

THE IMPACT OF TWO STRATEGIES OF EFFECTIVE TEACHING ON THE ACHIEVEMENT OF FIFTH GRADERS IN SCIENCE SUBJECT

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Summary:

The present research aims to spot the impact of two strategies of effective teaching (hourly strategy and strategy you have got a message) within the achievement of fifth graders in science. The researchers hypothesized the zero-point research hypothesis (there are not any statistically significant differences at (0.05) between the three research groups, the primary experimental group that studies the topic of science using the strategy (hour time) and therefore the second experimental group that studies the identical subject with a method (you have a message) and therefore the control group that studies the identical subject using the same old method of collection.

The research sample consisted of (79) pupils with (26) pupils for the primary experimentalgroup who studied using the hour-long process strategy and (25) pupils of the second experimental group who studied using the same old method, and to attain the goal of theresearch was prepared a post-learning test consisting of (30) paragraphs, the results showed the following: 1- there are statistically significant differences between the three groups and for the good thing about the primary and second experimental groups.

2- the dearth of statistically significant differences between the 2 experimental groups with in the collection variable, because of the similarity between my strategy (how many hours and you have got a message).

Chapter1:

The problem of research: Teaching science in our schools is a sort of theoretical and depends on traditional teaching methods that don't help students to grasp the topic, which necessitates the employment of recent teaching methods. The matter of research is often determined by the following: - 1- Studies confirm the low level of scholars in science, and therefore the reason is because of the normal teaching methods that confirm the role of the teacher within the educational process because the sole source of data and neglect of the role of pupils.

2- The lack of teachers to decide on the suitable teaching strategy for subjects in science, and most teachers depend upon improvisation and randomness in teaching.

3- Through a survey sample carried by the researcher on some primary schools in Baghdad province, it was found that there's a weakness among students and teachers in understanding the new science subjects and making the teacher focus his teaching on preservation and indoctrination rather than absorbing the topic of science.

4- There's no study (to the researcher's knowledge) that restricted two strategies of effective teaching together and with the normal method of accomplishment on the opposite hand.

The importance of research: The importance of research may be summarized in what comes: 1- Science material is one amongst the fundamental subjects needed by students in grammar school because it answers many of the questions that the scholar usually asks.

2- Science material helps build the personality of the learner, especially at the first level.

3- As a result of criticisms of the teaching methods utilized in our primary schools, this research was called in concert of the important remedies to deal with the shortcomings in traditional teaching.

4- The importance of the event of science teaching using modern educational strategies, including effective teaching strategies.

5- Failure to conduct a previous study that forbidden two sorts of strategies within the field of effective teaching and its impact on achievement together in one study.

6- the likelihood of benefiting the Ministry of Education from the results of this study within the development of science teaching at the first level.

The goal of the research: This research aims to: know the impact of the employment of two strategies of effective teaching within the achievement of fifth graders within the subject of science.

Research hypothesis: To attain the goal of the research the researchers put the subsequent

zero hypothesis: There aren't any statistically significant differences at the amount of (0.05) between the three research groups, the primary experimental group that studies the topic of science using the strategy of the hour sleeve and therefore the second experimental group that studies the identical subject with a method you've got a message and therefore

the control group that studies the identical subject using the same old method of collection.

The limits of research: - this research is proscribed to:

1- Pupils of the fifth-grade school within the Nour Al Huda Civil School within the Directorate of Education of Baghdad / First Rusafa.

2- Subjects including the primary three modules of the science book for the fifth grade elementary (2018).

3- The primary semester of the college year (2018-2019).

Identification of terminology:

1- Strategy: "Is a group of procedures, activities and methods specified by the teacher and planned to be implemented one by one and serially using the available possibilities to assist this students achieve the goals" (Trick: 2008, 150)

Procedural definition: A collection of organized steps prepared by the research to implement the experience of teaching science to students of the fifth grade of primary.

2- Effective teaching: "Is that the teaching through which positive trends and tendencies toward the training process are developed.

Procedural definition: A sort of teaching within which the teacher makes the training process meaningful and tries to create the scholar retain the biggest amount of knowledge and for as long as possible.

3- Achievement: "The outcome of what the learner learns after a period of your time and may be measured to the degree he gets in an academic test to determine the success of the

strategy followed by the teacher and therefore the knowledge obtained by the scholar translated into grades." (Abu Jado:2009, 469)

Procedural Definition: The number of information, and knowledge received by the scholars of the research sample expressed in grades and by the achievement test

Chapter II:

Theoretical framework : Effective teaching: Is one amongst the fashionable trends in education and means a brief form of it's the type of teaching through which the teacher seeks to form the training process meaningful to students, therefore the information remains for as long as possible and also the student acquires through this kind of teaching skills necessary for work and life, as through effective teaching is that the development of positive trends and tendencies towards the training process. (Ambo Saidi, and others:2019,22)

Studies allotted by Marzano:2003 within the field of data of things affecting the achievement of scholars in three levels, namely the amount of faculty, teacher and pupil, have shown that the teacher is that the most significant consider pushing students towards success, which a good and active teacher is that the decisive and important consider the achievement of scholars. (Marzano:2003,35)

Accordingly, Ambo Saidi: 2013, the characteristics or characteristics of the teacher in ineffective teaching fall within the subsequent axes: 1- Centering around the student: i.e. the teacher plans and executes during away that's supported the coed and not on him.

2- Occupation: It means the teacher takes the teaching profession as a profession and not a employment from which here receives a salary at the tip of the month.

3- Knowledge of the tutorial material: i.e. the teacher must have in-depth knowledge of the topic he's studying.

4- Ethics: The teacher's ownership of the ethics of the teaching profession reflects it within the category.

5- Guidance and grade management: The teacher has the flexibility to supply a classroom environment suitable for the educational process. (2013,313)

Frist: Effective teaching strategies: 1. Effective teaching strategies are the visible part of the teacher's application for effective teaching. Many effective teaching strategies zero in the duration of their application and steps from very short one minute to those who require over one serving and sometimes over each day. The teacher must choose the foremost suitable for his class. Today, we'd like to electrify the motivation of our pupils to be told within the light of the low desire we observe. The researchers chose two sorts of effective teaching strategies that they utilized in this research: - First: the strategy of how long time: the thought is briefly supported the utilization of the clock hand and also the hand of minutes in directing specific tasks to the coed, and may be utilized in adjusting the category or stirring motivation. this can be a lively learning strategy that links learning and play, breaking the rigidity and routine of the category. Steps to implement this strategy: 1. The teacher could be a model of the watch with the clock hand and hand for minutes or prepares a ready clock.
2. The teacher installs tasks at each number per hour.

2. Students are required to perform tasks per the time specified by the teacher, like 5:15 or 10:15 and then on.
3. The scholar returns to the hour and executes the desired order per the time. (AmboSaidi:2018, 812).

Second: Strategy you've got a message: The thought of strategy is predicated on the appointment of the teacher to a student who performs the function of a message distributor who distributes messages to The scholars so that the scholar who is chosen will read the question and answer it. At the start of the category, the teacher appoints one in all the scholars to be the distributor of letters, which rotates within the class, calling: "I bring you messages, who wants his message?"

2. it's preferable that the number of pupils at a time mustn't exceed only 4 pupils.

3. the scholar begins by distributing messages by saying, for example: "I bring you a message, Ahmed, read it and reply thereto."

4- Pupils should air standby, where the scholar reads the letter then answers the question in it and if the solution is correct, the teacher will strengthen it. (Ambuhedi:2019, 413-422)

Previous studies: Since there are not any previous studies consistent with the scientists of the researchers who prohibited the strategy (time, and you have got a message) within the achievement, that the researchers will concentrate on studies that addressed other strategies of effective teaching and its impact on achievement.

1- Study (Jan:2011): - The study aimed to search out the effect of using the tactic (Hayes) to unravel problems within the development of ethical intelligence and achievement, conducted this study in Asian country and consisted of a sample of the study of (84) students, divided (28) for the primary experimental group and (28) for the second experimental group and (28) for the control group. The researcher used equal random groups with dimensional testing, and also the researcher rewarded the three groups within the variables (previous achievement and also the measure of ethical intelligence), the study took seven weeks and also the researcher studied the three research groups themselves. The researcher used a multi-choice selection test and also the researcher used the Crosskal Wallis equation to check the three study groups and also the Matt Whitney test to check group pairs. The results showed that the 2 experimental research groups outperformed the officer. (Jan:2011)

2- Study (Mohammed:2006): The study aimed to grasp the impact of two models of the educational course to show biological concepts in achievement and scientific tendencies of middle second graders, this study was conducted in Mosul, and included a sample of (80) students, (40) of them for the primary experimental group and (40) for the second experimental group, the study lasted (12) weeks and also the researcher taught the 2 groups himself, the researcher prepared a test of accomplishment and a measure of scientific inclinations and analyzed the information by appropriate statistical means which is (the second test for 2 independent samples The Kunder Richardson equation is 20, the Rawdden equation. The results showed that the second experimental group studied the model of the five-stage learning course on the scholars of the primary experimental group, which studied the model of the three-stage learning course in both achievement and inclinations. (Muhammad:2006).

Indicators and indications derived from previous studies:

- 1- The scientific method and therefore the number of totals were the common denominator between the 2 studies and therefore the current study.
- 2- Choose the research methodology, which is that the design of equal groups with partial adjustment of the kind of dimensional test.
- 3- Identify the statistical treatments employed in testing hypotheses and analyzing data and results.
- 4- Prepare the research tools sincerely.
- 5- Identify procedural definitions of search terms .

Chapter III: .

Research Methodology:

First: Experimental Design: There are two main purposes of experimental design: The primary is to assist the researcher to return up with answers and also tell us what observations should be collected and the way to gather and analyze them. The second is to regulate the contrast, whether it's the results of the experimental (independent) variable or the results of the

extraneous variables. (Al-Batsh and Farid: 2007,231-232)

The researcher chose to style equal groups with partial adjustment of the sort of dimensional test, as in Figure 1.

Form(1)Experimental design for research

Group	Independent variable	Child variable
The first experiment.	Hourly Strategy	Collection
The second experiment.	Strategy you have got a message	
Control	Independent variable	

Second: The research community and it's appointed: The research community consists of scholars of the fifth-grade primary school of public and civil schools belonging to the province of Baghdad / Directorate of Education of the primary rasafa, and was chosen Noural-Huda primary school intentionally because it contains three people within the fifth grade and since one in all the researchers studies the topic of science as a teacher. Division A was randomly selected to be the control group and includes (31) pupils still as division B to be the primary experimental group, which can be studied consistent with the strategy of the hour's sleeve and includes (28) pupils, while division (c) was the second experimental group, which can be studied consistent with the strategy you've got a letter and includes (29) pupils, and also the failers were excluded and also the number became consistent with table (1).

Table (1) Distribution of the research sample to groups and number of pupils before and after the ultimate exclusion of the research sample

Group	Number of pupils before exclusion	Number of excluded pupils	Final issue
First experimental (hour)	28	2	26
The second experiment (you have a message)	29	4	25
The Control (the usual method)	31	3	28
Total	88	9	79

Third: Equal group: The researchers to equalize the groups before applying the trial procedures within the variables (age, parental achievement, science degrees for the previous year).

A- Time age: The age of the pupils is calculated in months and parity was calculated using the analysis of the monotheistic variance, within which the T value was extracted and per the table below.

Table (2) Contrast analysis of the three research groups within the variable age of pupils calculated in months

Source of variance	Total squares	Degree of freedom	Averages of squares	T value		Level of significance
				Scheduled	Calculated	
Between groups	100,285	2	50,142	1,378	3,07	(0,05) Unfunctioned
Within groups	2765,665	76	36,390			

It is clear from table 2 that there's no statistically significant difference between the three groups within the life-changing months, i.e. the three groups are equal in time age.

B- Parental achievement: Educational achievement of mothers and fathers divided into three groups between seven educational levels (can't read and write, primary, middle, preparatory, institute, college) and as described in table (3).

Table(3)Parental achievement

Group	Cant read & write		Can read & write		Primary		intermediate		Preparatory		Institute		College	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
First experimental	1	-	-	-	3	3	3	3	5	-	9	8	5	12
Second experimental	1	1	-	-	4	2	8	3	5	5	5	7	2	7
Control	1	-	-	3	-	1	4	3	8	4	8	7	7	10

The Kay box was calculated to check the differences between the three groups after merging (mother, read and write, elementary, intermediate) also as (preparatory, institute, college). It appeared that the calculated q box value (1,088) of mothers, which is less than the scheduled (7,082) at the amount of significance (0.05) and with a degree of freedom (4) i.e. the difference isn't dal, means there's a parity within the attainment variable of mothers.

The calculated Q box value (3,246) was shown in parents and was but scheduled (7.82) at the amount of significance (0.05) and with a degree of freedom(4), indicating that it was not a function of any group equality within the parental achievement variable.

C- Students' grades in science for the previous academic year: It grades in science for the previous academic year: It means the grades obtained by the scholars within the science

syllabus for the fourth grade of the first and after the employment of the one analysis extracted the calculated value (P) and as shown in table (4).

Table (4) Contrast analysis of the three research groups for the grades of scholars in science for the previous school year

Source of variance	Total squares	Degree of freedom	Averages of squares	T value		Level of significance
				Calculated	Table schedule	
Between groups	0,001	2	0,001	0,00	0,05	0,05 Unfunctioned
Within groups	3311.54	76	43,573			

It is clear from table 4 that there's no statistically significant difference between the three groups within the previous collection variable, i.e. the three groups are equal within the previous collection.

Fourth: Adjusting the extraneous variables: The researchers adjusted variety of variables, which are believed to affect the variable of the kid as follows: 1- Place of experiment: one in all the researchers studied the 2 experimental groups in two rows precisely the same in terms of arrangement, lighting and cooling.

2- Study material: All research groups (experimental and control) have studied the primary three units of science, which is that the course for the primary semester of the year (2018-2019)

3- Maturity: There are no biological, psychological, or mental changes on the members of the three groups that negatively or positively affect the results of the research, as all were of comparable ages.

4- Teacher of the article: one in all the researchers studied the three research groups himself to avoid the differences which will lead to the non-public characteristics of teachers and their teaching methods.

5- Educational means: They were similar among the research groups.

6- The confidentiality of the experiment: The researchers didn't tell anyone of the character of the experience except the headmaster and also the teacher of the article and to not notify the scholars that they're under trial.

Fifth: Research requirements:

A- Determining the scientific material: The researchers identified the scientific material studied by one amongst them for the research sample during the primary semester (2018-2019) and included.

1- Unit 1: Classification and variety (Chapter 1: Floral and Floral Plants) (Chapter 2: Vertebral and Invertebrate Animals).

2- The second unit: the physical structure and its health (Chapter 3: The circulatory and breathing apparatus) (Chapter 4: Digestive and urinary system).

3- Unit 3: Article (Chapter 5: Elements) (Chapter 6: Vehicles and Mixtures).

B- Formulating behavioral goals: Formulating behavioral goals are carefully written phrases, describing what the learner is predicted to try to at the tip of the tutorial situation. (Longing and Lentils: 1984,32)

184 goals were formulated and distributed within the first three levels of the Bloom classification (remember, understand, apply) and behavioral objectives were presented to a bunch of arbitrators within the field of education and teaching methods, to relinquish their opinions and observations, and therefore the formulation of a number of them was amended and maintained in their final form (184) goals, and therefore the objectives set

with in the teaching plans are a model for behavioral goals.

C- Preparing teaching plans: The researchers prepared (30) model teaching plans for every group (10) teaching plans and everyone was presented to experts and arbitrators and a few of them are amended consistent with their observations and opinions. Supplement (1)

Sixth: Preparation of the research tool: The achievement test for the topic of science: for the aim of knowing the independent variables strategic (how long and you've got a message) on the variable dependent, which is that the achievement test, the researchers designed an objective test after a variety of paragraphs of a special style of choice, because it's the most effective quite tests and has the flexibility to live educational outcomes with multiple mental levels additionally to be accurate, objective and comprehensive and characterized by high degrees of honesty and consistency. (Allam:2000, 81-82) therefore the researchers prepared an academic test in science for the fifth grade of primary in step with the test map, table (5)

Table(5)Testmapofbehavioralobjectivesfortheachievementtest

Unit	Number of pages	Goals weight Content	Remember 52%	Absorption 35%	Application 13%	Total 100%
Frist	34	34%	6	4	2	12
Second	32	34%	5	4	1	10
Third	34	34%	6	4	2	12
Total	100	100%	17	12	5	34

The test was presented with content and behavioral objectives to experts and specialists, and using the Cooper formula was agreed by (82%) The wording of some paragraphs was amended within the light of their views and no paragraph was deleted. The researcher then applied the achievement test to a survey sample of (40) pupils from another school, paradise grammar school, to verify the clarity of the paragraphs, the test instructions and also the time it took to answer it and to diagnose the amount of difficulty of the vertebrae and their discriminatory strength. The time required for the solution ranged from a full course (40) minutes, difficulty coefficient ranged (0.30-0.51) and also the strength of its distinction ranged (0.62-0.75) and thus the test is acceptable and valid, so the steadiness factor of the test vertebrae was calculated using the interior homogenization method and also the application of the Kuderrichardson-20 equation to (82%).

Seventh: Procedures for applying the experiment: - After preparing the necessities of the fabric experience. Adjusting the variables that may be available within the experiment one in every of the researchers began teaching on Monday (23/10/2018) within the light of the subsequent procedures: 1- Application of the teaching plans of the primary experimental group in keeping with the strategy of the hour sleeve within the science syllabus for the fifth grade of primary.

2- Applying the teaching plans of the second experimental group in keeping with the strategy you've got a message within the science syllabus for the fifth grade of primary.

3- Applying the teaching plans of the control group in keeping with the same old method employed in teaching science to the fifth grade of primary.

The trial ended on Tuesday (7 January 2019) because the dimensional attainment test was applied to the experimental groups and therefore the control group simultaneously on Tuesday (14 January 2019) and in cooperation with the varsity principal.

Eighth: Statistical means: 1-Box Kay: Use to determine the difference between the three research groups within the collection variable for fogeys.

2- Analysis of monotheistic variability: went to calculate the equivalence of groups within the variables identified by the researchers and in verifying the research hypotheses. (Al-Bayati:1977,293).

3.Difficulty Factor:Use to calculate the problem of test paragraphs.

4- Equation of the coefficient of discrimination :went to calculate the strength of discrimination for the paragraphs of the tests.

5- Effectiveness of alternatives :went to calculate the effectiveness of the incorrect alternatives for all test paragraphs.

6. Coder Richardson-20 equation: To calculate the soundness factor of the test vertebrae.(AbuSaleh et al.:2000, 215).

7-Shi'a method :This method was used to determine the direction of the statistical differences between the three groups. (Odeh and Al-Khalili: 1988,361-368).

Chapter IV: View and interpret the results

First: Presentation of the results: - Results of the dimensional collection test: for the aim of verifying the goal of the research through its zero hypothesis was analyzed the Montreal variance of balancing the grades of the three groups were the results as described in table (6).

Table (6) Results of the analysis of the monolithic of the grades of the three groups within the collection test

Source of variance	Total squares	Degree of freedom	Averages of squares	T value		Level of significance
				Calculated	Table schedule	
Between groups	263,02	2	131,5	8,7	3,7	(0,05) Function
Within groups	1153,9	76	15,2			

Since the analysis of the one-way discrepancy reveals to us whether the differences are statistically significant between the three research groups or not, it doesn't determine the direction of the differences between the groups or the group in favor of them. (Badr and Imad: 2007, 339) Therefore, the researchers used the Chevy equation to spot the differences between the averages and determine the direction of the differences, and to point out the differences indicative between the averages of the three groups and as follows: a - a balance between the primary experimental group and also the control in collection: and table (7) shows that Chevy's calculated value (3.4) is bigger than the critical

chevy value (3.1) i.e. a statistically significant difference between the 2 groups at the amount of (0.05) for the primary experimental group.

Table (7) Chevy value calculated and important between average grades of the primary experimental groups and control in collection

Group	Sample size	Mean	Chevyvalue		Level of significance
			Calculated	Critical	
Fristexperimental	26	26,7	3,46	3,156	Function when 0,05
Control	28	23,3			

B- Balancing the differences between the second experimental group and therefore the control within the collection test: as shown in table (8) we note the calculated chevy value (4,2) greater than the critical value of Chevy (3,1) i.e. the presence of a statistically significant difference between the 2 groups at the amount of indication (0.05) and for the advantage of the second experimental group

Table (8) Chevy value calculated and significant between average grades of the second experimental groups and also the control group in the collection

Group	Sample size	Mean	Chevyvalue		Level of significance
			Calculated	Critical	
Secondexperimental	25	27,5	4,24	3,156	Function when 0,05
Control	28	23,3			

C- Balancing the difference between the primary and second experimental groups in the collection and as described in table 9 We note the calculated chevy value (0.88) below the critical value of Chevy (3,156) means there are not any statistically significant differences between the 2 groups at the extent of significance (0.05).

Table (9) Chevy value calculated and demanding between average grades of the primary and second groups within the get

Group	Sample size	Mean	Chevyvalue		Level of significance
			Calculated	Critical	
Fristexperimental	26	26,7	0,87	3,156	Nonfunction when 0,05
Secondexperimental	25	27,5			

The researchers calculated the magnitude of the effect for every separate variable with the variable of the dependent collection individually and using the equation for calculating the dimensions of the effect, because the level of statistical indication alone doesn't indicate the strength of the correlation between two variables, therefore the size of the effect gives the accuracy of the results and provides us with quantitative comparisons between the results of two or more studies. (Rushdie Pham: 1997, 57).

The impact size for the gathering test and the primary variable (hourlystrategy),(0.18) was the magnitude of the impact for the gathering test and for the second variable (strategyyou have got a message), (0.26) which are large, compared to the quality set for the effecttable(10).(Jacobi:2010,84)

Table(10)standardimpactsizandestimate

The value of the impacts size	0,14	0,06	0,01
Estimate	Large	Averages	Weak

Second:Explanationoftheresults

1- The results of the current research show the existence of statistically significant differences between the first experimental group, which studied strategically (hour time) and the control group that studied in the usual way, as well as the existence of statistically significant differences between the second experimental group, which studied strategically (you have a message) and the control group in the collection variable. This is since effective teaching strategies (how many hours and you have a message) are unfamiliar with students, which has made them more positive compared to the usual way, as well as the spirit of cooperation between students rather than competition, and the atmosphere provided by the two strategies (how long and you have a message) of the atmosphere of peace, comfort and joy of the students, and what they feel can learn without fear, shame or criticism directed at them in front of the rest of the students if they make a mistake. As well as the element of novelty and modernity in the use of these types of strategies (how many times you have a message) as well as because it increases the motivation of students towards learning, as its steps are entertaining and satisfy the desire of students to have a kind of fun within the classroom atmosphere, which is often the place for students in the form of traditional learning. 2- The findings of the researchers showed that there are no statistically significant differences between the first group studied using the strategy (hour time and the second experimental group studied using a strategy you have a message) in the collection variable, due to the similarity between the strategies of effective teaching (how many hours and you have a message).

Chapter V:

First: Conclusions: Within the light of the findings of this study, the researchers concluded the following: 1- The effectiveness of the 2 effective teaching strategies (hour, you’ve got a message) in teaching the topic of science, which reflected positively on raising the tutorial achievement of the scholars of the fifth-grade primary.

2- Increase the effectiveness of scholars in participating within the lesson and draw their attention thereto.

3. the likelihood of using these strategies (hour time and you’ve got a message) within the grammar school stages.

4. Teaching per effective teaching strategies (hourly and you’ve got a letter) must be taught and practiced by both the teacher and therefore the pupils.

5- The impact of both strategies (hour time and you’ve got a message) is up to the gathering compared to the control group.

Second: Recommendations: supported the findings of this study and conclusions, the researchers recommend: 1- The necessity to use these strategies (how many hours and you’ve got a message) within the remainder of the first and middle stages.

2- The training programs of teachers in colleges include modern methods, models, and techniques, especially effective teaching.

Third: Proposals: To finish this study, the researchers propose to conduct studies geared toward identifying the effect: 1-strategy (how long and you've got a message) in other variables such as: acquiring scientific concepts, scientific thinking, tendencies, trends.
2. Strategy (how many hours and you've got a message) in other stages of the study.
3- Other kinds of effective teaching strategies.

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