



The Effect of 'Cards Challenge Strategy' on the Achievement in Social Sciences Material for Primary Fourth Class Pupils

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Abstract

The current research aims to identify the effect of the "Cards Challenge Strategy" on the achievement of fourth-grade primary pupils in social sciences. To achieve the goal of the research, the researchers followed experimental procedures with partial control. The research sample consisted of 64 pupils: 32 in the experimental group and 32 in the control group. The two groups were equal in terms of age, intelligence, prior knowledge, and scores on the pre-achievement test. The researchers formulated behavioral goals, prepared study plans, and developed an achievement test, all of which were reviewed by evaluators to verify validity and reliability.

The researchers administered the achievement test and analyzed the results using the following statistical methods: T-test for two independent samples, difficulty coefficient, discrimination coefficient, effectiveness of alternatives, Pearson correlation coefficient, and Cronbach's alpha.

The study demonstrated the superiority of the experimental group pupils, who studied using the Cards Challenge Strategy, over the control group pupils who followed traditional methods on the achievement test. Based on the results, the researchers reached a number of conclusions, including the contribution of the Cards Challenge Strategy to improving academic achievement in social studies among fourth-grade students compared to traditional methods.

In light of the study results, the researchers presented several recommendations, including adopting the Cards Challenge Strategy in teaching social sciences, especially history, in primary education due to its positive impact on student achievement. They also suggested further complementary studies to expand on the current research.

Keywords – demonstrated , methods, Recommendations , complementary

Received: 11 May 2024 **Revised:** 08 June 2024 **Accepted:** 26 June 2024

The Problem

As challenges increase and information technology accelerates, learning is no longer confined to the classroom. It is insufficient to simply store information from textbooks in our minds or rely solely on classroom lectures for learning. Education must keep pace with the rapid evolution of knowledge and utilize the newest technologies and strategies. (Bader, 2008: 18).

In Iraq, the education system requires a qualitative shift from teaching to enabling, from individualistic thinking to conscious participation, and from one-sided discourse to a more engaging and responsive dialogue. (Alogaily and Hamza, 2011: 17).

The current educational system in Iraq faces complex, inherited issues that are difficult to resolve across all aspects. This is reflected in the low rates of student success, indicating a clear decline in the quality of teaching and education (Khalaf, 2014: 2). Statistics from Iraq between 2007 and 2010 highlight high failure rates in primary education, peaking at 17.1% during 2008-2009, compared to 15.6% in 2007-2008 and 14.7% in 2009-2010.

The researchers conducted a simple questionnaire covering several primary schools to gauge teachers' opinions about fourth-grade pupils. Both male and female teachers confirmed that achievement levels have decreased. To address this issue, teachers need to be aware of modern teaching methodologies that engage learners as active participants, draw their attention, create motivation, and encourage participation in class and extracurricular activities. They must avoid inadequacies, utilize available learning materials, and boost student motivation.

Consequently, there's a pressing need for social sciences teachers to reassess their teaching methodologies and activities to tackle low student achievement. To improve teaching in social sciences, employing modern strategies that activate learner involvement in the classroom is vital. The researchers suggest using active learning strategies, such as the Cards Challenge Strategy, which allows learners to engage and interact in social science lessons, helping them to build or modify their understanding.

Based on the aforementioned inactive situation in social sciences education, the research problem is formulated as follows: Does the Cards Challenge Strategy affect the achievement of social sciences among fourth-grade primary students?

The Research Significance

The contemporary world is experiencing rapid technological advancements and an information revolution, challenging educational systems to reform and adapt to this vast knowledge landscape. This underscores the importance of developing scientifically- and educationally-capable staff, with a focus on cognitive, emotional, skillful, and social development to prepare individuals to contribute actively to society (Abdulsalam, 2006: 50; Alhela, 2008: 21).

Education is essential for forming individuals with the mental capacity to be valuable members of society and for preparing good citizens (Alamen, 1994: 8). The curriculum plays a critical role in achieving educational goals and preparing generations with the capacity to engage positively with others and acquire good habits and values (Allaqany, 1979: 98).

The curriculum is the backbone of education, and each educational system must adopt a curriculum that reflects societal values and educates individuals based on scientific principles (Dandash, 2003: 9). Thus, the curriculum should encompass all activities and experiences learners undergo under school supervision (Alsamok and Huda, 2006: 44).

Social studies are a fundamental part of the curriculum, warranting sufficient resources, time, and effort for success. Teachers should not only be responsible but also be encouraged to adopt innovative teaching approaches, such as imitation, exploration, and active social engagement. Social studies should receive strong support from administrators, educational councils, and the local community (Nazal, 2014: 59).

The primary education stage is pivotal, forming the foundation of the educational system. If skill and method development does not focus on primary education, students face challenges as they transition to higher levels (Alwindawy, 2007: 18). Fourth-grade pupils are beginning to engage in abstract thinking, seeking to understand their material and social environments and to compare their ideas with others' (Alkhalely et al., 1996: 65).

Modern teaching strategies redefine teachers' roles, transitioning from solely conveying information to continually updating their teaching practices and enriching learners' experiences with educational technologies. Teachers are now viewed as designers of learning environments, aiming to equip learners with skills to meet contemporary demands. This aligns with active learning strategies, which involve

guided procedures encouraging learners to reflect on their learning (Alhashemy and Aldolaimy, 2008: 36; Shahan, 2009: 139).

The researchers advocate for the use of active learning strategies, such as the Cards Challenge Strategy, to enhance student achievement. This strategy, appropriate for primary education, encourages all pupils to engage actively in classroom discussions (Alshemary, 2011: 80).

The significance of this research is outlined as follows:

1. Addressing the information revolution and the need to adapt.
2. Applying the strategy in the primary stage suits pupils' developmental needs.
3. Utilizing a modern teaching strategy for social studies in primary education.
4. Introducing the Cards Challenge Strategy, a novel approach in Iraqi schools.
5. Emphasizing the primary stage as crucial in preparing teachers for further educational stages.

The Aim

This research aims to recognize the effect of the Cards Challenge Strategy on the achievement of social sciences among fourth-grade primary pupils.

The Hypothesis

For this research, an initial hypothesis is proposed: There is no statistically significant difference between the average achievement scores of pupils in the experimental group, who study social material through the Cards Challenge Strategy, and those in the control group, who follow traditional methods.

The Research Limitations

This research is confined to:

1. Fourth-grade pupils in morning primary schools within the Third Rusafa Directorate of Education in Baghdad for the 2018-2019 academic year.
2. The third and fourth chapters of the social sciences textbook for fourth-grade pupils, as taught in the 2018-2019 academic year.

Definition of Terms

1. **Strategy:** Defined by Olayyan (2010) as "the planned process involving organized procedures to implement a lesson and achieve its goals" (Olayyan, 2010: 99).
 - Procedural Definition: A series of procedures the teacher (researchers) adopts in the classroom to teach the experimental group, from forming behavioral objectives to evaluation methods.
2. **Cards Challenge Strategy:** Described by Alshimmery (2011) as an "active learning strategy" used in primary education to facilitate idea exchange and encourage active classroom participation (Alshimmery, 2011: 96).
 - Procedural Definition: A strategy that experimental group pupils follow according to planned steps using the Cards Challenge approach.
3. **Achievement:** Defined by Alaqeel (2003) as "knowledge and skills acquired by the learner from studying a subject or unit" (Alaqeel, 2003: 39).
 - Procedural Definition: The amount of information fourth-grade pupils acquire, as measured by the achievement test prepared by the researchers.
4. **Social Sciences:** Defined by Nazal (2014) as simplified social sciences incorporated into school curricula, including Geography, History, and National Education, to prepare learners for active citizenship (Nazal, 2014: 25).

- Procedural Definition: Part of the fourth-grade curriculum encompassing Geography, History, and National Education, used by researchers in teaching both groups.
- 5. **Primary Fourth Class:** The fourth class in primary education comprising six levels, preparing pupils for secondary education after the fifth and sixth classes (Ministry of Education, 1987: 72).

Theoretical Aspects and Previous Studies

Theoretical Aspects

Active Learning

In response to cognitive development and educational theories, modern teaching strategies center on the learner's role, contrasting traditional approaches. Interest in active learning grew in the 1990s and expanded into the 21st century, reaching the Arab world in the early 2000s (Alastal, 2010: 11).

The concept of active learning dates back to Socratic methods and was advocated by reformers like John Dewey. A critical assessment of classroom practices shows that traditional lectures are passive, whereas active learning encourages reading, speaking, listening, thinking, and writing (Saada et al., 2006: 31).

The need for active learning arose due to student confusion in learning processes, stemming from difficulties in integrating new information through traditional methods (Toraiba, 2008: 84).

Active learning promotes a philosophy centered on learner positivity, emphasizing individual knowledge acquisition and value formation. It moves beyond memorization, focusing instead on developing critical thinking, problem-solving, group work, and cooperative learning (Ali, 2011: 234).

Active learning shifts the teaching focus from "What must be taught?" to "What should learners be able to achieve?" (Badwy, 2010: 332).

Silberman advocates that learners in active learning contexts apply their skills and enthusiasm to comprehend ideas and solve problems, engaging deeply with the educational process (Bodair, 2008: 35).

The Role of the Teacher and Learner in the Active Learning

First: The Teacher's Role

The teacher can perform the following roles in case of active learning:

1. Encouraging the learners and helping them to know how to learn and search for the sources of learning, and how to use them and compare between them.
2. Preparing the supporting environment which increases the motivation of learners and their self-confidence and enables them to accept the responsibilities of learning and taking the concerned decisions.
3. Listening to the learners and working on motivating and negotiating with them concerning the vague meanings, ideas and opinions.
4. The teacher's role is not to simplify knowledge and information only, but working on moving the understanding from one learner to another or one group to another.
5. Anticipating difficulties facing the learners and presenting support to them in the suitable time.
6. Choosing the teaching techniques appropriate for the situations of active learning.
7. Providing the materialistic and humanistic resources which help active learning including time and place appropriate for facilitating it.
8. Providing the cordial, safe, and supportive atmosphere and preparing the fruitful teaching-learning environment and providing it with the experiences suitable for active learning.
9. Asking questions that encourage speculation and thinking and using various knowledge and solving problems. (Almaliky, 2010: 42)

Second: The Learner's Role

The role of the learner in the situation of active learning can be summarized as follows:

1. The real desire to participate in the teaching learning experiences.

2. In the situations of active learning, the learner must enjoy positivity and vitality, and must be ready to participate in planning and performing the lessons.
3. S/he must look for the knowledge by herself/himself from various sources and participate in evaluating herself/himself and deciding the extent of what s/he has achieved of aims.
4. S/he must have the ability to discuss and manage conversation and participate in the learning environment.
5. S/he must have self-confidence in dealing with the teaching learning environment around him.
6. S/he must think critically in the method of her/his learning and its goodness to allow her/him build knowledge and develop it.
7. S/he must employ the acquired knowledge, skills, and attitudes in new learning and life situations. (Alharby, 2010: 29) (Almaliky, 2010: 44)

Second: Cards Challenge Strategy

It is one strategy of active learning, used for the primary stage, in a way to enable the pupils to exchanges ideas for a certain purpose or aim and also to encourage all the pupils to active listening and participation in the classroom discussion. (Alshimmery, 2011: 96)

The Strategy Steps:

1. The group of the blue question cards chooses one card from six cards presented to them, through dice.
2. Then the group of red challenge cards chooses one card. The following are some examples of what the challenge cards contain:
 - A. Choosing a group for explanation
 - B. You can exchanging a question with another group
 - C. You can asking the help of a friend (or the teacher)
 - D. You have no hope (it means your demand is rejected)
 - E. Try once again.
3. By this each group will have two yellow cards for the questions and red cards for the challenge.
4. The teacher asks the two groups to reveal the cards to start the exercise and the groups must use the challenge cards before the question cards.
5. The group will start solving the questions within a certain time and they have to ring a bell when they complete.
6. After completing the solutions, the challenge cards are activated. The group which is chosen is asked to explain.
7. The teacher chooses the learner who will explain within the group through the dice (as the pupils in the group are numbered). (Alshimmery, 2011: 96)

Previous Studies

This section discusses some similar studies to the present research, because we have not found any Iraqi, Arabic or foreign study which has dealt with the independent variant that is the cards challenge strategy. Therefore we discussed similar studies. For this purpose, various studies are chosen from the studies that deal with the strategies of active learning in the primary stage.

1. Alkhatana's Study (2018)

This study is undertaken in Jordan. It aims at verifying the effect of the application of two active learning strategies on primary fifth class pupils' achievements in History lesson in Jordan.

The two researchers depended on the experimental approach. The study sample is made up of 109 fifth class pupils: (38) in the first experimental group and (36) in the second experimental group and (35) in the controlling group. An achievement test was prepared by the two researchers and applied to an experimental sample. Its validity is counted by the use of values whose validity is (0,85)

The statistical result which is realized by ANCOVA revealed that the achievement and standard of the fifth class girl pupils who studied History by the use of active discussion are better than those who studied by

the use of a modified lecture or traditional method. The result also revealed that the achievement of the fifth class girl pupils who studied History by the use of a modified lecture is better than those who studied the same material by the traditional way. The study presented many recommendations including holding training courses for History teachers to use the active learning strategy in planning their lessons.

2. Almamory's Study (2013)

This study is conducted in Iraq, Kerbala Governorate. It aimed at verifying the vitality of active learning in modifying the mistaken historical concepts in the material of (History of Arab and Islamic Culture) for the secondary fourth class, literary branch and keeping the modifications in mind. The two researchers chose the experimental design of partial control. The research sample is made up of (50) students: 25 students in each group.

The two researchers prepared the requirements of the experiment which include deciding the scientific subject, defining the repeated historical concepts, the formulation of the behavioral purposes and writing teaching plans for the experimental and controlling groups. As for the research materials, the two researchers prepared two tests, one for diagnosing the mistaken historical concepts which include 36 concepts, and the other is a curative test to modify the mistaken historical concepts which the first test has specified and include 18 mistaken concepts among the students. It includes 54 objective items of multiple choice kind. Their validity and stability are verified.

After completing the experiment, the two groups are subjected to the test of the modification of the after-mistaken historical concepts. When analyzing the data, the result referred to the existence of a statistically significant difference between the experimental and controlling groups in favor of the experimental group in modifying the mistaken historical concepts among the students. There is also found a statistically significant difference between the experimental and controlling groups in favor of experimental group in the test of keeping the modified historical concepts. The study presented many recommendations including the use of modern teaching methods in teaching the social sciences material.

What distinguished the current study from the previous studies?

- The current study agrees with the previous studies in taking one independent variable as in Almamory's study (Almamory 2013) while Alkhatatna's study deals with more than one independent variable.
- In dependent variable (achievement), the current study agrees with Alkhatatna's study (Alkhatatna 2018). As to Almamory's study (2013), it deals with "concept" variable.
- Concerning the results, all the studies showed the superiority of the experimental group over the controlling group, and emphasized the positive effect of active learning strategies in the dependent variables which each study deals with. In the current research the two researchers present the result which they arrive at by using the experiment and then explaining it according to the nature of the research and its hypothesis.

How the current study has made use of the previous studies:

The current study has made use of the previous studies in the following points:

1. Getting acquainted with the sources relevant to the subject of the research.
2. Choosing the appropriate research sample.
3. Choosing the experimental design appropriate for this study.
4. Deciding the variables of the research equivalence.
5. Choosing the appropriate statistical means.

The Research Procedures

This chapter presents the procedures which the two researchers have followed to achieve the research aim. A suitable experimental design, deciding the research society, choosing the sample, and the group equivalence in some variables are adopted. The chapter also contains the steps which the two researchers followed in preparing the research instrument and its demands and then applying the experiment and

choosing the appropriate statistical means in addition to other aspects relevant to the research procedures and requirements as follows:

First: The Approach the two researchers followed, in their research, the experimental approach because it is suitable for the research nature, its aims and hypotheses.

Second: The Experimental Design: The two researchers depended on the experimental design of partial control with an after test because it is suitable for the current research situation and it is more appropriate for this research procedures, as is shown in the following figure:

The Group	Independent Variable	Dependent Variable	Test Type
Experimental	Cards Challenge Strategy	Achievement	After
Controlling	-		

Figure (1) shows the experimental design

of the research

Third: The Research Society and Sample:

- A. The research society is comprised of the fourth class pupils in the primary schools in Baghdad Governorate for the academic year (2022-2023). Of the six state departments in Baghdad, the two researchers randomly chose the Third Rusafa State Department of Education.
- B. The sample: the current research demands the choice of one school from the primary schools that belong to Third Rusafa State Department of Education/Baghdad, and the two researchers randomly¹ chose Zaid Ibn Thabit School to be the sample of research.
- C. The pupils' sample: After the two researchers have decided the school to which they applied their experiment, they visited the school above and found that the school contains three primary fourth class sections. They chose the experimental and controlling groups randomly by lot. Section A represented the experimental group which was taught by the cards challenge strategy. The number of the students is (36). Section C represented the controlling group which was taught by the usual method. Its pupils are (34). The total number of the two groups are (70) pupils. The two researchers excluded the failure pupils: six in the experimental group and two in the controlling group because it is expected that they have a previous experience in social sciences material as they had studied this material the previous year. This may affect the internal safety of the experiment. This exclusion is made statistically only: it means they participated their friends in all the requirements of the lessons and are allowed to attend during the experiment. By this the total number of the sample is (64) pupils distributed between the two groups: (32) in the experimental group and (32) in the controlling group as is shown in the following diagram (No.1)

The Group	Section	No. of pupils before Exclusion	No. of failures	No. of pupils after exclusion
Experimental	A	36	4	32
Controlling	C	34	2	32
Total No.		70	6	64

Diagram (1) No. of pupils in the experimental and controlling groups

Before and after exclusion

Fourth: The Two Groups Equivalence

¹ The two researchers put the names of the secondary and preparatory schools in a bag, and then one of them was drawn. It was found that it is Zaid Ibn Thabit School

Despite the two researchers have followed the random approach in choosing the two groups of study they tried before the beginning of applying their experiment to make an equivalence between them in some variables which they thought they may affect the result. They are:

1. **The age by months:** The two researchers have got the information of this variable from the school register. When they used the T test for two independent samples, the results were that there were no differences of statistical significance between the average ages of the two groups. diagram (1) shows this:

Diagram (1) the equivalence of the two research groups in age

Group	No. of sample individuals	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	154,80	5,8	62	0,02	2,000	Of no statistical significance
Controlling	32	154,83	5,52				

2. **Intelligence:** The two researchers made an equivalence between the two groups by using (Raven test). When the T test for two independent samples was used, the result was that there is no difference of statistical significance between the averages of the two groups as in diagram (2).

Diagram (2) The equivalence between the two groups in intelligence test (Raven)

Group	No. of sample individuals	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	31,2	8,73	62	0,51	2,000	Of no statistical significance
Controlling	32	32,23	6,80				

3. **The grades of the previous year in social sciences:** the two researchers got the information about this variable from the school registers. When the T test of two independent samples was used, the result was that there was no difference of statistical significance between the averages of the two groups. Diagram (3) shows this

Diagram (3): The average and the deviation standard of the ages of the pupils in the two groups

Group	No. of sample individuals	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	7,69,,	3,36	62	0,71	2,000	Of no statistical significance
Controlling	32	9,19	2,09				

4. **Previous knowledge test:** to know the equivalence in this variable, the two researchers prepared a previous knowledge test which is made up of (30) items of multiple choice. Its suitability and validity were ascertained by presenting it to a group of experts in this field and it was applied to the two groups of the research. After correcting the test and counting the average and the differences of the pupil's grades by using the T test of two independent samples, it appeared that the differences are of no significance statistically. Thereby the two groups are equivalent statistically in this variable. Diagram (4) shows this:

Diagram (4): the average and deviation standard of the previous knowledge test

Group	No. of sample individuals	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	19,37	3,67	61	0,83	2,000	Of no statistical significance
Controlling	32	18,63	3,11				

5. **The pre-achievement test grades:**

The two researchers conducted a pre-achievement test for the experimental and controlling groups' pupils. The aim is to ascertain the equivalence between the two groups. After the test, the results show that the F value counted (0,36) is lower than the scheduled value (2). This means that there is no difference of statistical significance between the two groups in the pre-achievement test at the significant level of 00,5, as in diagram (5)

Diagram (5) The equivalence of the two groups in the achievement test

Group	No. of sample individuals	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	9,37	3,89	62	0,36	2,000	Of no statistical significance
Controlling	32	8,12	3,54				

Fifth: Controlling the extraneous variables: the dependent variable is affected by a number of factors other than the experimental factor; therefore these factors must be controlled to allow the experimental variable alone to affect the dependent variable. Controlling variables is one of the important procedures in the experimental research so as to provide an acceptable degree of internal validity for the design. This means it helps the two researchers to attribute most variation in the dependent variable to the independent variable in the study, not to any other variables. In order to keep the safety of the experiment, the two researchers tried to control some extraneous variables which may affect the precision of the result. In spite of what the two researchers have made to achieve the statistical equivalence between the two groups of the research in many variables, they tried as far as possible to control many extraneous variables. The following are the variables and how they are controlled:

1. The accompanying events: the experiment in the current research was not subjected to any emergent situation or an event that may hinder its course.

2. The experimental extinction: this means the effect which happens after some students under the experiment leave or stop coming in a way which affects the average of achievement. (Alzawbay and Mohammed, 1981: 98). The current research did not witness cases of leaving or non-attendance or shifting throughout the period of experiment, except individual cases of in- attendance and this is a usual case. The two groups of research were subjected to little and almost equal percentages.
3. The choice of sample members: the two researchers tried to avoid the effect of this factor in the research result by making statistical equivalence processes among the pupils of the two groups in a number of variables because the social and economic conditions of the students are greatly similar and the pupils belong to the same social environment.
4. The measurement instrument: the two researchers used a unified instrument (achievement test).
5. Experimental procedures: the two researchers tried hard to make this factor ineffective in the course of experiment, therefore they insist on the research secrecy, distribution of study lectures, and the time of experiment.

Sixth: The requirements of research

- A. Deciding the scientific material: the two researchers limited the scientific material which they will teach. It included the second unit (chapter 3 and chapter 4) from the social sciences book for the primary fourth class, which contains historical subjects.
- B. Formulating the behavioral aims: 60 behavioral aims were formulated in the light of the general aims of teaching the social material, and the contents of the scientific material decided for the period of experiment. The two researchers adopted the three levels of Bloom's category which are (knowledge, comprehension and application) because they are suitable for the ages of the research sample and because it can be observed and measured. It is also more popular in use. (Bloom, 1971: 177). The behavioral aims were given to a group of judges and experts in the field of education and methodology to have their opinions and notes. The behavioral aims were re-formulated and the level measured was modified. The behavioral aims got an agreement of 80 percent of the experts' opinions. This means all the aims were accepted after making some changes following the notes which the experts presented.
- C. Preparing teaching plans: in the light of the learning material content and the behavioral aims, teaching plans were prepared for the groups of the research: 20 plans for each group. Samples of these plans were shown to a group of experts to present their opinions about their suitability. Those which the experts agreed upon were adopted.

Seventh: The research instrument: The current research demands the following:

1. An achievement test in social material: one of the requirements of this research is the use of an achievement test to measure the effect of an independent variable in the dependent variable (achievement). Since there is no readymade achievement test, the two researchers prepared an achievement test in the light of the behavioral aim and the content of the assigned study material in the experiment. The good test is that which compromises between the behavioral aims from one side and the content of the scientific material from the other side. The items of the achievement test were 30; and for each item there were three choices. One of them is true. The two researchers followed the following steps in preparing the test:
- A. Preparing the specification table: the two researchers prepared a testing map for the content of chapters three and four of social sciences book assigned for primary fourth class, and decided the weights of the chapters' contents in the light of the number of aims for each chapter. The two researchers depended in deciding the questions in each level on the weight percent for each level (knowledge, comprehension, and application). The number of test items is thirty, distributed to the content of chapter three and four and the levels (knowledge, comprehension and application) of the behavioral aims according to Bloom's category. Diagram (6) shows this

Diagram (6)

Specification table

Serial No.	Chapter	No, of pages	Relative significance	No. of behavioral aims for each level			No, of items for each level			No. of items
				Knowledge	Comprehension	Application	Knowledge 45%	Comprehension 35%	Application 20%	
1	Third	9	64%	17	13	8	9	6	4	19
2	Fourth	5	36%	10	8	4	5	4	2	11

Total No.	14	100%	27	21	12	14	10	6	30
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B. Formulation of test items: the two researchers chose the multiple choice test because this kind of tests is characterized by many advantages as it is used to decide the learners' ability to recall certain information and it also helps the examiner to measure the extent to which the educational goals are realized especially the basic mental processes (knowledge, comprehension and application). It also minimizes guessing the correct answer to the lowest degree because of the variety of falsified items and options (Omar et. al., 2010: 442). The total number of the achievement test items are thirty. The two researchers put the following information at the beginning of the choice:

1. Answer on the question paper.
2. Don't leave any question without answer.
3. Deal with the left item as a false item, that is zero.
4. One mark is given for any correct answer, and zero for any incorrect or left answer. To ascertain the suitability of the items, the two researchers followed the following steps:

- **Test validity**

A. Apparent validity: the test is given to a group of experts in geography, history, and methodology to decide the extent that the options represent the quality and the subject which we want to measure and to give their opinions and suggestions concerning the validity that these items measure the behavioral aims. In the light of their notes and suggestions, some items are reformulated. The percentage was used as a norm to measure the suitability of the items. It got the agreement of 80% of the judges' opinions, therefore no item was omitted. The number of items remained as it is (30) items. All are valid to measure the achievement.

B. Validity of content: the two researchers prepared the achievement test and the specifications table and showed them to a number of experts and specialists in methodology, measurement and evaluation to give their opinions and notes concerning the suitability of the items and the validity of the specification table preparation. In the light of their opinions and notes the achievement items were modified and the validity of the specification table was ascertained, thereby the content validity was reached.

- **The application of the questionnaire and the statistical analysis of the test items:**

The application of the questionnaire is to ascertain the clarity of the test items and its instructions and the time allowed for answering it. The average time for answering the achievement test items was (40 minutes).

The statistical analysis is to know the difficulty level of the test items, the power of distinguishing them and the vitality of the wrong options. The two researchers applied the test to a sample similar to the research sample. It was made up of (100 primary fourth class pupils) in Almutanaby School. After correcting the pupils' answers, the two researchers divided the pupils into two groups, superior and inferior. The superior group is (50%) and the inferior group (50%) because they give us the exact size and difference of difficulty coefficient and the distinguishing and the wrong options vitality. Oda (1993) refers that if the number of pupils is 100 or lower, the pupils can be divided into two groups, the superior

group (50%) and the inferior group (50%) because they provide us with very exact information about the two groups. (Oda, 1993: 285). Then an analysis of the answers of the two groups was made concerning the items difficulty, the power of distinguishing, the vitality of the options, and the test stability. For its value reached (0,90). The test in its final form became thirty items.

Eighth: Application of experiment

During the application of the experiment the two researchers conducted the following:

1. The experiment was applied to the two groups' members in the first term of the academic year 2022-2023.
2. The two researchers tested the two groups at the same time.

Ninth: Statistical instruments: the statistical instruments depended on the following:

- Coder Richardson's equation 20 to extract the test stability (Melhem, 2002: 265).
- T test of two independent samples.
- Difficulty coefficient to count the items difficulty power.
- Distinguishing power to extract the test items distinguishing power.
- Wrong options vitality: it is used to measure the wrong options vitality of the multiple choice items which the test is made up of.

The results and explication

To achieve the current research goal and to answer the research hypothesis, the test data were analyzed to know the statistical significance of the differences in the averages of the grades which the experimental and the controlling groups pupils have got, as follows:

First: The results

There was no statistically significant differences at the level of (0,05) between the average grades of the experimental group pupils who studied according to cards challenge strategy and the average grades of the controlling group pupils who studied according to the usual method. To verify the hypothesis truth, the two researchers applied the achievement test to both groups after completing the experiment. After correcting the answers the data were managed statistically. It appeared that the difference was in a statistical significance at the level of (0, 05) for the counted T value for the significant different (5,65) higher than the tabled T value (2,000) at the freedom degree (62). This difference was in favor of the experimental group, therefore the zero hypothesis was rejected. Diagram 7 explains this:

Diagram (7)

The average, standard deviation, counted and tabled T value of the two groups' pupils in the achievement test

Group	No.	Average	Deviation standard	Freedom degree	T Value		Significant standard at 0,05
					Counted	Scheduled	
Experimental	32	24,84	4,42	62	5,65	2	statistically significant
Controlling	32	20,09	2,34				

Second: Result Explication

In the light of the result shown in diagram 7, the superiority of the experimental group pupils who studied by cards challenge strategy over the controlling group pupils who studied the same material by the traditional method appeared clearly. The two researchers see that the reason of this is due to:

1. The cards challenge strategy is among the active learning strategies that work to make pupils active participants in the process of teaching and learning, because they become positive, not passive as in the traditional method.
2. This strategy achieved an atmosphere of interaction inside the classroom between the teacher and the pupils and among the pupils themselves, as such their role becomes more positive in the classroom situation.
3. This strategy helps change the study material from a difficult, dry one to a simplified, flexible one, as such it leads to the pupils' love, understanding, and memorizing it more easily.

Conclusions, recommendations, and suggestions

Conclusions:

In the light of the results, the two researchers arrived at a number of conclusions which can be summarized as follows:

1. The cards challenge strategy participated in an increase in the achievements of the primary fourth class pupils in social sciences compared with the pupils who studied by the traditional method.
2. The cards challenge strategy proved its vitality in making the learners the axis of the learning process. And this is what all the modern studies and strategies aim at.
3. It is possible to apply the cards challenge strategy in the light of the current capabilities of our schools.
4. The activation of this strategy requires a teacher who is aware of its steps, and has the ability to apply them inside the classroom.

Recommendations:

In the light of the results the two researchers recommend the following:

1. The Ministry of Education must prepare a pamphlet which contains a variety of learning strategies which can be used in teaching history material. The pamphlet must be distributed to the schools so that it can be available to the teaching staff.
2. Cards challenge strategy must be used in teaching social sciences in the primary stage, especially in teaching history because it has the positive characteristics and effects in increasing the achievement level.
3. The educational councilors and those who are interested in methodology must advocate the dependence on the modern teaching strategies, especially the cards challenge strategy in teaching the social sciences for the primary fourth class pupils.
4. Departments of education must organize continual training courses for the history teachers about how to depend on cards challenge strategy and how to teach by using it.

Suggestions:

To complete the current research the two researchers suggest the following educational studies and research:

1. A similar study must be conducted in other school subjects and at various learning stages, such as the intermediate stage, according to gender variable.
2. A similar study must be conducted to know the vitality of the strategy of learning situations in other variables such as (the acquisition of historical concepts, achievement motivations, creative thinking, historical thinking, etc.)

3. A study must be conducted to compare cards challenge strategy with other strategies and show its effect on achievement.

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