

The Effectiveness Of The Plan Strategy In The Achievement Of Second-Grade Intermediate Students In Science And Their Creative Thinking

Ali Nuri Saleh and Prof. Dr. Ali Matani Ali

Diyala University, College of Basic Education Education,
basicscie_gm_20@uodiyala.edu.iq

Abstract:

The research aims to identify the effectiveness of the PLAN strategy in the achievement of students of the second intermediate grade in science and their creative thinking, as the research sample included two groups, one of which was the experimental group and the number of its students was (30) students, and the other was the control group and the number of its students was (30) students. By a random drawing method, the researcher chose (Abdul Rahman bin Auf High School) from the research community represented by the secondary and middle schools affiliated to the Directorate of Education of Diyala Governorate / Baquba. The researcher adopted the experimental research method as a method for conducting her research, which includes an independent variable (the PLAN strategy) and two dependent variables (academic achievement, creative thinking). Accurate results with the following variables: (chronological age calculated in months, previous achievement of students, and intelligence test), and after making parity between the two research groups, the researcher prepared the requirements of the application from plans, goals and tests for the two research groups, and after completing the application of the experiment, the researcher applied his research tools to my group search. The researcher obtained data for the two research groups. These data were processed statistically by t-test for two independent samples. The results showed; The students of the experimental group outperformed the students of the control group according to the PLAN strategy in academic achievement and creative thinking.

keywords: Aplan's strategy, academic achievement, second-grade intermediate students, creative thinking .

First: the research problem:

Teaching science is a fertile field for information, facts, theories and natural phenomena, and it may represent academic achievement that needs modern teaching methods to achieve educational goals effectively. From the teacher, memorization and memorization from the student, which led to a lack of student interaction, and a limitation of their participation in the classroom, and this in turn led to a significant decrease in their academic achievement (Al Butti, 2018: 76), and this was confirmed by some previous studies: as a study (Kamel and Hanin, 2017), and a study (Al-Alwani, 2018). They emphasized that teachers use the usual method of teaching science, and this is one of the reasons for the low level of student achievement, in addition to that, teachers did not allow the students to think and motivate them towards the subject, which made the student feel bored and frustrated and this led to a decrease in the level of student achievement. Hence,

the research problem emerges, manifested in the following question

(What is the impact of the PLAN strategy on the achievement of the second intermediate grade students in science and their creative thinking)

Second: The importance of research:

The importance of the research is reflected in the following:

1. The importance of the PLAN strategy as it is one of the metacognitive strategies in teaching science, which may contribute to the development of academic achievement and creative thinking among second-grade students.
2. The importance of science subject for teachers to understand the modern strategies and methods of teaching them, including the PLAN strategy to deliver information to the student properly.

3. The importance of academic achievement, as it is a measure of the extent of understanding and assimilation of the topics that have been taught, and it measures the extent to which educational goals are achieved.

4. The importance of creative thinking in helping students to make correct decisions in their lives and reach useful creative results.

Third: Research Objectives:

The research aims to identify the impact of the PLAN strategy on the achievement of second-grade intermediate students in science and their creative thinking.

Fourth: The two research hypotheses:

1. There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who will study science according to the PLAN strategy and the average scores of the control group students who will study the same subject according to the usual method in the achievement test in science.

2. There is no statistically significant difference at the level of significance (0.05) between the average scores of the experimental group students who will study science according to the PLAN strategy and the average scores of the control group students who will study the same subject according to the usual method in the creative thinking test.

Fifth: Limitations of Research:

The search was limited to:

1. Spatial boundaries: Intermediate and secondary schools (governmental day schools) for boys only are affiliated to the General Directorate of Education in Diyala Governorate / Baquba.

2. Time limits: the first course of the academic year (2021 - 2022) AD.

3. Human limits: second-grade intermediate students.

4. Cognitive limits: the science book for the second grade, 3rd floor, for the year (2019 AD).

Sixth: Defining Terms:

1. The effect was known by:

Samara and Abdel Salam (2008) as: "the outcome of a desirable or undesirable change that occurs in the student as a result of the education process" (Samara and Abdel Salam, 2008: 52).

The researcher defines it procedurally as: The extent of the expected change as a result of teaching using the (PLAN strategy) in the achievement and creative thinking of second-grade students in the middle class in science, and it is measured by recognizing the increase and decrease in their average grades in achievement and creative thinking.

2. The PLAN strategy was known by:

(Atiya) as: "A strategy that emphasizes the reader's predictive thinking and develops the ability to summarize the reading topic, and each letter of the term denoting it (p.l.a.n) indicates a stage of applying this strategy in teaching reading" (Atiya, 2010:233).

The researcher defines it procedurally as: one of the metacognitive strategies that the researcher used to teach students in groups with each other, in which he poses a question and the students identify the best ideas related to the question posed, as the aim is to make the student at this stage able to teach himself by himself and the way to justify the method Organize and organize these ideas.

3. The collection was defined by:

Bakli and Hassanein (2017) define it as: "Achievement in a series of educational tests in school or college, and is widely used to describe accomplishments in curricular subjects" (Baghli and Hassanein, 2017: 128).

The researcher defined it procedurally as: the grades obtained by students in the achievement test prepared by the researcher from the Book of Science, and through those grades we judge the information and concepts that the students of the second intermediate grade have absorbed in the science subject.

4. Creative thinking was defined by:

(a Ryan (2006) that: "The ability to generate ideas that are characterized by originality, flexibility, fluency and far-reaching repercussions, and lead to solutions to problems or the invention of useful devices and means" (Ryan, 2006: 41)

Procedurally, the researcher defines it as: a mental process practiced by second-grade students (the research sample) by producing new information that is characterized by the greatest possible amount of intellectual fluency, flexibility, and originality, which they measure through the degree they obtain in the creative thinking test.

Theoretical framework and previous studies:

Good and authentic scientific research is a basic curriculum through what it represents of adding that contributes to bridging a certain gap in previous studies or by addressing some weaknesses in it in a professional scientific treatment. For this reason, this chapter included two main sections, namely the theoretical framework and previous studies, and we will elaborate on it as follows:

The first axis: theoretical framework:

The theoretical framework of any scientific research is a basic necessity, because it represents the natural limits of research and the foundations on which the researcher relies in choosing and implementing procedures, as it expresses the theoretical philosophy on which the idea of research is based (Mohammed, 2012:38). Accordingly, the theoretical framework of the research is represented in the aspects of the subject as contained in the writings, reports, documents, opinions and statistics in order to formulate a research that is directly related to the title of research, method and procedures (Abbas et al., 2011: 217).

First: Beyond knowledge:

The concept of metacognition appeared at the beginning of the seventies of the twentieth century to add a new dimension in the field of cognitive psychology, and opened wide horizons for experimental studies in the topics of intelligence, thinking, memory, comprehension, and learning skills, and interest in this concept developed in the eighties and still throws a lot Of interest among researchers, and from here, new strategies have emerged that seek to gain the student the ability to think about thinking, which are known as, metacognitive, thinking about thinking, and awareness of thinking. The studies also dealt with metacognitive strategies, as well as knowledge skills, through the growth and development of this concept, to how to apply and use it in the teaching and learning processes (Al-Ghurairi, 2017: 103).

Metacognition Strategies:

There are several metacognitive strategies, and these strategies are a set of procedures that the student undertakes to learn about activities, mental processes, learning methods and self-control that are used before, during and after the learning process to remember, understand, plan, manage, solve problems and think, under the supervision and guidance of the teacher (Al-Sudani, 2016: 23) The use of metacognitive strategies is of great importance in the field of education, as it gives the learner the ability to grow and succeed in his learning and increases his confidence in his ability,

and gives him the opportunity to deliberately use skills to improve his performance, and help him transfer skills to other experiences. In this aspect, the most important metacognitive strategies will be presented, including the strategy adopted by the researcher in this research, which is the (PLAN strategy), which I will explain later, (Atiya, 2010:45).

The teacher's role in teaching metacognitive strategies:

Metacognition plays a role in the educational process, as it is complex mental skills that are one of the most important components of intelligent behavior in information processing, and it means the student's ability to plan, monitor, control and evaluate his learning, and then it works to improve students' acquisition of various learning processes such as learning responsibility, and controlling Cognitive processes associated with learning, facilitate the active construction of knowledge, encourage students to think about their own thinking processes, and help develop independent thinking, decision-making and problem-solving skills (Hadith, 2018: 134). The teacher plays an important role in developing metacognitive thinking skills, by assisting the student in building knowledge on his own by analyzing and linking the information he obtains, forming and extracting new knowledge and continuous self-evaluation of what he knows, what he does not know and how to retain what he knows, and inductive and deductive inference of knowledge The teacher's work is to develop beyond knowledge, not only to develop the ability to think, but to manage the thinking process in terms of selecting, processing, and using information, and renewing it creatively and innovatively. The importance of the teacher's role in teaching strategies Beyond knowledge, by following the steps:

- a) Planning the strategy to be followed.
- b) Presenting the strategy to the students to understand its steps.
- c) Directing students to practice this strategy in practice by monitoring their performance.
- D) Students get feedback (Al Tamim, 2015: 56).

Second: Strategy (PLAN):

The credit for inventing the PLAN strategy goes to the American scientist David Caverly, Professor of Education at the University of Texas, who worked for many years in southwestern Texas within the NADE project. Caverly has been involved in development education for more than 25 years,

writing on He is widely published in the Journal of Education and Developmental Education and has many articles reaching (56) articles and perhaps best known for his column (TechTalk), as well as more than (12) books in the field of education and among his books (Guide to Research in Reading Strategies), and granting more than From (11) Creativity Awards since 1989, he now directs the Developmental Reading Program and teaches reading in classes for the Graduate Program in Developmental Education and Teacher Training Program in Southwest Texas*Where the year 1995 represents the launch of the (PLAN) strategy, which Cafferley defines as the graphic organizer that helps students to summarize the reading group, but it is (B-D-A), that is, it is used before, during and after reading the text. Each letter of the term (PLAN) indicates a stage The stages of applying this strategy in teaching understanding of the selected text are as follows:

(A) P: refers to the verb “predict” that begins the first stage of the application of this strategy in teaching text summarization.

B) L: Refers to the verb “Locate” with which the second phase of this strategy begins.

c) A: Refers to the verb add, which begins the third phase of this strategy.

d) N: refers to the verb “not” with which the fourth phase of this strategy begins

Strategic steps (PLA) :

A) Prediction stage: At this stage, students present their predictions about what the text might contain of information and ideas in light of the following procedures:

* The teacher chooses a reading text with a main concept that may be from among the topics of the textbooks or from outside, and if it is from outside the textbook, he should distribute it in print among the students.

* Ask the students to take a quick look at the chosen text in order to form an overall idea of the text's content.

* After taking a quick look at the topic, the students are asked to predict what information the topic might contain in light of the idea they have formed about the topic.

* Asking students to draw maps that express their predictions about the general content of the chosen text, after training them on how to draw maps that express the main ideas This means that the students

have immersed themselves in thinking about what ideas the text might contain and are able to express them in the graphics that they summarize.

Stages of applying the PLAN strategy in the educational situation:

In order to implement this strategy, the student should practice it, which is divided into three stages:

A) The pre-reading stage (before learning): Metacognitive experiences are evident in the outlines that readers bring to read the topic, as the text style, style and reading requirements are important before reading. to which he must answer, write a list of specific ideas, and make qualitative and specific predictions of what he will do.

b) The reading stage (while learning): At this stage, the student tries to generate mental images of what is read.

C) Post-reading stage (after learning): Metacognitive experiences contain cognitive activities used after the reading process and related to the tasks to be accomplished. In the previous three stages, awareness of metacognitive experiences is the basis for realizing the extent of success or failure in the process Assimilation and this is proven by the study of Fox (Fox, 1994), Metacognition skills exercises develop metacognitive strategies that students use before, during and after reading, which in turn improve reading comprehension and comprehension. (Fox, 1994: 74).

Third: Academic achievement:

Academic achievement is one of the concepts commonly used in the field of education and educational psychology in particular, because of its importance in evaluating the student's academic performance, as it is seen as a basic test in the light of which it is possible to determine the student's academic level, and to judge the size of educational production in quantity and quality. (Al-Jalali, 2011: 22).

Many specialized scholars have addressed the concept of academic achievement in different ways, and perhaps the most prominent trends in defining this concept is linking it to the concept of school education. Or the level of success that he achieves or reaches in a particular subject or field of education or training. The tests that the teacher applies to his students throughout the school year, such as: the science test, is supposed to measure academic or academic achievement (Ismaili, 2011: 59).

Our concept of achievement measured by tests must be clear, and this depends of course on defining the

objectives set for organized groups of educational situations that are usually placed in the form of curricula and decisions. We were developing curricula and curricula to achieve other goals that are more general and broader than this limited purpose. Achievement tests should aim to measure these matters. In fact, achievement includes everything that is acquired and learned, and since the school's function is the organizing influence on the behavior of its students to bring about certain changes, everything that these include Changes are the subject of collection (Al-Fakhri, 2018: 78).

Hence, achievement is the outcome of everything the student learns in the educational process, as it is measured by the student's ability to pass school tests or situations, or search for solutions to educational problems towards completing a simple or complex educational task (Abu Jadu, 2014: 432).

Fourth: creative thinking

Psychologists agree that creative thinking is a cognitive process that leads to the generation of a product characterized by flexibility and originality, and thus it is not an automatic or random product, but rather the fruit of creative mental efforts. To learn, but rather a sharp creativity that distinguishes a group of individuals from their peers, and the definitions of creativity are almost similar and close to a large extent, which reflects the points of agreement about the concept of creativity.

The second axis: previous studies:

Previous studies constitute a rich source and an important heritage that must be reviewed by the researcher before starting the research, and this

confirms that previous research and studies do not start out of a vacuum, and the idea of reviewing previous research is based on the basis that knowledge is a cumulative process, and we learn from what others have done and build on it, And scientific research leads to the compilation of the efforts of researchers and the sharing of each of them with what others have done, and because it is better to look at previous studies before carrying out the research and collecting data (Abdul Majid, 2018: 76), and after reviewing the previous studies, he found that there are three studies that dealt with the PLAN strategy. As an independent variable, three studies dealt with creative thinking as a dependent variable. Therefore, the researcher divided the previous studies into two parts: the first section: dealing with the PLAN strategy as an independent variable, and the second section: dealing with creative thinking as a dependent variable, and they were arranged according to the research variables and in temporal gradation.

Research Methodology and Procedures

First: Research Methodology:

The researcher adopted the experimental method for his research, as the experimental method is defined as a deliberate and controlled change of the specific conditions of an event, with the observation and interpretation of the changes occurring in the event.

Second: Experimental Design:

This research includes one independent variable (PLAN strategy), and two dependent variables (Achievement and creative thinking); Diagram (1) illustrates this:

Scheme 1: Experimental design of the research

the group	parity	independent variable	dependent variable	Tests
Experimental	1. Chronological age in months 2. Raven IQ test	PLAN STRATEGY	Achievement	Achievement Test
Non-experimental	3. Previous achievement in science 4. Creative thinking skills test	traditional teaching	creative thinking	creative thinking Test

Third: The research community and its sample:

1. Research community: The researcher divided the research community into two parts:

A) School community: The research community includes government middle and secondary day schools for boys in the General Directorate of Education in Diyala / Baquba for the academic year (2021-2022).

b) Student community: For the purposes of the current research, the student community includes all students who are in the second year of middle school.

2 .Research sample: The researcher divided the research sample into two parts:

A) School sample: The researcher chose (Abdul Rahman bin Awf High School), located in Buhraz.

B) Student sample: The number of students in the second intermediate grade was found (96) students divided into three divisions (A, B), with (32, 31, 33) students respectively, as shown in Table (2).

Table (1): The number of students in the two research groups before and after exclusion

the group	Number of students before exclusion	Number of students excluded	Number of students after exclusion
Experimental	31	1	30
Non-experimental	32	2	30
Total	63	3	33

Fourth: Control procedures:

1. Adjusting the extraneous variables: to adjust the variables that may affect the results of the experiment, and these variables include:

a) The chronological age of the students, in months.

b) the educational attainment of the parents (the educational attainment of the fathers, the educational attainment of the mothers.

c) Students' previous academic achievement in science (first course grades) for the academic year (2021-2022).

d) IQ test (Raven).

e) Test the previous information.

As shown in Table (2), it shows:

Table (2): Test results between the two research groups in equivalencies

variable	the group	Number of sample	mean Standard	deviation	DF	T-value		Indication level 0.05
						calculated	tabular	
.Chronological age in months	Experimental	30	165.700	4.691	58	0.105	2.000	not significant
	Non-experimental	30	165.833	5.119				
Raven IQ test	Experimental	30	67.866	10.197		1.252		
	Non-experimental	30	64.700	9.377				
Previous achievement in science	Experimental	30	20.633	6.805		0.333		
	Non-experimental	30	21.233	7.166				
Creative thinking skills test	Experimental	30	10.966	2.525		1.165		
	Non-experimental	30	11.766	2.787				

Internal Safety of Experimental Design:

A) Selection of the sample members: The researcher tried to control the differences during the selection of the sample through random drawing, and the equivalence procedure for the two research groups.

B) Accidents accompanying the experiment: The research was not exposed to any emergency accident that obstructs the experiment.

C) Measurement tools: The same tools, namely the achievement test, and the creative thinking skills test were applied to the two research groups.

d) Experimental extinction: There were no cases of transfer, abandonment, or interruption of any student during the study period.

3. External Safety of Experimental Design:

A) The interaction of experimental situations: The experimental groups were not exposed to more than one experimental process during the research period and beyond the effect of the experimental procedures with each other.

b) The interaction of experimental conditions: the effect of this variable has been reduced, The groups were taught with natural situations, and the experimental situations included the use of one experimental variable (PLAN strategy) for the experimental sample, and the usual method for the control sample.

Fifth: Research Requirements:

For the purpose of carrying out the research procedures, the researcher prepared some requirements:

1. Defining the scientific subject: The scientific material included the four chapters (seventh-eighth-ninth-tenth) from the first part of the science book for the second intermediate grade, 3rd floor, for the year (2019 AD).

2. Formulation of behavioral goals: The researcher formulated (165) behavioral goals based on the general goals.

3. Number of Teaching Plans: The researcher prepared daily teaching plans for the two research groups according to the educational content of the Science Book (Biology) to be taught to students of the second intermediate grade for the academic year (2021-2022).

Sixth: The search tools:

To achieve the two objectives of the research, the researcher prepared two tools to measure his two variables (achievement, creative thinking skills), in order to know the extent of the influence of the independent variable represented by (PLAN strategy) on these two variables, and the following is an explanation of the procedures followed in constructing each of the following two:

1. The achievement test in science: The researcher prepared the achievement test for the classes (seventh, eighth, ninth, tenth), the first part of the science book for the second intermediate grade of the academic year (2021 - 2022 AD), according to the following steps:

A) Determining the objective of the test: The achievement test aims to measure the achievement of second-grade intermediate students (the research sample).

B) Determining the number and type of test items: The researcher adopted objective tests of the type (multiple choice) to measure the levels of Bloom's classification (knowledge, understanding, application, analysis).

C) Preparing a table of specifications: The researcher prepared a table of specifications for the achievement test, according to the levels of behavioral objectives for the four levels of the cognitive domain of Bloom's classification.as in a table (3) :

Table (3) Specifications table for the achievement test

Behavioral Purposes			Knowledge	Understanding	Application	Analysis	Total
seasons	number of pages	Relative importance	%48	%25	%19	%8	100%
seventh	13	22%	3	2	1	1	7
eighth	13	22%	3	2	1	1	7
ninth	14	23%	3	2	1	1	7

tenth	20	33%	4	2	2	1	9
Total	60	100%	13	8	5	4	30

D)

Formulation of test items: The researcher formulated the achievement test items in their initial form in light of what was included in the test map, and the researcher chose the type of test (multiple choice.)

E) Correction of test answers: After the test paragraphs have been formulated, the type of test has been selected, and the test has been placed in its initial form, consisting of (30) test items.

F) The validity of the test: To verify the validity of the achievement test, the researcher adopted two types of validity:

1) Apparent honesty: After verifying the apparent validity of the test, it was presented in its initial form, consisting of (30) paragraphs, to a group of arbitrators with experience and expertise in the methods of teaching science, measurement and evaluation, subject teachers and supervisors of specialization, so the test items were kept (30) items.

2) Content validity: The researcher adopted the specification table (Table 4) in constructing the test items in order to ensure that the items represented the content of the study material and for behavioral purposes, and thus the test was valid in terms of content.

G) The exploratory application of the test: The achievement test was applied to two survey samples, as follows: (the first exploratory application, the second exploratory application.)

H) Test reliability: The researcher verified the test's reliability by: Kewder-Richardson 20: The stability coefficient was reached according to the equation Kewder-Richardson 20 (0.87).

2. Creative Thinking Skills Test: After reviewing a number of tests and standards related to creative thinking, the researcher found that the creative thinking ability test prepared by Sayed Khairallah in 1981, a verbal scale (A), is the appropriate measure for the current study.

Seventh: Statistical Means: In the research, the researcher used the (Microsoft Excel-2010) and the (spss) system.

Presentation and Interpretation of Results

First, show the results:

1) Results of the first null hypothesis: To verify the validity of the previous hypothesis, the researcher extracted the arithmetic mean, variance and standard deviation of the students of the two research groups. The results appeared as in Table (4) :

Table (4): The results of the t-test for the two research groups in the achievement test

the group	number the sample	arithmetic mean	variance	standard deviation	df	T value		Statistical significance at 0.05
						calculated	tabular	
Experimental	30	17.500	20.115	4.485	58	3.299	2.000	function
non- experimental	30	14.200	9.884	3.114				

This result indicates the superiority of the experimental group students who studied according to the PLAN strategy over the students of the control group who studied according to the usual method in the achievement test.

Statement of the effect size of the independent variable on the dependent variable:

The researcher used Cohen's equation to extract the effect size (d) for the independent variable in the dependent variable, and the amount of the effect size

(d) reached (1.049), which is an appropriate value to explain the effect size in a large amount.

- 2) Results related to the second null hypothesis:
To verify the validity of the previous

hypothesis, the researcher extracted the arithmetic mean, variance and standard deviation of the students of the two research groups. The results appeared as in Table (5) :

Table (5): The results of the t-test for the two research groups in the creative thinking test

the group	number the sample	arithmetic mean	variance	standard deviation	df	T value		Statistical significance at 0.05
						calculated	tabular	
Experimental	30	123.200	139.523	11.812	58	4.030	2.000	function
non- experimental	30	109.733	195.356	13.977				

Effect size: The effect size was (0.963), which is a large value to explain the effect size and a large amount.

This result indicates the superiority of the experimental group students who studied according to the PLAN strategy over the students of the control group who studied according to the usual method in the creative thinking test.

Second: Interpretation of the results:

- A) Interpretation of the result related to the first hypothesis: (The PLAN strategy trained students to work collectively with others, which increased interaction among them and increased their academic achievement).
- B) Interpretation of the results related to the second hypothesis: (This strategy enhanced students' participation in discussing and generating ideas by dividing students into groups, which led to the exchange of ideas among all students, and generating the largest possible number of answers, which opened the way for them to have a deep understanding of the material and reduced forgetting, which increased in collection).

Third: Conclusions:

In light of the results of the research, the following conclusions were reached: (Teaching second-grade students according to the PLAN strategy had a positive impact in raising their academic achievement and creative thinking.

Fourth: Recommendations:

In light of the findings of this research, the researcher recommends the following: (The necessity of establishing training courses and teaching programs for science teachers for the

purpose of providing them with modern teaching methods and methods such as (PLAN strategy) to benefit from them in raising the level of students, as well as providing schools with modern methods because the usual method has become no work).

Fifth: Suggestions:

To complement this research, the researcher suggests conducting the following research: (Conducting a similar study using the PLAN strategy in other variables (gender, parallel thinking, skillful thinking, divergent thinking, probing thinking).

Sources and references :

1. Abdul Hussein Makki Doanh Hassanein and Sadiq Saleh Abkh (2017): Creative Thinking (Innovation) and academic achievement, i 1, Dar Al-Radwan for Publishing and Distribution, Amman, Jordan.
2. Aljdani, Inga Leadville (2020): The book keys "to raise the academic achievement level through the textbook, i 1, Office of the south of Jeddah, Jeddah, Saudi Arabia.
3. Jelali, gloss Mustafa (2016): academic achievement, i 2, Dar march Publishing distribution, suffered, Jordan.
4. Habib, Safa Tariq and Sadiq Abdel Nour Aziz (2018): building the standards of psychological, according to the theory of the response to a paragraph using a model Scout generalized, i 1, the house methodology for Publishing and distribution, Amman, Jordan. e. Dulaimi,
5. Tariq Abdul Ahmed et al. (2020): Education "was founded by its philosophy impact in the areas of sustainable development", 1, Dar Abda for Publishing and distribution, Amman, Jordan.

6. spring, Ahmed Mohamed and Mohamed Mahmoud Fadil (2021): Education practical importance in programs to prepare teachers , i 1, Dar Al-Hamed Publishing and distribution, Amman, Jordan..
7. Reda, Marwa Mohammed (2021): The art and skill of effective teaching, i 1, a good institution for publication and distribution, Cairo. e.
8. Zuhairi, Haidar Abdul Karim Mohsen (2016): teaching effective strategies and skills, i 1, Dar Alyazra scientific Publishing and distribution, Amman, Jordan. 2 workers,
9. Saadi Hassan about Muheisen (2020): Teacher effective strategies and models being studied, 20 Sunrise Library Printing and Publishing, Baghdad, Iraq.
10. Spencer, translation Hrert Mohamed Sbai (2018): award, 1st Floor, Jasmine House Publishing and Distribution, Cairo, Egypt.
11. Sbaitan, Fathi Diab (2018): Weak school student achievement "causes and solutions", i 1, Dar Janadriah for Publishing and Distribution, Riyadh, Saudi Arabia.
12. Tnanwi, Mustafa (2016): Effat effective Takotaith- Mharrath- Altdrien esters Gerana - incorrigible, i 1, Dar march for Publishing and Distribution, Amman, Jordan.
13. Abdul Rahman Anwar Hussein (2017): Measurement in Educational Evaluation, Dar Safaa for Publishing and Distribution, Amman - Jordan.
14. Abdul Majeed, Mamdouh Muhammad (2019): Teaching Strategies, 1st Edition, Dar Al Uloom for Publishing and Distribution, Cairo, Da.
15. Al-Anazi, Fatima Qassem (2019): Modern educational means and their impact on academic achievement, Edition 1, Dar Al-Raya for Publishing and Distribution, Amman, Jordan.
16. Ghanem, Bassam Omar and Khaled Muhammad Abu Shaira (2019): Effective practical education between theory and practice, Ta, Arab Society Library for Publishing and Distribution, Amman, Jordan
17. Al-Fakhri, Salem Abdullah Saeed (2018): Academic Achievement, 2nd Edition, Academic Book Center for Publishing and Distribution, Amman, Jordan
18. Karam Allah, Ali Mohsen and Kazem Jabr Al-Sudani (2020): The low level of students' achievement in the primary stage in science, Volume (3), Issue (13), Journal of the College of Education, University of Mosul, Iraq.
Second: Foreign sources:
19. Baumeister,R. (1991): Meaning in life . NY : Guilford .
20. Binswanger, L. Frend. (2017). Reminiscences of Friendship (Gateman trans) New York, Grune and Straton.
21. Frankl,V(2017): Self- transcendence as a human Phenomenon. Journal of Humanistic Psychology. Fall, pp (97-100).
22. Gallant M . C .(2012):Existential, Expeditions: Religions Orientations and personal meaning, Graduate counseling psychology program published master thesis.
23. Fox, S.D.(1994): metacognitire strategies in a Couege world literature coarse. American annals of the deaf, R. 139, n5.
24. International Electronic Journal of Elementary Education,(2011): Vol. 4, Issue 1, October.