

THE EFFECT OF THE STRATEGY OF THE GUIDED IMAGERY STRATEGY IN THE ACHIEVEMENT OF SECOND-GRADE STUDENTS IN SCIENCE

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Abstract

The current research aims to identify "the effect of the strategy of Guided imagery on the achievement of second-grade students in science ". To achieve the goal of the research, the researcher developed one zero hypothesis that was tested. The researcher chose the experimental design with two symbiotic groups (an experimental group, and a control group), to suit it for the purposes of the research. The researcher intentionally chose the sample from the secondary school (Amer Abdullah school) of the Directorate General of Nineveh Education to be a field for the implementation of the experiment. The researcher's number of students in the research sample was (44) students with a reality of (22) students in each of the two groups. The researcher rewarded the students of the two groups statistically using a square K and the second test in the following variables: (academic achievement in the science subject for the second grade is average for the academic year (2021-2022)). After the researcher determined the educational material, he sought to formulate behavioral goals for the topics. The number of (126) was behavioral goals, and he prepared the teaching plans for both groups.

In order to achieve the goal of the research and test its hypothesis, the researcher was asked to prepare an achievement test, which in its final form consists of (40) paragraphs in the form of multiple selection, mating and integration test (continuation). The researcher extracted his difficulty coefficient and the discriminatory strength of his paragraphs, and his honesty and stability, which reached (0.811), was confirmed.

The results were as follows :

1- The existence of statistically significant teams in the post-test (achievement) for the experimental and control groups and in favor of the experimental group, thus rejecting the zero hypothesis and accepting the alternative hypothesis.

The researcher made a number of recommendations, including:

1- Include in the curricula of teaching methods in faculties of education, basic education colleges and teachers' institutes some modern teaching methods, including Guided imagery and achievement .

Future research has been proposed, including:

1- Conducting a comparative study of the strategy of Guided imagery and other strategies on the same variables of the current study.

Definition of research

First: the problem of research

Rapid developments and sudden changes in societies in general have imposed a number of obstacles and problems in all

areas of life. It is natural that the educational field is affected by these sudden changes, which led to the emergence of many problems that surfaced on the surface of the educational reality that require treatment, the most important of which is the low level of achievement and weak thinking skills. Teachers have not focused their attention on teaching their students to think about teaching materials in general and science in particular, as well as their lack of use of modern teaching methods and their adoption over the past two years largely on educational platforms.

When we observe the reality of teaching science in our educational institutions, and even after switching to integrated education, we find that the usual methods still constitute a large presence among the methods used by the teacher inside and outside the classroom, and the role of the learners is negative and they rely heavily on the teacher in order to obtain information to become the teacher in one way or another axis of the educational process.

Through the above, the researcher was able to identify the problem of the study, which is that the vast majority of middle school teachers do not ask for modern strategies in their teaching of science, which is an important basis in the development of thinking skills because of their lack of experience and information about these strategies

Therefore, the researcher considered the use of a strategy of Guided imagery (one of the modern strategies in modern teaching) that may work to develop thinking in general and thinking beyond cognitive in particular when requesting the second intermediate grade.

Second : The importance of research

Imagining is a type of process related to many mental activities, and it is a process of flowing into the individual's thoughts, or so-called daydreams, so that he can see and hear the tattoo and taste of the imagined thing, which is called the

mental representation of the individual's past experiences and the way to know his thoughts and feelings, so that the subject gives a kind of information that is included in the imagined mental image and affects our judgments and ways of thinking at the same level as the direct sensory experience of that subject. (Thomas, 1997a:127).

Psychologists in the modern era have been interested in studying and developing imagination, at different stages of teaching because imagination is important in helping the individual to adapt to his external world and predict possible solutions to many of the problems that he encounters, and alleviate the anxieties that surround him . (Al-Tayeb, 2006: 177)

Third : The goal of the research: The current research aims to identify: -

1- The effect of Guided imagery strategy on the achievement of second-grade students in science

Fourth: The limits of the research: The current research is determined by :

1. Second-grade students in the city of Mosul
2. Academic Year 2021-2022
3. Amer Abdallah Applied School in Nineveh Governorate
4. Science book by Prof. Dr. Hussein Abdel Moneim Dawood, Third Edition of the Year, 2019

Fifth: Research hypothesis

1- (There is no statistically significant difference at the level of significance (0.05) between the experimental and control groups in the achievement in the subject of science).

VI. Definition of terms

First: Guided imagery

Mohidat:2019) : It is the process of using the capabilities of the mind in the imagination and perception of different topics and events as it helps students to form mental images related to the subject of the lesson (Mohidat, 2019: 156).

The procedural definition of Guided imagery is defined by the researcher:

A number of steps carried out by the researcher according to logical coherence and sequence m Applied by the researcher in a coordinated manner to achieve the objectives of the lesson and help students to raise the level of their academic achievement represented by the teaching plan developed by the researcher for the purposes of this research .

Second : Achievement

(Al-Fakhri,2018): It is **the** result of what students acquire from the educational process of knowledge, information, skills, trends and experiences as a result of his effort during his school learning or studying at home and can be measured by regular school tests at the end of the year.

The researcher defines achievement as the amount of knowledge, information and concepts acquired by the second intermediate grade students (the research sample) from the subject of science as a result of teaching them according to the strategy of imagining directed by the researcher, which is represented by the degree that they obtain in the achievement test, which was prepared by the researcher for this purpose.

Chapter Two: Theoretical framework and previous studies

Al-Saadi (Saadi, 2020) points out that imagination is the ability of the individual to form and feel mental symbols and images of topics and things, as it refers to sounds to the human ear or a picture in the human eye and smells of the human nose and is considered one of the patterns of thinking related to the mental representation of a non-existent event, including images consisting of sensations such as sight, hearing, touch, movement, smell and taste (Saadi,6:2020).

Imagining in Teaching :

(Merck & Merck,1993) (myrick&myrick, 1993) describes the strategy of Guided

imagery as requiring the learner to imagine the educational material as this strategy requires the presence of a leader or mentor (such as a teacher) who guides the learner through the process of thinking as the teacher reads a pre-prepared scenario containing words or sounds that act as stimuli to help the learner build mental images of situations or events that are read to him (Ambo Saidi and Baluchi,2009 : 324).

Many imaginative activities and imaginative-based curricula began to appear in educational programs, as educators were affected by the success of efforts in psychology and medicine, so they began to turn to interventions in the curriculum that suit the psychological, emotional and spiritual situation of the student as well as his suitability for his intellectual growth. Thus, the interest in teaching the imaginative intuitive mind (commonly called the right brain) as well as teaching the analytic logical mind (commonly called the left brain), so the activities of the event such as dreaming, imagining, visualizing and psychological exercises became key aspects of the educational curricula (Jalin,1993 :28).

(Galyean,1985) classifies imagination directed to four types:

- 1.Cognitively oriented imagination
2. Emotionally oriented imagination
3. Imagining the vector
- 4- Relaxed Guided imagery (Galyean ,1985) in(Embo Saidi and Balochi, 2009, 324).

Emphasis will be placed on cognitively oriented imagination in this research

Guided imagery strategy

The strategy of Guided imagery helps the effective participation of students and helps them to link facts and concepts, as well as contributes to strengthening memory and retrieving information, and can lead them to create new meanings and ideas based on the creation of mental images in their minds related to a topic

and that Guided imagery is more relevant and related to reality because students live mental images in all five senses, and contributes to encouraging students to integrate their creative abilities and stimulate their academic skills during the transfer of the scenario to students.

(Jeddah BE,2012) indicated that it is the steps and actions in which an imaginary scenario is formulated that accompanies students on an imaginary journey and urges them to build a number of mental images or meditate on a series of events that are read to them by the entire teacher in between sight, hearing, emotions and feelings (Jeddah BE,8:2012).

It was also defined by (Al-Nouri,2009) as a successful and effective teaching strategy with educational activities practiced by students and develops their ability to think compared to the traditional teaching method, as well as contributing to the development of abstract concepts. (Al-Nouri,2009: 263).

(Al-Amrji, 2017) sees it as a set of mental images formed in the human mind, which help to describe, analyze and link phenomena, situations, facts, events, facts and times symbolize or a simple word or composition, as it helps to increase students' understanding of them and its application (Al-Amrji,2017: 9). (Al-Harasha, 2014) defined it as a cognitive teaching strategy that works to guide students' mental images about a specific activity and this results in a new cognitive structure and is expressed by oral discussion or drawing (Al-Harasha, 2014: 193). While (Al-Araj,2004) sees it as an educational process in which the tremendous capabilities of the human mind are exploited in insight and imagination of different topics, which contributes to helping students to form mental images aimed at enriching the curriculum through mental girls based on directed mental perceptions (Al-Araj,2004: 16).(Al-Shammari,2016) adds that it is a psychological activity that depends on a number of higher mental processes through which new images and forms occur

Students with their past and extend it to their present and look to the future as well as produce new images through the excitors presented, and this type of activity is expressed in the ability of the individual to imagine a phenomenon. (Shammari,2016: 399)

Foundations of the strategy of Guided imagery: The strategy of Guided imagery is based on six foundations:

1-Relaxation : It means the learner's access to calm and comfort and the removal of anxieties. Relaxation requires resorting to the following mechanisms:

A- Sit quietly and in a comfortable position.

B- Close the eyes and there is no objection to the student putting his head on the table .

C- Breathing deeply as the deep inhale works by giving the body energy and all its cells are filled with it. As for exhaling, it works to rid the body of dispersion of ideas and relieves tension .

2- Concentration :It is intended to bring the individual to the stage of calm and stillness. This stage works to control the individual with his fantasies and gives him a sense of mastery and deep thinking, so that he sees detailed mental images 3. Physical - sensory awareness: enabling the individual to his physical and sensory abilities during imagination, so that she provides the learner with information about himself and his imaginations and linked them to his previous experiences in the process of imagination

4 - Imagining : After the relaxation of the individual and the concentration and physical-sensory awareness, he moves to the stage of Guided imagery, and his mind generates one image at the beginning and then begins to expand in these images ,with the need to be aware that these images are formed voluntarily and not algebra, for example who imagines a wheat field swaying his spike.

5-Expression and communication : Expression and communication is a best way to print information resulting from imagination in memory ,and abstract mental images are translated into spoken or written language

1- Meditation : The individual repeats the meditation of his fantasies in order to employ them in his work life, drawing, poetry or writing . (Alyan, 2008: 20-23), (Suha,2007, 28-29) and(Abu Azarah, 2007 : 17)

The needs of applying the strategy of Guided imagery: The teacher is required to apply this strategy within the classroom as follows :

- White papers for writing and drawing the imaginary journey
Colors in the event of painting and coloring mental images in the process of imagining
(IMBO Saidi & Sulaiman,2009,336)

Steps to apply the Guided imagery Strategy:

First: Preparing the text of the imaginary viewing: The teacher drafts the text of the imaginary viewing according to the following conditions

1. Sentences are unconstructed and short enough to allow students to construct mental images.
2. Use simple words to be more understandable to students.
3. It is preferable to repeat the word several times if necessary, such as (small _____ small, _____ higher, _____ ascend) in order to describe the movement of the body to help students graduate in the formation of moving mental images.
4. Allow pauses between phrases so that students can form mental images of them.
5. Address all senses, by crafting sentences that address sight, hearing, and touch

And taste and smell.

6. Getting away completely from annoying words such as Takh because they can cut

the cord of mental images formed in students.

7.The imaginary text contains a gradual return to the classroom .

8. Trying the imaginary text before it is implemented to identify phrases that did not help

In the formation of mental images in students.

Second: Starting with imaginary preparatory activities

Before starting the main imaginary activity, students' minds are prepared with a small clip of a simple imaginary situation, in order to describe their minds from the distractions they have before entering the classroom.

(Al-Saadi,2016: 49)

Previous studies: The researcher will present the previous studies that he has seen according to the following :

- 1- **Saleh's study (2017):** This study aimed to know the effectiveness of the strategy of Guided imagery in developing the skills of visual critical thinking in science among the eighth grade students in Yemeni schools, and the researcher followed the experimental approach, and the study sample was chosen from(62) eighth grade students, randomly divided into two groups, experimental (32) students studied the strategy of Guided imagery and a control group consisting of (30) students studied in the traditional way, while the study tools were a test to measure the skills of visual thinking and a teacher's guide, and the most important results of the study: There are statistically significant differences at the level of significance (0.05)between the average scores of the experimental and control group in the post-application to test the skills of visual thinking in its subdomains

7- Running Study (2017) : This study aimed to identify the effect of the

imagination strategy on the development of historical understanding and inclination among fifth grade primary students, Iraq, Baghdad. The sample of the study consisted of (60) students, distributed to the experimental group of (30) students, and the control group of (30) students. The researcher used the study tool to test the historical understanding and the scale of inclination towards the material. The results showed the excellence of the experimental group students who studied according to the strategy of imagination over the students of the control group who studied according to the usual method in their

Second : The research community and the population of the Research sample

The current research community consists of second grade students in middle and high school for boys in the city of Mosul, Nineveh Governorate Center for the academic year (2021–2022), their number is (14,199) students distributed over (105) middle and high school for boys .

The researcher obtained this information under the mission facilitation letter issued by the Nineveh Directorate of Education

Table(1) Distribution of the members of the research sample to the experimental and control groups

Section	group	Mode of Instruction	Number of students
A	Experimental group	Guided imagery	22
B	Control group	The usual.	22

IV. Equivalence of the research groups

The research is honest to the extent that the difference between experimental and control research groups can be attributed to the independent variable and not to other variables or extraneous factors. The researcher conducted the process of equivalence between the two research groups in variables that can have a significant effect on the results of the

post historic understanding test. The results also showed the experimental group in the inclination towards the subject of Arab-Islamic history according to their scores in the scale .

Chapter Three

First : Experimental Design

In order to achieve the objectives of the research, the researcher adopted the experimental design (Equivalent Groups Design) with the pre and post tests as it suits the current research and achieves its objectives

2- Student sample: The researcher randomly selected Divisions (A) and (B) from the school to be Division (A) is the experimental group and Division (B) is the control group. The number of students in both groups reached (44) students distributed over Divisions (A) and (B) by (22) students for each group. The researcher did not exclude any student from the two groups, considering the previous year as a year of transit and as in

research, namely : the age of time, the previous academic achievement of the subject of science, and the skills of metacognitive thinking. As follows :

(students' chronological age in months, parents' level of education, mothers' level of education, parity in the overall average) and the groups were equal in these variables .

Fifth: Research Requirements :

For the purpose of achieving the objectives of the research and its hypotheses, the researcher is required to

1- **Identification of the educational material:** which I worked in

A- Chapter Seven (Simple Living Organisms)

2- Formulating behavioral purposes:

In the light of the analysis of the educational material and based on the special objectives of teaching a subject of science within the limits of research by formulating the behavioral purposes of the teaching plans that cover the scientific material and have reached (126) behavioral purposes according to Bloom's classification in the first three levels (remember, understand, apply).

These purposes were presented to a group of arbitrators with specialization in the field of teaching, measurement and evaluation methods, Appendix (2), in order to know their views in its formulation and the extent to which it achieves the objectives of teaching content and the validity of its knowledge levels and the extent of its relationship with the educational material. Some behavioral purposes have been modified or their level has been modified according to the opinions of the arbitrators, and the final version of it, consisting of (126) purposes, has been established.

3- Preparing teaching plans: The teaching plan represents a true translation of the objectives of the curriculum and its content into a procedural plan, and the teacher uses

4- Formulation of objectives :

Table(2) Specifications table (test map)

No. of Classes	Target Ratio	Knowledge 35%	Understanding 52%	Application 13%	TOTAL 100%
	Content Percentage				
S1	30%	4	6	2	12
S2	34%	5	7	2	14
P3	36%	5	7	2	14

prepare a number of requirements, namely:

B. Chapter 8 (Kingdom of Plants)

Chapter Nine (Animal Kingdom)

various teaching plans in order to have the activities he employs, the procedures he carries out, and the conclusions of the students studied and consistent with that content and achieve the objectives (Aqilan,2000: 209). Accordingly, the researcher prepared (18) daily teaching plans for each of the two research groups in light of the content of the chapters to be taught from the book of science and according to the specific teaching steps of the strategies of wave imagination, and he presented them to a group of arbitrators and in the light of their observations and proposals, some amendments were made to them and they were ready for implementation in their final form, and the rest of the daily teaching plans were prepared in accordance with the amended models.

S.A. Das: The research tool Tootle of the Research: Required achieving the goal of research and testing its hypothesis Required preparing the achievement test according to the following steps:

1- Viewing the previous literature and studies:

2- Determining the educational material:

3- Analysis of the educational material:

5- Preparing the table of specifications (test map) :

Total	100%	14	20	6	40
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6-

Formulation of test paragraphs: The researcher has chosen the objective style of (multiple selection), (pairing) and (supplement) as follows:

The first group: It included (14) paragraphs of the type of conformity (multiple selection) .

The second group: It included (20) paragraphs of the type of mating .

The third group: It included (6) completion paragraphs (continuation).

7- Test validity: The test is true if it measures what was set up to measure, that is, it measures the function that it claims to measure and does not measure anything else in its place or in addition to it (Issawi, 2003: 323), and in order to verify the validity of the test, it was presented in its initial form and a percentage of agreement (85% and more) was adopted as a criterion for accepting the paragraph from scratch, and all the test paragraphs obtained this percentage, as well as modifying some of the paragraphs in terms of wording and content, thus verifying the apparent validity and validity of the content of the test .

8- The exploratory examination of the test: For the purpose of verifying the psychological characteristics of the test paragraphs and to identify the clarity of these paragraphs and the instructions of the test and the use of the answer sheet, as well as to calculate the time taken to answer, the test was applied to a survey sample of (200) students of the second grade average on Sunday (7/11/2021), and it became clear through the application the clarity of the paragraphs and instructions of the test and the ease of using the answer sheet among students, and that the average time taken to answer all paragraphs was (45) minutes .

9. Statistical analysis of the test items:

The researcher corrected the responses of the students of the reconnaissance sample, ranking their grades in descending order and dividing them into two categories with a reality of (27%) from the upper group and a fall of (27%) from the lower group in order to extract the strength of the differentiation of the vertebrae and its level of difficulty, as follows :

I- **Discriminatory power of vertebrae :**

B- Level of difficulty of the paragraphs

10. Stability of the test : Stability means that the test gives stable estimates in the event of a second repetition, as we can reach consistent results, meaning that the degree of the individual or the examined has some stability (Ansari, 2000: 114)

11- evaluating of the test : The researcher gave a score of (1) for each correct answer and (0) for each wrong answer, and this is why the test scores range from (0-40) degree .

13. Results and Discussion

This chapter includes a presentation of the results of the research and discussing them according to the research hypotheses and comparing them with the results of previous studies as follows :

I- The research hypothesis states: (There is no statistically significant difference at the level of significance (0.05) between the experimental and control groups in the achievement in the subject of science) .

Table (3) Mean, standard deviation and test value (C) for test (achievement)

Testing	Number of students	Arithmetic mean	standard deviation	T value		Significance level
				Calculated	tabular	
Control group	22	31.772	2.428	5.185	(2.018) (42)	Significant
Experimental group	22	36.135	3.112			

Table (4) The value of (C) and (η^2) and the size of the effect of the achievement test

Variable	Table T Value	Value T Favoritism	Value η^2	standards			effect size
Achievement	2.018	5.185	0.390	Small	Average	high	large
				0.01	0.06	0.14	

evaluation of ideas at the end of the phenomenon, allows students to be born with a quantity of ideas, and that generates quality, and the more ideas proposed, the greater the likelihood of reaching more original ideas that help to reach a solution and gain the ability to meditate .

Conclusions: In light of the results of the research, the researcher developed a set of conclusions: -

- 1- The use of a strategy of Guided imagery in teaching helped students to systematically present their ideas and increase their motivation to learn and attract their attention, and this is confirmed by modern trends in teaching .
- 2- The effectiveness of using Guided imagery in teaching science in raising the level of student achievement.

II. recommendations :

- 1- Including the curricula of teaching methods in faculties of education, basic education colleges and teachers' institutes some modern teaching methods, including Guided imagery.

Discussing the results: The researcher will interpret the results as follows: -

- 1- Teaching according to the strategy of Guided imagery presents the material in an interesting and stimulating manner for students through the various activities that it includes and that stimulate the wishes of students, which helped to social interaction that prevails in the classroom and exchange of opinions. This provides an atmosphere that helps to think beyond cognitive.
- 2- Teaching with a strategy of Guided imagery made students the focus of the educational process and gave them the freedom to express their views without fear or hesitation .
3. The effect of the strategy of Guided imagery is clear in what this strategy provides during the process of closing eyes, in order to increase focus and reflect on the imagined idea, because students represent different roles with some automaticity and freedom without reprimand, and then it is a means of expressing wishes and repressed feelings, and students can imagine unleashing thinking and coming up with what is unusual from ideas, and the achievement of the principle of deferring judgment or

1- Conducting a similar study of the effect of the strategy of Guided imagery on other variables such as motivation, scientific inquiry and other types of achievement

2- A result of a comparative study of the effect of the Guided imagery strategy and of the research variable.

2- Conducting in-service training courses for teachers and training them in the use of Guided imagery during teaching .

Suggestions: Complementing the current research, the researcher proposes to carry out the following studies:

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