transmits what the teacher writes. Thus, the learning process is free of interaction between the teacher and the student and between the students themselves. Therefore, modern strategies relied on the use of multiple tools and the classroom interaction increased .The student relied heavily on the textbook and the information it contains, but in modern methods, the student gets information in an easier and faster way through the World Wide Web) Qatameen, Qatami, 1998, p. .(11.

Future directions in the formation of the necessary competencies for teaching

It is not possible to develop the teacher's performance without standards that clearly define the competencies that are supposed to be available in the teacher, until he is able to perform his work tasks in the required manner) .Siddiq, 2004, p. (14

The idea of teacher tests is based on the fact that teaching is a profession that has its own requirements and conditions, like other professions, such as medicine, engineering, etc., and according to this, only those who are proficient in it should be allowed to practice it. Tests can be used in evaluating teachers who wish to join the profession for the first time .To identify the possibilities of their acceptance first, and to identify the deficiencies that can be improved later, and can also be used in evaluating teachers during the service to obtain feedback that enables them to improve their performance) .Yassin, 1999, p. .(54

Training programs during the practice of the profession are among the most prominent programs of refinement and raising the efficiency of teachers, which must be taken care of, and this was confirmed by the National Authority for Teaching and the Future of America in its report on negative practices in the field of teaching, the most important of which is the insufficient preparation and training of teachers, as there is no way to address this except through Pay attention to in-service training programs and allocate funds to address these practices.

We also find that the International Conference on Education has recommended that preparation and training during the practice of the profession is a right. Rather, it is an obligation on all workers in the field of education, especially teachers, so that they can play their desired role in light of globalization and the rapid successive developments, and this can only be achieved through the renewal of their knowledge. and their skills continuously) .Al-Muhaisin, 2002, p. (33

These programs are increasingly important to develop the competencies of teachers in developing societies that are racing against time to benefit from their human resources, and to exploit the latent energies of their children in order to catch up with progress and civilization .The process of preparing and training the teacher entails providing him with many of the competencies he needs in his work, which are determined by the sound scientific method, as the teaching process is one of the most complex operations, as it includes three main competencies: planning, implementation, and evaluation, and the completion of each adequacy requires that The teacher is proficient in doing many sub-competencies that achieve effective teaching.

Educational scholars affirm that evaluation is the main entry point for reforming teaching in any country .Where the evaluation is a bridge to cross the distance between our reality in which we live and the goals that we aspire to, and in this way it is considered a tool for educators to move educational practice from what exists, to what should be, and thus develop and improve the process of teaching and learning, and derives its importance from the seriousness of making judgments in the field educational ;Because the effects of decisions based on these provisions are positively or negatively reflected on thousands, even millions of young people, and thus on society as a whole.)Al -Haqadi, 2001, p. (43

The importance of teaching method

The method of teaching is one of the elements of the curriculum in its broad or modern sense. Accordingly, the teaching process can be considered a link between the student and the elements of the curriculum, and the method in this way guarantees the educational situations that take place in the classroom organized by the teacher and the method that he tires of doing so .On the other hand, the teacher should make his lesson desirable to the students through the teaching method or methods that he follows in stimulating the students' effectiveness and activities so that they are not passive, receiving information from the teacher only, and because the teaching method is one of the components of the curriculum - as mentioned previously - if the method exists and does not exist The material could not be reached by the teacher, and if the material was rich and the method was weak, the desired goal would not be achieved, and the good method could not compensate for the weakness of the material, and the abundance of the material became useless if a good method was not encountered) .Jaber, 2003, p. (98

Accordingly, the importance of the teaching method is manifested in its being essential for both the teacher and the student and the curriculum. It provides opportunities for an organized transition from one paragraph to another and from one topic to another clearly, especially after they know the teacher's method of teaching. As for the curriculum, the main goal of education is to deliver the study material to students and achieve new learning or develop a skill, and whenever the method is appropriate in terms of time And the level and style of the teacher, the absorption process was deeper and more effective) .Francis, 2015, pg. (89

Second: previous studies

Study (Nora Abdullah Ali, (2019

Visual thinking strategy and its applications in teaching arts (photography as a model(

The research aims at 1- Identifying contemporary educational approaches in teaching arts. 2- The effectiveness of using the visual thinking strategy in photography for first-stage students at the Institute of Fine Arts / Al-Kadhimiya Al-Muqaddas. The research sample is from the students of the first stage (Institute of Fine Arts.(/The holy Kadhimiya (30) students were distributed into two groups, one of them is an experimental group consisting of (15) students and the other is a control group consisting of the same number of students. To show the results of the research, the appropriate statistical methods were used. The most important results reached by the researcher, which is the superiority of the experimental group that was studied according to the visual thinking strategy over the control group, which gave a positive indication of the importance of this strategy.

Study (Maha Mohamed Hassan, (2019

The effect of the strategy (cross-plans-people) in the achievement of mathematics and the development of conceptual comprehension among the biology fifth grade students.

The aim of the research is to identify the effect of the strategy (cross-plans-people) on the achievement of mathematics and the development of conceptual comprehension among the biology fifth grade female students .The following null hypotheses were developed: 1- There is no statistically significant difference at the level (0.05) between the mean scores of the fifth-grade biology students (the experimental group) who learned mathematics according to the strategy (cross-plans - folk) and the students who learned the same material in the same way. Ordinary (control group) in the achievement test -2 .There is no statistically significant difference at the level (0.05) between the mean scores of the fifth-grade biology students (the experimental group) who learned mathematics according to the strategy (cross-plans - folk) and between the students who learned the same subject in the usual way (the control group). In a conceptual comprehension test .The research community, which represents the biological fifth grade students from the representation of the Ministry of Education for displaced students in Sulaymaniyah, was determined. The research sample (50) students was selected and the sample was divided into two groups: 1- An experimental group that studied according to the strategy (cross-plans - people). 2- A control group that studied according to the usual method .Equivalence was conducted between the two groups in the variables (previous achievement in mathematics, general achievement, chronological age in months, tribal conceptual comprehension test). The researcher prepared an achievement test consisting of (30) items in its final form, and a conceptual comprehension test consisting of (24) items The psychometric properties of the two tests were confirmed, and after applying the two tests, the data were collected and processed statistically using the t-test for two independent samples .The results showed: 1- There is a statistically significant difference between the students of the experimental and control groups in the achievement test of mathematics in favor of the experimental group -2 .There is a statistically significant difference between the students of the experimental and control groups in the conceptual comprehension test for the benefit of the experimental group .In light of the results, the researcher reached a set of conclusions,

recommendations and proposals, the most important of which is the adoption of a strategy (cross-plans-people) in teaching mathematics.

Study (Waddah Taleb Daaj, Hossam Hussein Abbas, (2020

The impact of the teaching diversification strategy on the achievement of students of the Institute of Fine Arts in the subject of Teaching Methods, Art Education

The research aims to: Know the effect of the teaching diversification strategy on the achievement of the students of the Institute of Fine Arts in the subject of Art Education Teaching Methods .The researchers used the two-sample experimental method (experimental and control) with the aim of measuring the duration of the answer to the test, the coefficient of ease, difficulty, the discriminatory powers of the paragraphs, and the effectiveness of the alternatives, for each paragraph, and the test was corrected according to the results of the pilot experiment .The researchers prepared an achievement test that consisted of (25) items of a multiple-choice type, and the validity of the test was confirmed by presenting it to a group of experts and ensuring the stability of the test by (testing and re-testing) as well as calculating the (difficulty factor, discriminatory power, and the effectiveness of wrong alternatives). The researchers conducted the pre-test on the individuals of the research sample in two groups, the experimental and the control group. The researchers used the statistical program)) Spss In analyzing the results, the researchers obtained the rejection of the null hypothesis and the acceptance of the alternative hypothesis, and they recommended the use of the teaching strategy of teaching diversification in teaching third-year students in the institutes of fine arts for boys, and they suggested conducting similar studies for this research in other branches and stages of study and with different variables.

Chapter Three: Research Methodology and Procedures

First: Research Methodology :

Since the current research aims to identify (the impact of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods), the researcher adopted the experimental method to achieve the goal of his research because it is an appropriate approach to the research procedures and reaching the results and accordingly the research procedures passed as follows:

Second: Experimental Design:

The choice of the experimental design is one of the important matters that falls on the shoulders of the researcher when carrying out a scientific experiment, and that the safety and validity of the experimental design is the real guarantee to reliable results, and the experimental design is more like a blueprint or work program for how to implement the experiment, and planning for the conditions and factors surrounding the phenomenon studied and observing it) . .Abdul-Rahman and Zanka, 2007: 487), and when the experimental design is based on the objectives of the research and its variables under which it will be implemented, the results we obtain will be more accurate and objective) Raouf, 2001: 178). Sufficient control, as the phenomena are complicated and the variables overlap, which makes the process of controlling them very difficult, no matter what measures are taken to control these variables) .Alyan and Ghoneim, 2000: (270

And (Al-Assaf, 2006) mentions that one of the greatest difficulties faced by the application of the experimental method is the complexity of the human phenomenon and the difficulty of controlling the variables that have an impact on it, which increases the difficulty of measuring the effect of cause on effect) .Al-Assaf, 2006: (203
Accordingly, the researcher used the experimental design with partial control, the design of the experimental and control groups with a pre and post test.

In order to achieve the conditions required for the experimental design, the research sample must be chosen at random and a pre-test is given to the two groups, and then the experimental group is subjected to the independent variable (the strategy of visual thinking networks (and is withheld from the control group. The Independent) Visual Thinking Networks Strategy .(The design is as shown in Table (.(1

Table (1) Applying the Visual Thinking Networks Strategy

dependent variable	**post test tool**	**independent variable**	**pretest tool**	**the group**
Develop conceptual comprehension	Cognitive test for teaching methods	Visual Thinking Networks Strategy	Cognitive test for teaching methods	Experimental
		normal method	Cognitive test for teaching methods	control

Third: the research community:

The research community means all the vocabulary of the phenomenon to be studied, whether these vocabulary are human beings, books, educational activities, or otherwise (Dames, 2008: .(201

The current research community is determined by the students of the Department of Art Education / College of Basic Education _ Al-Mustansiriya University, whose number is (618) male and female students, (245) males, (373) females, (166) first stage, (173) second stage, and (170) a third stage, and (109) a fourth stage, and table (2) shows this:

Table (2)

The research community is broken down by stage and gender

the total	female	male	stage	Section

166	120	46	first	Art education
173	102	71	the second	
170	101	69	the third	
109	50	59	the fourth	
618	373	245	the total	

Fourth: Research Samples

A group of the research community, and the best representative of the elements of the community, as the results of that sample can be generalized to the entire community (Al-Assaf: 118, .(2006

The researcher identified the research samples, as follows:

- **Sample search experience:**

The researcher chose the students of the Department of Art Education / College of Basic Education _ Al-Mustansiriya University, the third stage, in order to apply the research experience, so the research sample consisted of (70) students from the third stage who are studying the subject of general teaching methods, for the academic year 2021-2020according to the cooperation of the Presidency The department is that the researcher is a student in the department ,where the researcher separated the students into two halls, where the first hall contains (35) male and female students for the control group and the second hall contains (35) male and female students for the experimental group randomly and without excluding any of the students .Table (3) shows this:

Table (3)

Experimental sample distributed by stage and gender

the total	control		Experimental		stage	Section
	a	NS	a	NS		
70	19	16	20	15th	the third	Art education
70	35		35		the total	

- **A sample of the clarity of the cognitive test instructions for the General Teaching Methods subject:**

The researcher presented the cognitive test for the General Teaching Methods subject, which consisted of (32) paragraphs for the exploratory sample students in the third stage _ Department of Art Education / College of Basic Education, where their number reached (20) students of the third stage _ Department of Art Education were chosen randomly, for the purpose of identifying On average time taken to answer 0

- **Statistical analysis sample for the cognitive test for teaching methods:**

The researcher applied the test to a sample size of (80) male and female students from the third stage, Department of Art Education - College of Basic Education / Al-Mustansiriya University

/ morning study. The purpose of this application is to know its psychometric properties and to ensure the validity of the paragraphs.

a .Correct the answers

NS .Arrange the data in descending order and divide it between two groups, high and low.

NS .Taking the students' answer sheets above %50and below %50of the total students, on this basis the items were analyzed to find the coefficient of difficulty, the strength of item discrimination and the effectiveness of the alternatives, and Table (4) shows that: And the relationship of the paragraph score with the total score of the test.

Table (4)

Statistical analysis sample distributed by stage and gender

the total	female	male	stage	Section
80	45	35	the third	Art education

Fifth: Equality of the two research groups

Equivalence means making the experimental and control groups completely equal, that is, they are similar in all the variables except for the independent variable whose effect is to be studied.) Al-Assaf, 1987: pg. (312

Where the researcher carried out the process of equivalence between the two research groups (control and experimental) statistically in the following variables:

The equivalence between the two research groups:

The researcher conducted a statistical equivalence between the two research groups in some extraneous variables that may affect the results of the experiment, despite the fact that the students of the research sample are from social and economic milieu to a large extent similar, and they study in a scientific department and one college, and these variables are:

A- The chronological age of the students of the two research groups (experimental and control.(

b Intelligence of the students of the two research groups (experimental and control.(

NS .Conceptual comprehension test in teaching methods subject (experimental and control.(

Dr ..Gender variable (experimental and control.(

A-Chronological age of the students-:

Table (5) The arithmetic mean, standard deviation, and the value of) t (calculated for the chronological age of the students of the two research groups) experimental and control), calculated in months

Indication level	T value		degree of freedom	standard deviation	SMA	number of students	groups	T
	tabular	calculated						
Not a function at level (0.05)	2,00	-0,427	68	6,279	74 ,253	35	Experimental	1
				5,455	254,34	35	control	2

B intelligence-:

table(6)
The arithmetic mean, standard deviation, and the value of) t (calculated for the intelligence test scores of the students of the two research groups (experimental and control).

Indication level	T value		degree of freedom	standard deviation	SMA	number of students	groups	T
	tabular	calculated						
Not a function at level (0.05)	2,00	-0.192	68	4,899	43,14	35	Experimental	1
				3,741	43,34	35	control	2

NS .Conceptual comprehension test scores in the subject of teaching methods (experimental and control .(

d deviation, and the value of) t (calculated for the scores of the conceptual comprehension test for students of the two research groups (experimental and control.(

Indication level	T value		degree of freedom	standard deviation	SMA	number of students	groups	T
	tabular	calculated						
Not a function at level (0.05)	2,00	-0.184	68	2,706	02 ,15	35	Experimental	1
				2,486	15,14	35	control	2

Parity in the sex variable:
Table (8) shows the value of (K2) for the differences in the gender variable between the two research groups (experimental and control.(

Significance level 0.5	value (k(2		degree of freedom	female	male	the number	the group
	tabular	calculated					
Not statistically significant	3,84	0,058	1	20	15th	35	Experimental
				19	16	35	control

The fourth chapter

In this chapter, the researcher will present and interpret the results according to the approved research hypotheses, and come up with a set of conclusions, recommendations and suggestions, as follows:

Presentation and interpretation of results:

The first hypothesis) : **there are no statistically significant differences at the level of significance (0.05) between the mean scores of the experimental group students in the two applications, before and after the conceptual comprehension test**(
table((16

The calculated value and the tabular value of the experimental group's answers to the test, before and after.

Statistical significance ((0.05	T value		degree of freedom	The difference between the averages of the two tests	standard deviation	SMA	the sample	the test
	tabular	calculated						
function in favor of dimensionality	2,042	19,324	34	12,714	2,706	15,029	35	tribal
					2,501	27,743		dimensional

It is clear from the above table that the difference is statistically significant, as the calculated t-value of (19,324) is greater than the tabular t-value of (3,042) at a significance level of (.(0.05This means that the strategy has contributed to the development of the conceptual comprehension of the students of the experimental group .Figure (5) shows the averages of the pre and post tests.

Figure (5) The mean scores of the two applications, the pre and post applications of the experimental group

The second hypothesis) : **There are no statistically significant differences at the level (0.05) between the average scores of the experimental group students who are taught according to the visual thinking networks strategy and the average scores of the control group students who study in the usual way in the post-conceptual comprehension test.(**
Table (17) Calculated and Tabular T-Value
The mean and standard deviation of the scores of the students of the two groups

Significance level(0,05)	T value		standard deviation	average	the number	the group
	tabular	calculated				

statistic	2	8,115	2,501	27,743	35	Experimental
			2,821	22,571	35	control

It is clear from the above table that the calculated t-value of (8,115) is greater than the tabular t-value of (2), at the level of significance (0.05) and the degree of freedom (68), and this means that there are statistically significant differences between the experimental group that is studying According to the strategy of visual thinking networks, and the control group that is taught in the usual way in the post-conceptual comprehension test, and in favor of the experimental group .Figure (6) shows those averages.

Figure (6) The averages of the two groups for the post-conceptual comprehension test

Second: Interpretation of the results:

The result of the current research in the two research groups (experimental and control) shows that the strategy of visual thinking networks in teaching plans has a positive effect in developing the conceptual comprehension of students of the Department of Art Education in the subject of general teaching methods, as the difference between the mean scores of the experimental and control groups was statistically significant at the level of Significance (0.05) as the students of the experimental group who studied using the visual thinking networks strategy outperformed the students of the control group who studied according to the usual method, and the researcher believes that the superiority may be attributed to the following reasons:

1- The students who studied the general teaching methods curriculum according to the visual thinking networks strategy is attributed to the fact that the steps of the visual thinking networks strategy contribute to the process of perceiving events and ideas for students for the longest time.

-2The reason for the superiority of the experimental group students is due to the recent steps of this strategy.

-3The strategy of visual thinking networks transfers the teacher from the role of the informant to the mentor, supervisor, interlocutor and reinforcer, which may generate in the students a feeling that they are an important source of information and mutual facts among themselves,

and this positively affects their general achievement test in knowledge teaching in the subject matter.

Thus, the null hypothesis is canceled and the alternative hypothesis is accepted, which indicates that**) there is the effect of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods**0 (

The results of the current research in terms of the strategy of visual thinking networks agree with the study (Zainab, 2015), the study (Nora, 2019), the study (Maha, 2019), and the study (Al-Ghamdi, .(2019

Second: Conclusions

-1The strategy of visual thinking networks has proven its effectiveness in the current study by increasing the achievement of third-year students in General teaching methods.

-2The use of the visual thinking networks strategy in teaching has a positive impact on the development of the cognitive side of the third stage students.

3- The use of the visual thinking networks strategy helped to raise the level of achievement among third stage students.

4- The visual thinking networks strategy made the students an important focus of the education process, as it helped the positive interaction between the students.

Third: Recommendations

-1Emphasis on the need to use the visual thinking networks strategy in teaching general teaching methods because of its importance in developing the cognitive side of students.

-2The necessity of making chairs for professors with modern strategies and methods in teaching in general and the strategy of visual thinking networks in particular.

3- Using modern models of (strategies and methods) to keep pace with the educational process and support the teaching process with the capabilities of these models in order to deliver the study materials to the minds of students.

4- The colleges, according to the people of continuing education, prepare training programs for teachers and train them on how to adopt the strategy of visual thinking networks, which focused on developing the knowledge aspect, due to the requirements of the times and the tremendous scientific and technical developments that are taking place.

Fourth: Suggestions

To complement the current research, the researcher suggests conducting the following studies:

1. *The effectiveness of the visual thinking networks strategy in other study subjects that focus on the cognitive aspect.*
2. *A balancing study between the strategy of visual thinking networks and another model 0*
3. *The effect of the visual thinking networks strategy on developing critical thinking among students of the Institute of Fine Arts.*
4. *Employing the strategy of visual thinking networks in developing creative thinking among graduate students of art education departments.*

5. The effect of the visual thinking networks strategy on dependent variables other than the dependent variables that were treated in the current research

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