

The effectiveness of the listening triangle strategy in the imaginative thinking of second-grade intermediate students

¹Ma'rib Mohammed Ahmed, ²Shefaa Mahdi Saleh, ³Saif Adnan Muhammad

^{1,2,3}College of Education for Pure Sciences, University of Mosul

Abstract

The current research aims to identify the effectiveness of teaching using the listening triangle strategy in imaginative thinking among second-grade students in science subject.

In order to verify the objective of the research, the following null hypothesis was formulated:

*There is no statistically significant difference at the significance level (0.05) between the average scores of the experimental group students who studied using the listening triangle strategy and the average scores of the control group students who studied in the usual way in imaginative thinking.

The current research was limited to students of the second intermediate grade in (Al-Furatin Intermediate School for Boys) school.

One of the governmental day schools affiliated to the General Directorate of Al-Qadisiyah Education for the academic year (2021-2022).

The researcher used the partially controlled experimental design for two equal groups, which includes two groups:

One is experimental and the other is control, and according to this design, the researcher chose the Elphraten medium for boys intentionally, where the group (A) was chosen to represent the experimental group and included (25) students who studied according to the listening triangle strategy, and group (B) to represent the control group, which included (25) students Study the usual way.

The two groups were rewarded in the variables of chronological age, intelligence, and previous achievement.

Keywords: triangle strategy, second-grade intermediate students, imaginative thinking.

I. INTRODUCTION

1-Research problem

In light of the rapid development that the world is witnessing in all educational trends and modern teaching methods, especially in the field of active learning, as it is a new thought and a modern call to transform the role of the learner and make it more effective and active, as active learning is considered one of the important entrances in modern teaching and is relied upon

when preparing the design of courses And educational programs in developed countries, in addition to that it is based on many methods and strategies that can be adopted within the classroom. (Khairy,2018,11)

This development has cast a shadow over education as the effective tool in bringing about the required changes in preparing the student for life in all its dimensions. Education is considered to have an active role in the progress of nations and peoples, and there are many

evidences in this field, whether in developed or developing countries. (Al-Tamimi, 116:2000)

So, education has to play its role in accustoming students to sound thinking methods, developing the scientific method in their thinking, and setting teaching goals and programs that achieve these great tasks, especially after the development of students' mental abilities has become the main goal of the educational process in all countries of the world, as the progress of countries is measured by the amount Her ability to interest the minds of her children. (Gimme 16, 2001)

Therefore, in the field of scientific education and the process of teaching science, there should be a great interest in the intellectual aspect of the learner in terms of teaching thinking mainly and skills related to science operations and solving problems in a more specialized manner. (Atallah, 2001, 55)

Based on the foregoing, the research problem is determined by answering the following question: What is the effectiveness of the listening triangle strategy in imaginative thinking among second-grade intermediate students?

2- The importance of research:

Our world today is witnessing a great development in all fields of science, and educators see in science curricula and teaching that educational goals and objectives are constantly changing and evolving as a result of changing the requirements of society and its social, cultural, economic and political conditions, in light of the rapid changes of the era and its rapid transformations and challenges. Therefore, strategies for teaching modern sciences varied, and their methods and methods focused on employing all possibilities to be a good citizen with a scientific, mathematical and technological culture, responding to life issues and problems effectively and competently, and prepared to live in the twenty-first century in a society A technological industrial with its problems, challenges, expectations, and its technological revolution, knowledge and information. (Zaytoun, 2007, 13)

(Obeid and Ezzo, 2003) believes that thinking in its various forms takes a large part of the objectives of the level of all academic subjects, especially science, because it is of a special

nature that requires analysis and imagination, which makes it suitable for the level of all kinds of thinking, such as visual thinking, deductive thinking, reflective thinking, critical thinking, creative thinking and thinking. imaginary (Ubaid wa Ezzo 2003:39)

Since one of the most important goals of teaching science curricula in general is to develop the types of thinking, including the learner's imaginative thinking, and to improve his mental abilities, there are many teaching strategies that help the learner to use scientific methods in thinking and liberating the imagination, and this will be reflected in the learner's growth and progress, especially that teaching science includes many Concepts and abstract relationships that need a broad horizon to imagine its correct image. (Mcloughlin, Krakowski, 2000, 13)

Therefore, imaginative thinking has attracted the attention of researchers and educators for its importance in forming the correct mental image of concepts, and understanding imaginative thinking among learners in the prime of life is extremely important, especially in formal and informal learning environments because it encourages creativity, originality and fluency for them and helps to correct their misconceptions, for example, what was mentioned Piaget that children imagine that the moon follows them when they walk at night, so understanding the imaginative thinking of the learners and improving it and helping them to form correct images of biological concepts is one of the most important goals of education at all levels, and the components of the educational environment play a stimulating or frustrating role in launching the imaginative thinking of the learners with its offering of Appropriate means or strategies to achieve this goal. (Eckhoppnurbach2008,80)

3- The purpose of the research

The current research aims to identify:

The effectiveness of the listening triangle strategy in the imaginative thinking of second-grade intermediate students.

Research Hypothesis:

There is no statistically significant difference at the significance level (0.05) between the average scores of the experimental group students who

study using the listening triangle strategy and the average scores of the control group students who study in the usual way in the imaginative thinking test.

-search limits:

Spatial boundaries: Al-Furatin Intermediate School for Boys, which is one of the governmental day schools affiliated to the Directorate of Education of Al-Qadisiyah.

Human limits: second-grade middle school students

Objective limits: the last three chapters of the science textbook for second grade intermediate students for the school year 2021-2022, fourth edition (2021) and the seventh chapter (simple living things) the eighth chapter (the kingdom of plants) the ninth chapter (the kingdom of animals)

Time limits: the first course of the school year 2021-2022

Define terms:

First: Efficiency: It is defined by:

1- (Hamadna and Khaled, 2012) It is: the positive effects resulting from work that affects production and good performance through the use of specific teaching methods. (Hamadna and Khaled, 2012, 16)

(Dires, 2014) 2- It is: the effect that the independent variable has on the dependent variable. (Dires, 2014, 26)

The researcher defines it procedurally as the expected effective effect of the listening triangle strategy on the imaginative thinking variable.

Second;- The strategy: defined by:

1. (Atiya, 2009): It is the basic steps of every action or procedure that has a purpose or purpose (Atia, 2009, 33)

2. Al-Afoon (2012): it is a set of guiding matters that determine and direct the course of the teacher's work and plans for his course in the lesson. Teaching is a complex process that overlaps and interconnects its elements in successive steps (Al-Afoun, 2012, 26).

Procedural definition: a set of teaching procedures set by the researcher and which he

plans to implement during the lesson so that the teaching objectives are achieved.

Third: - The listening triangle, defined by:

3- Al-Kaabi (2016) as: the strategy that focuses on students' implementation of all their educational activities on their own through mastery of speaking and listening skills, which helps them to listen, observe, discuss and actively and powerfully participate with others to assume the greatest degree of responsibility in the learning process. (Al Kaabi, 2016, 320)

4- Al-Bawi and Al-Shammari (2020): It is a strategy that encourages speaking and listening skills, increases cooperation among learners, develops higher levels of thinking, helps students to perform observation, description, interpretation, prediction and conclusion, and builds the learner's knowledge of himself through social interactions. with the others. (Al-Bawi and Al-Shammari, 2020, 162)

Theoretical definition: It is one of the modern and enjoyable active learning strategies that play a role in an interaction between learners and develop the learner's speaking, listening and reading skills.

Procedural definition: the steps and procedures that the researcher adopts while teaching the students of the experimental group and includes dividing the students into three groups. .

Fourth: Imaginative thinking: It was defined by:

1. (Al-Tayyib, 2006) that it is a set of mental activities that are used consciously in order to help determine the goals to be achieved in this field. (Al-Tayeb, 2006, 182)

2. Talaba (2018): It is the ability to create mental images from things that are not similar to the senses that have not been seen before in the real world. (Talaba, 2018, 72)

Definition of the researcher: It is a mental process during which installation and merging processes occur between the components of memory and the mental images that were formed before through past experiences, and the results of this are all new forms.

2. Theoretical framework: Active learning strategies:

Active learning strategies include a wide range of activities that share basic elements that prompt students to practice and think about the things they use. These strategies can be used to get students to think and express their ideas in writing, discover personal values and attitudes, and provide and receive feedback during the learning process.

McKinny (1998) defines active learning strategies as meaning all educational methods that require the learner to perform some tasks in the educational situation more than just listening to a lecture by the teacher. (Abu Al-Haj et al., 2016, 49)

The importance of the listening triangle strategy:

It is one of the most important modern strategies that give an opportunity for students to be active and effective during the lesson, as it creates an atmosphere full of activity, vitality and effectiveness that helps learners to study interesting, and gives an opportunity for everyone to participate, and this helps in forming positive attitudes towards the study material, and also supports some productive habits of mind Such as listening with understanding, collaborative thinking and helping students to build their knowledge through their group discussions, enabling them to exchange opinions, ideas and information, and to reach solutions and decisions in an atmosphere of mutual respect and work to satisfy the different and diverse needs of learners and have positive results through the integration of learners with superior levels At low and medium levels, which motivates them to learn to become like them, and therefore it has a role in developing the social, educational and psychological aspects. (Ambo Saidi and Al Hosanieh, 2016, 430)

Advantages of the listening triangle strategy:

- 1- Provides an effective educational environment that allows learners to participate in the learning process
- 2- It helps in the process of thinking, analysis and providing feedback
- 3- Develop learners' skills such as speaking, listening, thinking and meditation

4- It is an effective means to ensure that topics are understood and to detect and correct misconceptions

5- To train the learners to listen well. (Atia,237,2018)

The listening triangle strategy when applied in the classroom involves a number of steps:

1. The students are divided into three groups.
2. Each student has a specific role in the group (the speaker, the listener, the observer).
3. The teacher presents an idea or question in front of the learners.
4. The first student (the speaker) begins by providing an explanation and clarification of the concept.
5. The second student (the listener) asks the first student a number of questions to increase the information and clarify the concept.
6. The third student (the blogger) observes the progress of the nature of the dialogue between his colleagues and provides feedback to them, as he writes down the discussion between them
7. Consider changing roles between the three students

Previous studies:

Studies dealing with the listening triangle strategy

1. Study (Myers & Bowen, 2017): The study was conducted in the US state of Texas and aimed to find out “the effect of the listening triangle strategy on academic achievement and motivation towards the human physiology course.

□ The study sample consisted of (171) university students divided into two groups, experimental and control, 85 students for the experimental group who studied the material according to the listening triangle strategy, and 86 students for the control group that studied the material according to the usual method.

□ Design: The design of the two groups (experimental and control) with partial control.

□ Study tool: The researcher prepared an achievement test, and a measure of motivation towards the human physiology course.

□ Statistical methods used: Statistical bag for social sciences (spss).

□ Results of the study: The results showed that there were statistically significant differences at the significance level (0.05) between the average scores of the experimental group students and the average scores of the control group students in the achievement test.

There are no statistically significant differences at the level of significance (0.05) between the average scores of the experimental group students and the average scores of the control group students in motivation (Myers & Bowen, 2017)

2. Study (Al-Fatli, 2019): The study was conducted in Iraq and aimed to know the effectiveness of the strategy of climbing the hill and the listening triangle in the achievement of the educational laboratory material and the development of integrative science processes among the fourth stage students in the Department of Physics.

□ The study sample consisted of 45 male and female students, equally distributed among the three research groups.

□ Partially controlled experimental design (two groups, experimental and control).

□ Study tool: (achievement test, observation form, integrative world processes test)

□ Statistical methods used:

(Alpha Crow-Nachbach coefficient, Difficulty coefficient equation, Scheffe test of effectiveness of false alternatives, Kewder-Richardson equation 20, Point Basierial correlation coefficient, Pearson correlation coefficient)

Results of the study: The results showed that there is no statistically significant difference at the level of significance (0.05) between the average scores of the students of the first experimental group who studied according to the strategy of receiving plateau climbing and the average scores of the students of the second experimental group who studied according to the listening triangle strategy in the collection of material Educational laboratory. (Al-Fatli, 2019)

Studies on imaginative thinking

1- Saleem's study (2014): The study was conducted in Egypt and aimed to know the effectiveness of a unit of science in science using electronic games in developing imaginative thinking skills and acquiring scientific concepts among middle school students.

The research sample consisted of 60 male and female students of the second year of middle school in public schools in Egypt. The researcher used the experimental method using the imaginative thinking test, as well as statistical methods such as Pearson equation and T-test. Imaginative thinking in favor of the experimental group. (Slim 2014)

2- Adly and Al-Saeeda study (2014):

The study was conducted in Jordan and aimed to identify the effect of biology and biology supported by the interactive board on improving the skills of conceptual comprehension and imaginative thinking among ninth grade students in Jordan.

The study sample consisted of 63 male and female students, and the researcher built two research tools, the conceptual comprehension test and the imaginative thinking skills test.

The results showed that there were statistically significant differences in the conceptual comprehension test due to the teaching method variable in favor of the students of the two experimental groups compared to the students of the normal group.

The results also showed that there were statistically significant differences in the imaginative thinking test due to the teaching method variable in favor of the performance of the students of the two experimental groups compared to the performance of the students of the normal group. (Adly and Al-Saeeda, 2014)

3. Method and Procedure:

3-1 Research Population and Sample:

Research community and its procedures

This chapter includes a description of the research methodology and the procedures carried out by the researcher in terms of research

methodology, experimental design, defining the research community, selecting the sample, making parity between the two research groups, controlling extraneous variables, defining the research requirements, building the research tool (imaginative thinking test), applying the experiment and choosing the statistical methods used, and the following Clarified:

First: Experimental Design:

And it is the most important procedure that the researcher takes when conducting the research experiment in terms of determining the appropriate experimental design, as well as the safety and validity of the design. ((Bhattacharjee, 2012,84))

The researcher adopted the experimental design with partial control in two groups (experimental taught in the listening triangle strategy and control controlled by the usual method) and the following table illustrates this.

Table No. (1)

group	parity	independent variable	dependent variable	post test
Experimental	1-Chronological age 2- Intelligence	Listening triangle strategy	imaginative thinking	imaginative thinking test
control	3-Previous collection	the usual way		

Second: The research community and its sample:

The research community is defined as a specific group of individuals with a set of common characteristics that the researcher is interested in

(Best and Kahn, 2008,13)

The research community consisted of second-grade intermediate students in the General Directorate of Al-Qadisiyah Education, from

which (Al-Furattin Intermediate School for Boys) was randomly selected, from which the second intermediate division (A) was chosen to represent the experimental group and Division (B) to represent the control group and the two research groups included (50) students Evenly distributed among them, as (6) were statistically excluded from the two research groups, and thus the number of individuals in the research sample became (50) students, and the following table illustrates this:

Table (2) Distribution of the students of the two research groups according to the population

T	Division	the group	Teaching method	Number of students	the excluded	Final number of students	total summation
1	A	experimetal	listening triangle strategy	29	4	25	50
2	B	officer	the usual way	27	2	25	

3-2 search results:

Results related to the null hypothesis:

The hypothesis states that (there is no statistically significant difference at the level of significance (0.05) between the average scores

of the experimental group students who studied using the listening triangle strategy and the average scores of the control group students who studied in the usual way in (imaginative thinking test). To verify the hypothesis, the researcher calculated The arithmetic mean, standard deviation and t-value, as in the table below:

Table (3) *The arithmetic mean, standard deviation and (t) value of the scores of the students of the two research groups in the imaginative thinking test*

Total	the number	Average arithmetic	standard deviation	T value		Statistical significance at the 0.05 . significance level
				calculated	tabular	
Experimental	25	11.76	1.39	4.08	2	Statistically significant
control	25	10.24	1.23			

It is clear from the above table that the arithmetic mean of the scores of the experimental group students is equal to (11.76), while the arithmetic mean of the scores of the students of the control group is equal to (10.24), and the calculated T value was (4.08), which is greater than the tabular value at the degree of freedom (48) and the level of significance (0.05). This means that there is a statistically significant difference in favor of the experimental group students in the imaginative thinking test, so the first null hypothesis is rejected.

4. Conclusions, recommendations and suggestions:

First: the conclusions

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

1- The adoption of the listening triangle strategy in teaching had a significant impact on the interaction of students with the scientific subject and increasing their activity, as it created an atmosphere of cooperation between the students on the one hand and between them and the teacher on the other hand.

2- The use of the listening triangle strategy gives a new role for the teacher away from indoctrination, as his role has become directed and supportive to the students.

3- Increasing students' self-confidence and freedom from shyness, hesitation and expressing their ideas

4- It plays a major role in developing students' abilities to meditate and think processes, especially imaginative thinking.

Second: Recommendations

1- Using the listening triangle strategy in teaching science for the first intermediate grade.

2- Directing the attention of those in charge of developing science curricula to the need for the textbook to include activities and questions that develop students' thinking abilities, especially imaginative thinking.

3- To instruct the directorates of education to establish training and development courses for teachers of life sciences that keep pace with modern methods and methods of teaching in order to start opening schools that use modern methods of teaching.

Third: Suggestions

To complement the current research, the researcher suggests:

1- Conducting similar studies in other academic stages

2- Conducting studies on the strategy (the listening triangle) with other dependent

variables such as visual thinking and divergent thinking.

3- Doing comparative studies between the listening triangle strategy and some other strategies, such as the fish tank strategy, to determine which one is more effective in achieving educational goals.

Reference

- [1] Adly, Ahmed Maysa, and Monem Abdel Karim (2014), The effect of teaching biology using biology and biology supported by the interactive board on conceptual comprehension and imaginative thinking among ninth grade students in Jordan, an unpublished PhD thesis, International University of Islamic Sciences, Jordan.
- [2] Al-Afoun, Nadia Hussein Younis (2012), Modern trends in teaching and the development of thinking, I 1, Dar Safaa, Amman, Jordan.
- [3] Al-Afoun, Nadia Hussein Younis (2012), Modern trends in teaching and the development of thinking, I 1, Dar Safaa, Amman, Jordan.
- [4] Al-Bawi, Magda Ibrahim and Thani Hussein Al-Shammari (2020), Contemporary Models and Strategies in Teaching and Assessment, Edition 1, Dar Al-Amal Al-Jadida for Printing and Publishing .
- [5] Al-Bawi, Magda Ibrahim and Thani Hussein Al-Shamri (2020), Contemporary Models and Strategies in Teaching and Evaluation, Edition 1, Dar Al-Amal Al-Jadida for Printing and Publishing.
- [6] Al-Fatli, Samah Abdel-Karim Abbas (2019), The Effectiveness of the Strategies of Climbing the Plateau and the Triangle of Listening in the Acquisition of the Educational Laboratory and the Development of Integrative Science Processes for Fourth Stage Students in the Department of Physics, unpublished PhD thesis, College of Education for Human Sciences, University of Basra.
- [7] Al-Kaabi, Balasim Kahit Hassan (2016), The effect of the listening triangle strategy in the achievement of geography and the development of scientific thinking skills for first-grade intermediate students, Al-Ustad Magazine, Volume 2, Issue 219, University of Baghdad, (pg. 303-328).
- [8] Al-Tamimi, Awwad Jassim Muhammad (2000 AD), the educational bag, self-learning development and support for the teaching curricula, published research, Teachers College Journal, No. 22, Baghdad, Iraq
- [9] Ambo Saidi, Abdullah Khamis and Huda Bint Ali Al Hosani (2016), Active Learning Strategies, 1st Edition, Amman, Dar Al Masirah for Publishing and Distribution.
- [10] Atallah, Michel Kamel (2001), Methods and Methods of Teaching Science, 1st Edition, Dar Al-Masira, Amman, Jordan.
- [11] Attia, Mohsen Ali (2018), Active Learning, Modern Strategies and Techniques in Teaching, 1st Floor, Dar Al-Shorouk, Amman, Jordan.
- [12] Best, John W, James V. Kahn (2008). Research in Education , prentice Hall of India, New Delhi
- [13] Dires, Robeir (2014), Educational Statistics, European Journal of Educational and Development psychology, Vol.4,No.2.
- [14] Eckhoff,A,urbach,J.(2008),understanding Imaginative Thinking During childhood: Sociocultural conceptions of Creativity and imaginative Thought Early childhood Education Journal, 36(2),179 – 185.
- [15] El-Tayeb, Essam Ali (2006), Methods of Thinking, Contemporary Theories, Studies and Research, Cairo, The Modern World of Books for Distribution and Publishing.
- [16] Hamadna, Muhammad Mahmoud Sari and Khaled Hussein Mahmoud (2012), Concepts of Teaching in the Modern Era, Modern Book World, Irbid.
- [17] Hamadna, Muhammad Mahmoud Sari Khaled Hussein Mahmoud (2012), Concepts of Teaching in the Modern Era, Modern Book World, Irbid.
- [18] Khairy, Lamia Muhammad Ayman (2018), Active Learning, 1st Edition, Yastaron Foundation for the Printing and Distribution of Books.
- [19] Khairy, Lamia Muhammad Ayman (2018), Active Learning, 1st Edition, Yastaron Foundation for the Printing and Distribution of Books.
- [20] McLoughlin,C,Krakawsk,K(2000),Technological tools for visual thinking ,what does the research tell us ? Teaching and Learning Centre University of New England

- [21] Muhammad Mahmoud (2001 AD), the effect of artistic activities on the innovative thinking of the students of the foundational stage, Journal of the Educational Research Center, Qatar University Tenth year, No. 19.
- [22] -Myers R Bowen.c.(2017),Effect of the Listening triangle staejy on A chievement and motivation towards the course of physiology of human Bode members .Adrances physiology Education.V27.pp.207-223.
- [23] Obaid, William and Ezzo Ismail Afafa (2003 AD), Thinking and the School Curriculum, 1st Edition, Aflah Library for Publishing, Al Ain, United Arab Emirates.
- [24] Selim, Raafat Abdel Aziz (2014), The Effectiveness of a Study Unit in Science Using Electronic Games in Developing Imaginative Thinking Skills and Acquisition of Scientific Concepts for Middle School Students. Master Thesis, Faculty of Education, South Valley University, Hurghada.
- [25] Talaba, Reham Hassan Muhammad (2018), Designing an electronic educational program based on the mental visualization strategy to develop imaginative skills and problem solving, Qualitative Arab Journal, Issue (4) 41 - 46, Jazan University, Saudi Arabia.
- [26] Zaitoun, Ayeshe Mahmoud (2007), Structural Theory and Strategies for Teaching Science, 1st Edition, Dar Al-Shorouk Publishing, Amman.