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THE EFFECT OF (LIST - GROUP - SIGN) STRATEGY ON THE ACHIEVEMENT OF FIFTH-GRADE STUDENTS IN CHEMISTRY

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Abstract

The research aims to identify the impact of (list - group - sign) strategy in the collection of students grade V Bio - substance chemistry , and to verify the goal the researcher set a zero hypothesis that states " There is no statistically significant difference at the level of significance (0.05) between the average scores of students of the experimental group who will study according to (list - group - sign) strategy and the average score Students of the control group who will study according to the usual method of testing the achievement of the chemistry subject", and in order to investigate them his experience applied in the classroom the second of the year school(2019-2020) M ,formed the research sample of (40)student of the students grade V bio in junior high Was distributed randomly into two groups of(20) student of each group, it has been rewarded with the two groups in the following variables :chronological age, IQ test , score the second course of the previous academic year in material chemistry , and test the previous information, and in the light of The relative importance of the content and behavioral purposes, an achievement test consisting of(40) items was constructed of (30) items of multiple choice type and(10) paragraphs of the type of essay questions , the researcher has investigated the characteristics of the psychometric test of the test , the experiment continued to apply(10) as I sell , and at the end of the experiment summative test was applied to the two groups ,then analyzed the results showed the superiority of the students of the experimental group of Latte lesson according(List-group-

Sign) strategy on the control group of the Latte studied the usual way in the academic achievement variable.

key words :(list - group - sign) strategy , academic achievement.

Introduction:

We live today in a world full of challenges that needs a good education in order to be dealt with by learners, as the teacher has a great responsibility to help learners adapt to challenges through the teacher's use of teaching and learning strategies that are the learner's focus, And for many centuries, teaching has ceased to receive learners and stuffed their minds with information determined by adults, where they see that it nourishes their minds and enables them to perform the duties and responsibilities that are required of them. Which accompanies the areas of life and that what is required is to improve the teaching of events to have the desired effect for learners, through the ability of the learner to accomplish and solve problems that face it in life situations characterized by complexity (Attia, 2008: 19-20 ,(and on this basis, fundamental changes have occurred and important in the use of roads and the most appropriate educational methods in the rearing and education of students (wars 1999, 11) that the concept of the traditional approach to the narrow rule of each activity can be done inside or outside the school and neglects the psychological aspects and mental and emotional, social and The school should aim to develop all of these aspects (El-Sayed, et al., 2011: 24) , Sees a lot of educators to continue on Methods and Regular education Strategies based on rote and conservation learners become learning obstacles and negative role of the learners showed the need to adopt modern strategies in teaching makes the learners the focus of the educational process (Abbasid .2018: 68), the pit that The prevailing trend is to encourage educational development and renewal (Al -Hilya , 2009:20) , Therefore, teaching must be in accordance with modern teaching strategies that develop the spirit of teamwork and thinking for students and help them to love the subject. These strategies are (list - group - sign) strategy. Based on the above urgently needed to keep up with what is new teaching strategies, tactics and methods, if it is no longer acceptable to stick to strategies Diction ,Lecture , recitations, just to ease and get used to it because it is no longer sufficient to meet the educational requirements, scientific and educational for its inability to respond the goals of education in the light of the modern vision of education and it is important to become familiar with all what modern teaching and especially that today the world is witnessing leaps in quality and quantity in all areas of life, and survival strategies on old will increase the gap between the countries and among the countries of the world.

Most learners imagine that chemistry is an abstract decision that is difficult to understand, and they do not see it as related to the world in which they live not in future life, despite being the science most relevant to all aspects of human life and natural phenomena, and that the reason for this is that the gap between what is known and what is done In schools, it has become so vast that many view education today as an ineffective system, so the most prominent other reasons behind this are the usual teaching methods used by the teacher in teaching this subject, which was a major reason for the low level of knowledge and achievement of the learner as well as limited ability to think properly, Have found an the methods that a broader understanding of the material Chemistry and achieve many of the goals of teaching in the state junior, It is the use of modern strategies, (list - group - sign) strategy ,Because they are of modern strategies It may help to overcome problems that hinder students' understanding of chemistry and raise the level of their academic achievement, Therefore, this study was conducted to find out If there was between students of the experimental group studying(list - group - sign) strategy and the unqualified control group taught in accordance with the normal way of.

The following table shows the steps for each stage of the strategy

steps (list - group - sign) strategy	
The first step	The teacher writes the strategy and explains to the students the idea of the strategy
The second step	Students are asked to mention the largest number of concepts related to the subject of the lesson, and write it on the board
The third step	Each group is required to categorize concepts written into separate groups according to common characteristics and characteristics
The fourth step	The teacher asks each of the two students to write a title for each of the groups they prepare
The fifth step	The teacher discusses students in their work collectively

Theoretical background and previous studies:

The (list - group - sign) strategy returns to teaching and learning according to structural theory ,and is considered (list - group - sign) strategy , One of the active learning strategies in which the learner participates positively and effectively in the learning process is through research, reading, reading, and participation in the classroom and extra-curricular activities .The role of the teacher is directed and facilitating the learning

process and encourages active interaction between the teacher and learners , as well as stimulates group learning. cooperation and working on linking past experiences with reality, addition it provides instant feedback.

Anchored (list - group - sign) strategy On scientific interaction in the light of constructive learning in a social and cultural cooperative framework , it links new scientific knowledge with daily experiences and the previous background of the learner, and thus contributes to overcoming alternative concepts, establishing relationships between concepts, improving learning and understanding scientific concepts, And lets (list - group - sign) strategy Learners have the opportunity to see the benefit of the subject in daily life, so learners' interests and trends increase, and help them explain real life problems related to chemical concepts and achieve continuous learning more than regular teaching,

previous studies

The researcher did not find any previous studies about the **(list - group - sign) strategy**

Research methodology and procedures:

It includes a presentation of the procedures that have been accomplished to achieve the goals of the research starting from the research method and experimental design and defining the research community and its sample, the equivalence of the two research groups) experimental and controlling) ,preparing research requirements and tools, procedures for applying the experiment and displaying the statistical methods used , and they will be presented as follows:

Experimental design of the research: the independent variable includes (list - group - sign) strategy, And (the usual method , (and a dependent variable) academic achievement),So the researcher used experimental design with partial control for two equal groups, one experimental and the other control.

The research community and appointed :represents the research community current i Unqualified grade VBio - all in schools (secondary and junior high)day government of the General Directorate of

Education in the province of Babylon , for the academic year (2019-2020), which is not less than grade people of the fifth biodegradation where about two divisions .the research sample has chosen T .researcher of () in the province of Babylon , are intentional to conduct his research , he found t it includes three people for grade V bio(A, B, C) The researcher Choose of the Division (A) way random clouds (way lottery) to represent the experimental group and the number of Female students (20) student of the Cedar age Female students according (list - group - sign) strategy , The same way chose The researcher of randomly Division(B) to represent the control group and the number of Female students students of which will study Female students according (the usual way).

Equal two sets Search : The researcher conducted a statistical equivalence between the experimental and control groups in some of the variables that affect the results of the experiment, and despite the researcher choosing the two groups in a random withdrawal method, although the students of the research sample from a similar social and economic milieu are very similar and are studying in one school, he was keen on The equivalence procedure with the following variables: the time age calculated by the months, the first course grades for the current academic year, the intelligence test, the previous information test, as the researcher conducted the equivalence between the two research groups in the above variables and showed the results according to the following table(1):

Table(1) : Equivalence of the two groups , mean, mean and standard deviation

Significance level	T value		Degree of freedom	standard deviation	SMA	Sample volume	the group	variable
	Tabular	Calculated						
Not statistically significant	2,02	0,551	38	10,110	205,70	20	Experimental	The age is calculated by months
				8,799	204,05	20	Control	
		0.215		3,426	12,55	20	Experimental	Previous test information
				2,346	12,	20	Control	

				35			
		0, 189-	19,836	68,9075	20	Experimental	Degrees for the second semester of the previous year
			16,900	69,85	20	Control	
		1,124	5,543	33,90	20	Experimental	IQ test
			5,424	31,95	20	Control	

The following figure shows the equivalence of the two research groups with the above variables:

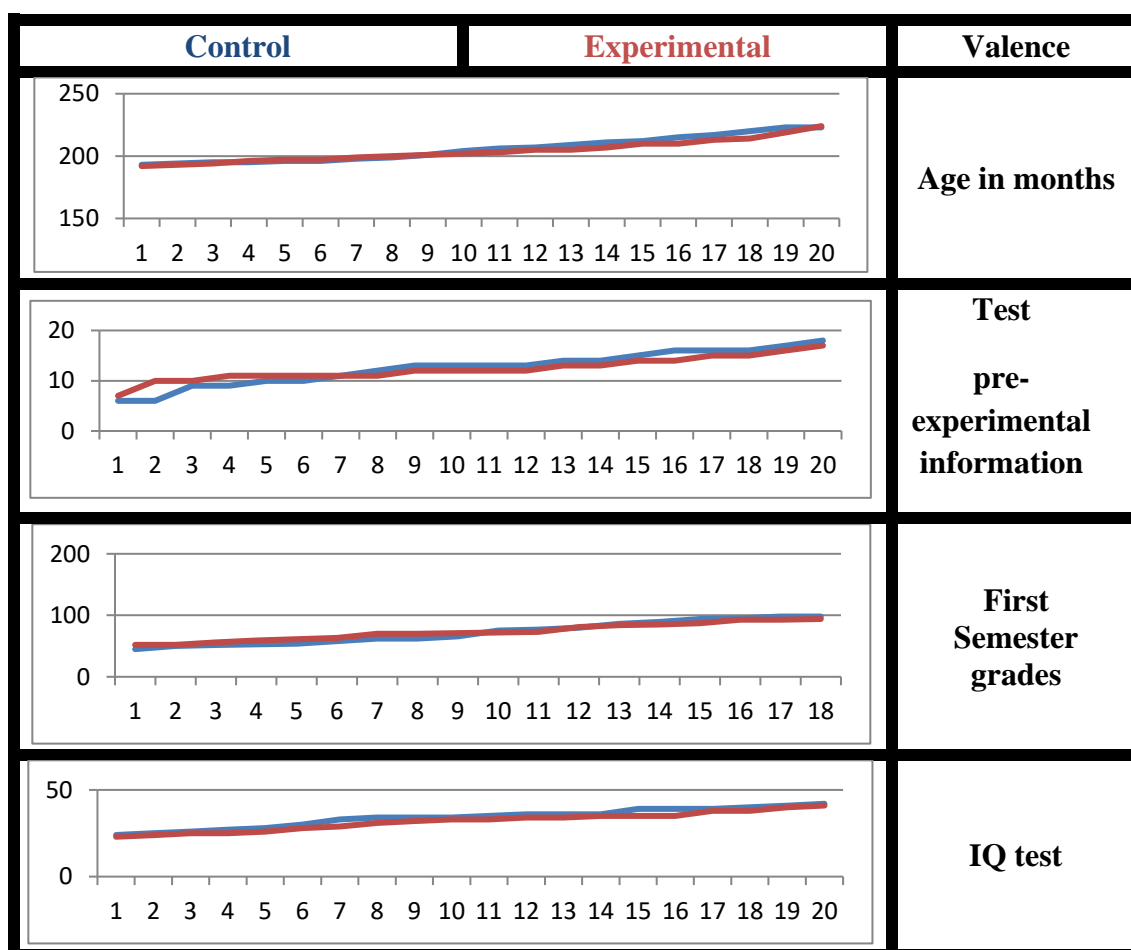


Figure (1)

Adjust the extraneous variables :Although the researcher of verification of the equality of the two sets of research in some of the variables that are believed to affect the course of the experiment, but it is a tried t avoid

the impact of certain variables extraneous in the course of the experiment and in some of these comes the variables and how they tuned: (associated with accidents experience: the experience was not exposed in the search to any emergency or accident impedes its progress, disappearing demo: you do not get the case of interruption or transfer of any student of throughout the experiment, sample selection: the selection of the two sets of search purposely been confirmed equal groups, factor maturity: due to the fact that the duration of the experiment unified between the two sets of research as well as the approximate age of external in the two groups , so what happens growth will return to the members of the two groups at the same level, so it was not for this factor is the impact of the research, the impact of the experimental procedures: the work of The researcher of the reduction of the impact of actions Experimental that can affect the dependent variable during the course of the experiment).

Preparation of research requirements :The search requirements of the basic things underlying the research and that the accordingly be implemented research procedures These are requirements for: scientific material (content) have been identified scientific article that T.folk researcher of taught for i Unqualified two sets of research during the duration of the experiment (semester II)of the academic year (2019-2020 m), and scientific material included a study of the periodic table and the chemistry of the transition elements and solutions , as a promising T .researcher of (30) plan for the experimental group that studied according to (list - a group –sign) strategy and the like for the control group that is taught according to (the usual method)

Tools and methods used in the development of the atomic concept, the periodic table, the chemistry of the transitional elements, and solutions according to(list - group – sign) strategy

The research tool :Steps have been prepared for the research tool(achievement test) represented by the following:

Determine the purpose of the achievement test :The purpose of the envisaged achievement test is to measure the collection

Unqualified grade V Bio (information, skills and experience) in the subject of chemistry.

Define test objectives : Having been identified the purpose of the achievement test is to determine the objectives of the test to determine the extent achieved and the T researcher of the formulation of a number of behavioral goals.

Identify paragraphs test : The researcher of limiting the number of paragraphs that achievement test consists of which it reached the number of paragraphs of the test (40) paragraph.

Take out the test items : The achievement test items were formulated in their initial form in light of what was included in the test map , and the researcher chose the type of test (multiple choice and essay questions .The test consisted of (40) test items, distributed on the levels of cognitive Plum (knowledge, understanding, Application, analysis , synthesis and evaluation) and on content.

Test Instructions : The drafting of instructions and guidelines for how to answer represented by(choose an alternative one true paragraph , and the answer to paragraphs objective and essay , the length of time to answer, write full name and grade and the Division in the space).

Correcting the test answers : After the test paragraphs were formulated , a criterion for correcting the answers was set, as it set (one score for each correct test paragraph) and (zero for the wrong answer, and the left paragraph that the students did not have to answer , the paragraph for which more than one choice was made) thus the final The marks supreme substantive paragraphs (30 marks) minimum grade (zero) ,either paragraphs essay was developed (two marks) for each paragraph with a correct answer, and (one degree) to answer half correct, and zero to answer the wrong or abandoned, and therefore the final class For fried paragraphs it is (20 marks) and minimum (zero).

Thus, the overall higher score for the test (50 marks) and the minimum (zero).

Validity of the test : The apparent validity of the test and the content of the test were confirmed , as the results showed that the apparent honesty

obtained an agreement rate (80%) by the arbitrators and the specialists. As for the truth of the content, the results showed that all the passages of the achievement test are statistically significant, so the achievement test is considered honest in measuring the extent to understand and absorb i Unqualified grade V bio in a matter of chemistry.

Survey application for achievement test: Including the following

Application Expeditionary First :The application of the achievement test in the phase of the first reconnaissance a group of students grade V Bio of non - research sample, and the number of externa (20) student of , the purpose of knowledge and clarity of instructions and guidelines for testing and the extent of understanding and clarity of the paragraphs of the test o baht and account Length of time required for the test as the T researcher of the registration time for each student out of , and calculates the arithmetic mean of the time found that the necessary time to answer all of the paragraphs of the test is (44) minutes.

The second application exploratory :The application of the test on is made up of (sample 34) a student of grade V biodegradation of non-research sample , and the purpose of the analysis of the paragraphs of the achievement test statistically and the difficulty of are wrong.

Statistical analysis of achievement test items :The achievement test items were analyzed as follows:

Paragraph difficulty: to conduct statistical analysis of the paragraphs of objectivity in the test grades found that the coefficient of the difficulty of its paragraphs ranging from (0.50-0.72)either the difficulty factor of the paragraphs of the essay(0,44 -0,58) and thus are the paragraphs of the achievement test is good , all and difficulty occasion.

Paragraph Discrimination: One of the important characteristics that should be provided in the test paragraphs is the distinguishing feature, which means the possibility of items or paragraphs to reveal the individual differences of students., (0and above, and the value of the coefficient of discrimination of the objective paragraphs in the achievement test ranges between(0,33 -0,67),and the coefficient of discrimination for the fried paragraphs ranges between(0,33 -0,67) Thus, the passages of

the achievement test are considered to be a good and suitable discrimination coefficient.

The effectiveness of alternatives wrong :reward researcher of statistical analysis (up 27% degree and a minimum of 27% degree to find effective alternatives ranging from wrong (-0,04 – -0,11), and clear from that alternatives to the poorest t objective in the achievement test are all effective and thus are suitable for all counting.

Test stability :coefficient of the stability of the test depends on the relationship between each paragraph and another or between paragraphs of the test all, and evidenced by the stability of its degrees and consistency of its paragraphs , and can stability coefficient test using the legal relationship between the test units, and specifications of the test is good to be consistent and honest even paragraphs are testing with a clear meaning must be honest and fixed at the same time , indicating a match test **stability** scores at him back in again ,it shows the balance of and stability degrees externa baht in the test.

Methods of finding test stability:

Alpha -Cronbach coefficient : consistency is consistency and accuracy in measurement, and consistency in the set of test scores that really measured what must be measured (Majeed, 2014: 124). In order to extract the reliability of test items consisting of objective and article paragraphs, the researcher used factor of (AlphaKronbach) for stability, and is an indication of valence, that is, it gives good values for the equivalence factor, along with internal consistency or homogeneity, (Allam, 2000: 166), and the stability factor extracted in this way has reached(0,8931) which is a good stability factor.

Application search tool :the media and the two sets of experimental research officer of the date of application of the test summative week before the vote was applied after the completion of the teaching material pain set by the two sets of research at one time , and supervised researcher of the testing process application.

Statistical methods : Use the researcher of the equation T test (For two independent samples) to conduct parity my n experimental and control

groups , and with the hope of alpha Cronbach , statistical pouchspss , And excel program(Excel).

Results :

To verify the null hypothesis , which states) no difference is statistically significant at the level(0,05) between the average scores baht experimental group of Latte studied n material chemistry according(list - group - sign)strategy and the average score control group of the Latte he studied n the same article according to the method usual in the achievement test of material chemistry grade V bio, has The researcher of numbers achievement test and its application to the two sets of research experimental and control ,and after the application of the test the researcher of correcting the two papers and the codification of degrees Unqualified two groups ,we're Calculating the arithmetic mean for the students of the experimental and control group students ,standard deviation and variance, and then the T -test was applied .t-test for two separate samples as shown in the table.

Table (2) the results of the T -test for the two research groups in the chemistry achievement test

Statistic al significa nce (0,05)	T value		Degr e of freedo m	varian ce	Standard devi ation	SM A	the numb er	Statistical the group
	Tabul ar	Calcula ted						
D of statistica l	2,02	2,361	38	50,463	7,104	37, 40	20	Experime ntal
				94,261	9,709	31, 05	20	Control

The calculated T value reached (2,361) which is greater than the tabular T value which is (2,02)at the degree of freedom(38)Thus, it is clear that the experimental group outperforms the control group in the achievement test, So it rejects the null hypothesis and accepts the alternative hypothesis which states: (There is a difference is statistically significant at the level (0.05) between the average scores i baht experimental group of Latte studied material chemistry according strategically its(list - group -

sign)and the average score control group of Latte studied material the same way as usual in the collection and In favor of the experimental group ,as shown in the figure(2):

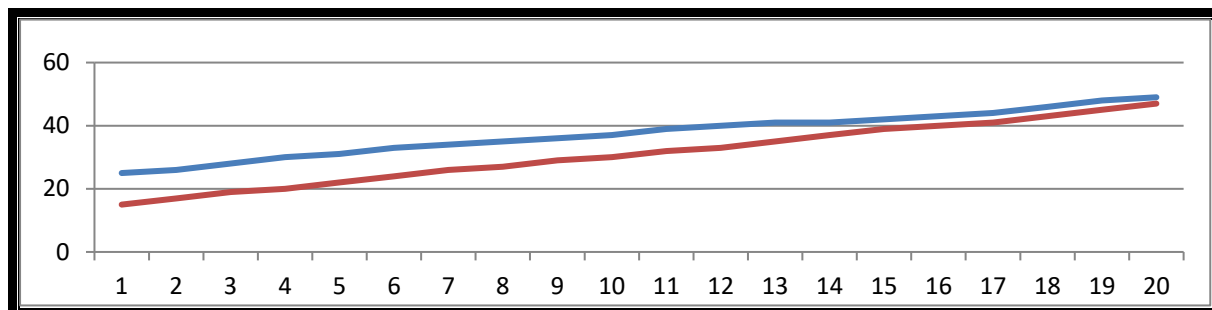


Figure (2).

The researcher also used the square equation (ETA) to extract the effect size (η^2) For the independent variable in (list-group- mark)strategy in the dependent variable(achievement of chemistry) as shown in the table .

Table(3): The magnitude of the effect of the independent variable on the chemistry achievement variable

The amount of impact size	Impact size value η^2	Dependent variable	Independent variable
Average	0,128	Achievement of chemistry	(list-group -mark)strategy

Is evident from over the table(4) above that the value of the amount of impact the size of (0128) and when compared to the values of the size effect in the table () note as valuable m of appropriate interpretation of impact size by the average variable teaching(list - group – sign) strategy in collection externa Unqualified material chemistry and in favor of the experimental group,

Table(4): Impact Size Values η^2 (And the amount of impact

The amount of impact	Impact size value
Small	0,01 – 0,05
Average	0,06 – 0,13
Big	0,14 and above

This means that the experimental group that was studied according to (list - group – mark) strategy is superior to the control group.

This shows us that teaching according to (List - group – sign) strategy had an effect positive in the understanding of scientific information and facts and interpret mathematical laws by cooperating groups and discuss its external part and this leads to raise the scientific level and raise the level of achievement have, in the light of the experience by the researcher of the results obtained. them and the reasons resulting from the research, conclude, the researcher of the following conclusions:

- 1- Teaching fifth-grade students according to (list-group-mark) strategy that had a positive effect in raising their academic achievement.
 - 2- Teaching fifth-grade students in accordance with the (list-group-mark) strategy has had a positive impact in raising the level of high-level thinking among them.
 - 3- The (list-group-mark) strategy also contributed to organizing and sequencing information according to organized and organized steps, which affects the smooth and simple recall of information by students.
 - 4- The use of the (list-group-mark) strategy makes the student the primary axis in the lesson, either the school is directed and guided during the lesson.
- In light of presenting the results, the researcher recommends the following:
- 1- Using the (list-group-mark) strategy in teaching chemistry for intermediate, intermediate, and college levels.
 - 2- The necessity of providing the time required to teach according to modern strategies and models, because chemistry is a difficult and rigid subject that contains abstract concepts and mathematical issues, so it needs a great time for the information to reach the minds of female students.
 - 3- Benefit from the research results in (list-group-mark) strategy by specialists in the field of curriculum development.

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