

The Effect of Teaching by the Inductive Model on Achievement in the Arabic Language Subject for Tenth Grade Students in the Southern Mazar District

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Abstract

The aim of the research is to identify the effect of teaching using the inductive model on achievement in the Arabic language subject for tenth grade students in the Southern Mazar District. The research relied on the quasi-experimental approach with an experimental design based on the experimental and control groups, the experimental group on which the inductive model was applied and consisted of (28) students, and the control group that studied in the usual way and consisted of (27) students, and the post-test for achievement was applied to my groups. The research results showed that the average scores of the experimental group in the achievement test were higher than the average scores of the control group on the test, and that the difference was statistically significant and in favor of the experimental group. Which indicates that there is a positive effect of using the inductive model on the academic achievement in Arabic grammar for tenth grade students. Based on the results of the study, the researcher recommended emphasizing that Arabic language teachers use the inductive model in teaching Arabic grammar, due to the positive impact on students' achievement. And the necessity of employing the inductive model in the Arabic language curricula, and building activities that students pass through the stages of the inductive model, which increases their academic achievement.

Keywords: inductive model, achievement, tenth grade.

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INTRODUCTION

The current era is witnessing rapid changes and transformations as a result of technological development and scientific progress. Therefore, the huge amount of information for students has become difficult to store. Learning is experiencing apparent difficulty among students, and hence the priority of teaching students how to learn and how to think? To reach the ability to self-learn them, and it is known that all nations are interested in teaching their languages; Because it is a tool of thinking and expression, and a tool of communication and understanding. Language represents life experiences in their different aspects. The Arabic language has unique characteristics, not to mention that it is the language of the Noble Qur'an, with its lofty creed and lofty human values. Since the Arabic language is of such importance, its people must give it the care that befits it, and achieve its survival and vitality, as it is responsible for preserving their cultural and civilizational heritage, which is the state of the nation that appears on its surface.

Educators had a great attention to teaching Arabic grammar because of its great importance in acquiring the language and employing it in life. Its rules are the way to correct the tongues, and preserve them from melody and error, and they are an aid to the accuracy of expression and the soundness of performance. Teaching methods and focus on the learner, who should take a major role in them, to be an active actor, not a passive recipient, and the matter here is entrusted to the teacher, who must act as required by the educational process. Which recommended the introduction of new strategies in the field of teaching, such as cooperative learning and activity-based learning (Al-Kakhun and Haniyeh, 2009).

The inductive model includes a set of steps and activities that activate and motivate students to learn through a story or a puzzle, then the teacher presents the educational content by choosing the method that suits his students, discussing the content, or using cooperative learning, and the teacher reviews his students an explicit and unannounced review, then presents activities Seal the lesson from an assessment or presentation of a puzzle related to the content (Rowan & Cetorelli, 1990).

The inductive model appeared as a teaching model in 1990 and then spread, and a number of researchers used it in teaching languages to describe the interrelationship between the nature of the learned skill and the characteristics of the learner and the appropriate teaching method for him, and then used in teaching all subjects, based on the fact that each subject contains skills and activities that differ in their nature and objectives from others, which requires choosing methods and strategies that fit the nature and diversity of the content, and that there are differences between the learners themselves in different environments, and thus this model has given the teacher flexibility in choosing the teaching method that suits his students on the one hand, and suits his competencies and resources Available on the other hand (Kumar, 2013).

The inductive model uses “more than one method of teaching unlike other teaching models that are determined by their own limits, and thus learners benefit in the selective model from other teaching methods, because the selective model is a combination of methods, strategies and other approaches, which gives the opportunity for learners to benefit from the advantages of other methods of teaching. Teaching according to their learning style, learning in the selective model is interesting and innovative learning, due to the unique nature of the teaching procedures” (Laser & Freeman, 2011).

The idea of applying the inductive model in teaching the tenth grade students came as a result of the search for effective methods and strategies in teaching Arabic grammar. Therefore, the research aimed to reveal the effect of teaching with the inductive model on achievement in the Arabic language subject for tenth grade students in the Southern Mazar Brigade.

STUDY PROBLEM

The grammar of the Arabic language is one of the basic foundations for learning the Arabic language. Without it, the understanding of the Arabic language cannot proceed correctly, and the learner of the Arabic language cannot be at a level in his teaching of the language without being able to master the rules of the language. The researcher noticed during his teaching of the Arabic language in The Ministry of Education stated that there is a clear weakness in the Arabic grammar subject among students, and there is a complaint about its difficulty and rigidity, and there is a clear weakness in the students’ achievement in the Arabic grammar subject. The difficulty and dryness of the grammatical subject can be overcome with the addition of strategies and methods that the teacher adds to attract students to the material and make them love it, by involving them in the learning process, and by making them aware of the importance of grammar in their lives (Al-Kakhun and Haniyeh, 2009). The feeling of this problem was confirmed by a number of studies whose results confirmed the prevalence of grammatical errors and their impact on students’ achievement, such as the study (Takaq, 2000), which showed that the level of students’ achievement of grammatical knowledge was low at all levels, as well as the study (Zayed, 2005). Hence the problem of the study emerges with the need to search for new teaching strategies related to the life of the individual based on real life problems in the classroom, and to study its impact on the achievement variable of tenth grade students. So; The research problem can be identified in the following main question: What is the effect of teaching using the inductive model on achievement in the Arabic language subject for tenth grade students in the Southern Mazar District?

RESEARCH HYPOTHESIS

The research sought to test the following hypothesis: There is no statistically significant difference at the significance level ($\alpha \leq 0.05$) between the mean scores of the experimental group and the control group members in the achievement test due to the method of teaching in the Arabic grammar subject according to the inductive model.

RESEARCH OBJECTIVES:

This research aims to achieve the following:

1. Building a theoretical literature on the research variables (inductive model, academic achievement).
2. Recognizing the effect of using the inductive model on academic achievement in Arabic grammar for tenth grade students.

RESEARCH IMPORTANCE

The research derives its importance from the subject of Arabic grammar, which occupies a distinguished position among other fields of knowledge, because of its multiple life applications and its relationship with other topics, and in being a fertile field for training students on patterns of sound thinking methods, and developing them so that they accompany them throughout their lives, and to acquire scientific knowledge And the development of language skills, which is one of the outcomes of the learning process, and thus these outcomes are not limited to academic achievement only, as the student is presented with different types of Arabic language skills such as: reading, listening, dictation and others.

THIS STUDY ALSO GAINS ITS IMPORTANCE FROM THE FACT THAT IT:

1. It focuses on the importance of educational models that may constitute successful teaching methods in teaching multiple subjects and at different academic levels.
2. This study may benefit the Arabic language teachers in improving the level of students' achievement in grammar, giving them the opportunity to develop it.
3. It tries to inform the competent authorities, especially the Ministry of Education, of the results of the study in improving and developing the educational process, especially in the subject of Arabic grammar.

THE LIMITS OF THE STUDY:

The study is defined by the following:

1. **HUMAN LIMITS:** the study is limited to tenth grade students.
2. **SPATIAL BOUNDARIES:** The study is limited to Mutah Secondary School for Boys in the Southern Mazar Education Directorate in the Karak Governorate.
3. **TEMPORAL LIMITS:** This study was applied during the second semester of the academic year 2020/2021.
4. **OBJECTIVE LIMITS:** This study is determined by the fifth unit of the Arabic grammar book for the tenth grade (derivatives), and by the achievement test prepared for this study, and its sincerity and stability.

SEARCH TERMS:

THE INDUCTIVE MODEL: It is “the employment of various teaching methods appropriate to the educational situation, and the model includes four basic elements: preparation, organized presentation of the lesson, declared and unannounced review, and closing activities” (Rowan & Cetorelli, 1990).

IT IS DEFINED PROCEDURALLY AS: a set of teaching methods and strategies such as induction, conclusion, direct presentation and cooperative learning that are used selectively by the Arabic language teacher in proportion to the abilities of the tenth-grade students included in this study, and the nature of the content provided to them.

ACADEMIC ACHIEVEMENT: It is “the extent to which students comprehend what they have done of specific experiences through academic courses, and it is measured by the degree that students obtain in the achievement test prepared for them” (Al-Laqani and Al-Jamal, 2003), and procedurally defined as: the extent to which eighth-grade students absorb the experiences that have been received. In the derivatives unit within the second semester, it is measured by the score that the student obtains in the achievement test of the Arabic grammar subject prepared in this study.

THEORETICAL LITERATURE AND PREVIOUS STUDIES

FIRST, THE THEORETICAL LITERATURE

Teaching methods and strategies have varied, which depend on various educational and psychological schools and theories, and one of these strategies cannot be considered the effective strategy for teaching all subjects. Various means, in order for students to achieve an integrated experience through activities that arouse students' curiosity and attract them to learn Arabic grammar, and that these activities have an acceptable level of challenge that provokes students' thinking, taking into account their individual differences, and the different learning styles of students, and commensurate with their previous experiences. And this requires that the teacher possess high competencies in choosing and employing teaching methods that are appropriate to the educational situation, and this is what is called the inductive model in teaching (Qatawi, 2007).

1- INDUCTIVE MODEL

A. THE CONCEPT OF THE INDUCTIVE MODEL

The inductive model is defined as: “The employment of various teaching methods appropriate to the educational situation, and the model includes four basic elements: preparation, organized presentation of the lesson, and closing activities” (Rowan & Cetorelli, 1990). The inductive model requires employing the appropriate teaching strategy, helping the teacher to be aware of the procedures that he will follow in teaching, focusing on organizing the lesson procedures with full awareness, and making teaching organized and professional, which helps the teacher to plan effectively in education (Qatami, 2013).

The inductive model is called the inductive thinking strategy, which Marei and Al-Hilha (2005) defines as: "An educational model through which and through which concepts are learned and acquired." It is “the educational model in which the students' role lies in deducing the name of the concept themselves through the distinctive characteristics and knowledge in the definition and the examples presented to them, and the classification of the affiliated example in light of these distinctive qualities in the definition. In addition, it places the students upon to give other affiliated and unaffiliated examples from their experiences, and redefine the concept in their own style" (Kadhim, 2008).

The teaching strategy is defined as: “a set of methods and methods used in the educational situation, which includes a set of principles, rules and overlapping methods that guide the teacher's actions in organizing experiences to achieve the desired results” (Qatami and Qatami, 2001).

B. BENEFITS OF USING THE INDUCTIVE MODEL IN TEACHING

Employing the inductive model in teaching achieves benefits for both the student and the teacher, as it avoids students feeling bored and alienated from the study material, especially in grammar, which is characterized by rigidity, and increases students' understanding of grammatical concepts, and raises their motivation, as it takes into account their tendencies and interests. For the teacher, the inductive model helps the teacher to reveal the strengths and weaknesses of the students, increases the effectiveness of teachers, and their skills, and pushes

them to search for modern teaching methods and practice using them (Al-Abed and Al-Sayed, 2001).

This model of teaching comes in the context of the trends that call for the use of more than one method in the presentation of one lesson, and the use of different activities and means to achieve its goals, as it is based on the use of various activities and events provided by the teacher in a reciprocal inductive manner based on the nature of the content, objectives, and available educational means. The level of its students, and the extent to which they accept and respond to different methods, and perhaps what distinguishes this teaching model from other models, is its adoption of more than one method in teaching to display the content of one lesson, or to achieve one goal, as well as providing the opportunity for the teacher to move between the activities of the model in a manner structured reciprocity; Which may help in achieving its goals in an easy, fun and interesting way (Al-Majdalawi and Al-Abed, 2015).

2. ACADEMIC ACHIEVEMENT:

A. THE CONCEPT OF ACADEMIC ACHIEVEMENT

The educational process is an integrated whole in which thought is inseparable from work, and the theoretical side interacts with the practical side so that the outcome is balanced and effective, and the school is a small integrated community that trains the individual on the life of society in its colors and types, with its hardness and humor, with its expertise and experiences, and the school's role has become a balance between the mental and cognitive side Emotional, physical and social aspects. Today's era is an era of science, thought and creativity, and an era in which the revolution of scientific progress is accelerating in all areas of life, and the applied aspect of knowledge is gaining more and more importance day by day. Continuous integrated education that addresses a more profound task represented in preparing the learner comprehensively in various fields, and is keen to build his personality in an integrated and balanced manner to be able to meet the requirements of contemporary life (Kahwagi, 2009).

Academic achievement is defined as: "the extent to which students comprehend what they have done of specific experiences through academic courses, and it is measured by the degree that students obtain in the achievement tests prepared for them" (Al-Laqani and Al-Jamal, 2003).

B. THE IMPORTANCE OF ACADEMIC ACHIEVEMENT

Academic achievement is the most important variable that many studies have tried to test the degree of its association with a large number of factors, because academic achievement is the final output of a set of processes and procedures that begin with the formulation of a specific set of goals and then formulate methods and procedures that will reach the closest possible to To achieve these goals, it is one of the most important outputs on which educational institutions are based (Allam, 2002). Academic achievement is of great importance in the life of the individual and his family, as it is not limited to successfully passing successive stages of study and obtaining the grades that qualify him for that. And the social status that he will achieve, his view of himself, his sense of success and his level of ambition (Al-Shahrani, 2009).

Academic achievement makes the individual feel superior and successful, enhances self-confidence, and raises the level of ambition, as success makes the individual feel his potential and abilities, and that he is capable of success and achievement, and this effect is mutual. The learner's need to obtain a prestigious social position, and is often associated with success and excellence, or the fear of failing, which would make him lose this position. About his achievement (Saedan, 2004).

Therefore, the student in the first school stage accepts to learn and acquire skills, and competes with his classmates to be at the best level, which satisfies him with a sense of competence and ability on the one hand, and on the other hand achieves his social standing among his companions and the school community, and draws attention to him and his distinction, He is motivated by the desire to do a good job and succeed in that work, and this desire, as described by many researchers, is characterized by ambition and enjoyment in competitive situations, and an unbridled desire to work independently, and to attack and solve problems (Sbitan, 2010).

SECOND: PREVIOUS STUDIES:

Previous studies constitute an important source for the researcher, as they helped him to form scientific backgrounds on the subject of his research. Below is a review of a group of previous studies arranged from the most recent to the oldest, and divided into Arab and foreign studies, which dealt with the subject of this study, as follows:

Al-Majdalawi and Al-Abed (2015) conducted a study that aimed to reveal the effect of using the inductive model on the achievement of sixth-grade students in mathematics and their mathematical self-concept. An intentional sample of (79) students was selected from the sixth grade at the Second Nazzal Preparatory School of the UNRWA, distributed in two divisions. The educational material for the unit "Ratio and Proportion" for the sixth grade was prepared according to the selective model, and its validity was verified by arbitration. The results showed that there were statistically significant differences in favor of the experimental group in both achievement in mathematics and the mathematical self-concept.

(Fendi and Ghaidan, 2011) conducted a study aimed at identifying the effect of the induction and freer

models on the acquisition of grammatical concepts in Arabic grammar for first-grade intermediate students. In middle and secondary schools located in the center of Baqubah district for the academic year (2009-2010). Eleven topics were selected from the Arabic grammar book to be taught for the first intermediate grade for the first semester. The study used the experimental method consisting of three groups, the first experimental group (the induction model), the second experimental group (the Fryer model), and the third control group. One school out of (19) schools was chosen by random method, and the number of female students in the study sample was (98). Female students (29) students in the first experimental group, (37) female students in the second experimental group, and (32) students in the control group. The result of the study in acquiring grammatical concepts showed that the first experimental group outperformed the control group in the post test in acquiring grammatical concepts. The results also showed that there was an effect of the selection and Fryer models on the academic achievement of female students in the Arabic language.

(Kadhim, 2008) conducted a study that aimed to know the effect of the induction and friar models in acquiring Islamic concepts and developing critical thinking among fourth-grade female students in Islamic education. This study was conducted in Iraq in a school in Baghdad. It prepared a test consisting of (60) items distributed on the six levels of Bloom's classification. The study adopted the experimental approach with the three groups. The first experimental group (the induction model), the second experimental group (the Fryer model), and the control group that studied in the usual way. The results of the study showed the superiority of the students of the first experimental group who studied according to the (induction model) over the second groups who studied according to the (Freier model) and the control group who studied in the usual way in the test of acquiring Islamic concepts and critical thinking, and the superiority of the students of the second experimental group who studied according to the (Freier model). On the control group, which was taught in the usual way, to choose the acquisition of Islamic concepts and critical thinking.

(Kaur, Kohli, & Devi, 2008) conducted a study in which they examined the effectiveness of three teaching strategies: inductive, multi-media, and cognitive in improving mathematics learning skills for weak students, in which an intelligence test and a learning difficulties test were used. The study sample consisted of (40) students divided into four groups, one of which was control. The results indicated the effectiveness of the three strategies in increasing the basic mathematical skills of weak students.

What distinguishes the current study from the previous studies is that it is the first study - to the knowledge of the researcher - which dealt with the use of the inductive model and its impact on academic achievement in Arabic grammar for tenth grade students, since no similar study has been conducted on the Jordanian environment including these variables. It is possible to benefit from the previous studies in this study by building the theoretical literature of the study, building its tools, and comparing the results.

METHODOLOGY

We present a presentation of the methodological procedures followed by the researcher in this research, and they included the method used, the method of identifying and sampling the research community. Results.

RESEARCH METHODOLOGY:

The research relied on the quasi-experimental approach with an experimental design based on the experimental and control groups with a post-test in the application of the research.

RESEARCH COMMUNITY AND SAMPLE:

The research community consisted of the tenth-grade students in the education of the Southern Mazar Brigade. The tenth-grade students were selected from Mutah Secondary School for Boys by the intentional method, and two divisions were chosen from the people of the tenth grade, one of whom formed the experimental group with a number of (28) students, and the other formed the control group. The number of its students is (27).

This class was chosen because it is located at the end of the upper basic stage, which is among the stage of abstract operations according to Piaget, which he referred to among the stages of growth consisting of sensory-motor intelligence, pre-operational intelligence, the stage of material thinking, and the stage of abstract thinking, This stage is characterized by the individual's ability to practice abstract operations, think in multiple dimensions, solve problems, develop hypotheses and propose possible solutions, as well as logical thinking.

The equivalence of the two groups: The two groups were rewarded in the previous achievement (the tenth-grade grades), and the results showed the equivalence of the two groups in this variable, and the following table shows these results:

Group	NO	Arithmetic Mean	Stander Deviation	T-test	SIG
Control	27	13,56	2,63	0,12	0.05 > α
Experimental	28	13,49	1,96		

A . ANALYSIS OF THE SCIENTIFIC ARTICLE (CONTENT):

The content of the fifth unit (derivations) from the Arabic grammar book for the tenth grade of the second

semester was analyzed in order to determine the concepts, generalizations and skills included in the content.

B. SETTING BEHAVIORAL GOALS: Behavioral goals are an important step when preparing any educational program; Because it represents the basic criterion in evaluating the process, it was classified cognitively according to Bloom's classification of the first three levels (remembering, understanding, and application), and it was presented to a group of arbitrators in the field of education, psychology, curricula and teaching methods; To find out the extent of its coverage of the material, and the validity of the target level, and was used according to its percentage in preparing the achievement test.

C. PREPARATION OF TEACHING PLANS: These plans have been prepared according to the inductive model in teaching Arabic grammar for the tenth grade, to teach the unit of derivatives from the Arabic grammar book for the tenth grade, according to the following steps:

1. Reviewing the theoretical literature related to the inductive model, and the teaching strategies that can be used when building the evidence.
2. Examining studies that used programs based on the inductive model, such as the study of Al-Majdalawi (2012).
3. Derivative unit analysis.
4. Reconstruction of unit lessons (derivatives) in proportion to the inductive model, where the content of the educational material was modified, and the use of induction strategies, inference, direct presentation, and cooperative learning in teaching Arabic grammar, in proportion to the nature of each unit lesson.

D. THE VALIDITY OF THE TEACHING PLANS: The validity of the teaching plans that were taught to the two study groups, the experimental and the control, was verified. The researcher prepared daily teaching plans that numbered (10) teaching plans for both groups (experimental and control) and its implementation took (20) semesters since the beginning of the semester second semester; The course of the lessons was taken into account in a way that is compatible with the inductive model and the usual method, and they were presented to a group of arbitrators specialized in curricula and teaching methods, and their observations were taken, and the necessary adjustments were made.

E. SEARCH TOOL:

First: Achievement Test: A test was prepared to measure the achievement of the tenth-grade students in the content determined in this research. In its initial form, it consisted of (25) objective paragraphs distributed according to the list of specifications on the lessons of the derivatives unit from the textbook after the content was analyzed and objectives were formulated. behavior of the test subject.

THE RESEARCHER TOOK THE FOLLOWING STEPS INTO ACCOUNT WHEN CONSTRUCTING THE ACHIEVEMENT TEST:

1. Determining the scientific material, accompanied by defining the behavioral objectives, and this has been referred to previously under the research procedures item.
2. Preparing a Table of Specification.
3. Preparing paragraphs that measure the selected behavioral goals.
4. Putting instructions on how to answer the test.
5. Testing the test on an exploratory sample of the research community other than the research sample to be a preliminary experiment with the aim of estimating the time required to answer the test questions and its paragraphs, the clarity of the instructions and the detection of any obstacles that may arise during the application. In this step, the paragraphs are analyzed in terms of the degree of the difficulty, discriminatory power, and effectiveness of the alternatives, and then determine the items that will enter the final form of the test.
6. The previous step includes obtaining statistical indicators for the reliability of the test and the indications of its validity.
7. Preparing the test in its final form to apply it to the research sample and then correct it, and monitor the results to be analyzed.

ANALYSIS OF THE ACHIEVEMENT TEST ITEMS:

In this process, students' answers for each of the test items are checked and their purpose is to improve the test and to reveal the lack of weak items in order to reformulate them and exclude the invalid ones.

THE EXPLORATORY EXPERIENCE OF THE ACHIEVEMENT TEST:

The test was applied in its initial form on an exploratory sample consisting of (30) students from the research community and from outside the sample to verify the clarity of the paragraphs, instructions, the time taken to answer and statistically analyze its paragraphs to obtain the coefficients of difficulty, discrimination and stability.

DIFFICULTY COEFFICIENTS FOR PARAGRAPHS:

The difficulty factor is defined as the percentage of the number of wrong answers for each paragraph. If all answers are wrong, the difficulty factor is (1), and if all answers are correct, the difficulty factor is (zero); That is, the difficulty coefficient takes any value between (0 - 1), and a paragraph is considered good if its difficulty coefficient falls between (20% -80%) (Awda, 1998), and the difficulty coefficients for the test items ranged (0.14 - 0.92), so it was deleted. Paragraphs whose difficulty factor falls outside the range (20% - 80%).

DISCRIMINATION COEFFICIENT FOR SUBJECT CLAUSES:

The discrimination coefficient means the ability of the item to distinguish individual differences between individuals who have the trait or know the correct answer and those who do not have it, for each of the test items (Awda, 1998). % of them to represent the higher category and the last 50% of them to represent the lower category, and it was found that the discrimination coefficients ranged between (0.07-0.57), and Odeh (1998) indicates that the paragraph is good if its discrimination coefficient is more than (0.20), and in light of The difficulty and discrimination coefficients (5) were omitted, so the test was stabilized in its final form, consisting of (20) items.

VALIDITY OF THE TEST: TWO TYPES OF HONESTY WERE ADOPTED, THEY ARE:

1. Apparent validity: The test was presented in its initial form to a number of experts and arbitrators with the aim of knowing the validity of its paragraphs, expressing their opinions about the soundness of its formulation, and the extent to which it measured behavioral objectives. In light of the opinions of the arbitrators.
2. Content validity: referred to as sample validity. It includes an analysis of the test content to determine its sufficiency in measuring what it was designed to measure. It requires a more accurate determination of the domain that it measures. The more specific the domain, the higher the content validity (Allam, 2002).

The list of specifications is strong evidence of the validity of the content, as the content was analyzed, the behavioral objectives were formulated and distributed to the academic units, and the judges' opinion was taken on them, and accordingly the test was considered honest content; Because it was chosen from the content that was taught (Awda, 1998).

ACHIEVEMENT TEST STABILITY:

Couder-Richardson's equation (20) was used to calculate the stability coefficient of the achievement test, which amounted to (0.88), which is an acceptable stability coefficient for the purposes of this study (Awda, 1998).

SEARCH APPLICATION PROCEDURES:

To achieve the research objectives, the researcher did the following:

1. Obtaining the necessary approvals for the research application.
2. Preparing the research tool: the achievement test in the Derivatives unit, and carrying out procedures to ensure its validity and reliability.
3. Selecting the research sample members and assigning them to two groups: an experimental group and a control group.
4. Implementation of the experimental treatment (teaching using the inductive model) and the control one (teaching in the usual way) on the study subjects.
5. Correcting the students' answers, and transcribing them into special tables, and the data was entered into the computer and processed statistically using the Statistical Package for Social Sciences (SPSS).
6. Extracting the results, their interpretation and discussion, and making suggestions and recommendations in the light of the research results.

RESEARCH DESIGN:

The research adopted the quasi-experimental approach, according to the design of the experimental and control groups, a pre-test and a post-test, where the effect of using an independent experimental variable (using the inductive model versus the usual method in teaching Arabic grammar) on the dependent variable (achievement) was examined as follows:

TABLE (1): ARITHMETIC MEANS, STANDARD DEVIATIONS, AND CALCULATED T-VALUES FOR THE EQUIVALENCE TEST OF THE TWO RESEARCH GROUPS SEARCH PROCEDURES:

Pre-assessment test	Independent variable	Group
Q1	X	EG
Q1		CG

SYMBOLS MEANING:

EG: experimental group

CG: control group

Q1: Academic achievement test.

X: Experimental processing (teaching using the inductive model).

Thus, the study variables are as follows:

THE INDEPENDENT VARIABLE: the teaching method, and it has two levels: the use of the inductive model and the ordinary method.

THE DEPENDENT VARIABLE IS: achievement.

STATISTICAL TREATMENTS USED:

For the purpose of testing the validity of the hypotheses of this study, the statistical analysis package (SPSS) was relied on, through the use of the following statistical methods:

1. Descriptive Statistic Measures, through the arithmetic averages and standard deviations of the scores of the two groups in the achievement test.
2. The T-Test between the average scores of the experimental and control groups for achievement in Arabic grammar and equivalence.

STUDY RESULTS AND DISCUSSION

FINDINGS RELATED TO THE RESEARCH HYPOTHESIS:

To verify the research hypothesis which states: “There is no statistically significant difference at the significance level ($\alpha \geq 0.05$) between the mean scores of the experimental group members and the control group members in the achievement test due to the method of teaching according to the inductive model.”

To verify the validity of this hypothesis, the t-test of two independent samples was used to show the significance of the difference between the mean scores of the experimental and control groups, and table (2) shows these results.

TABLE (2): T-TEST RESULTS BETWEEN THE MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS FOR ACHIEVEMENT IN ARABIC GRAMMAR (SCORE OUT OF 20)

Group	NO.	Arithmetic Mean	Contrast	Freedom Degree	T Value		SIG
					calculated	Tabular	
Control	27	14.2	38.16	52	4.62	1.99	0.01 > α
Experimental	28	8.0	21.19				

Table (2) shows that the mean scores of the experimental group are higher than the mean scores of the control group, and that the difference between the two means is statistically significant ($\alpha < 0.01$) in favor of the experimental group.

This means that there is a positive effect of using the inductive model on academic achievement in Arabic grammar for tenth graders. The reason for this may be due to the selective model in teaching that allows students to actually participate in the learning process, and works to focus on students’ understanding of concepts, and increases their motivation, because it takes into account their tendencies and interests, and this is what was indicated by the study (Al-Abed and Al-Sayed, 2001) that the model Inductive reasoning increases students’ understanding of concepts and raises their motivation. In addition, this model does not depend on one method of teaching, but rather a multiplicity of teaching methods in it, which keeps students away from boredom and helps to attract their attention, with the multiplicity of means and activities, and this was shown by the study (Al-Majdalawi and Al-Abed, 2015), as well as (Rowan & Cetorelli), 1990) that the inductive model employs various teaching methods commensurate with the educational situation, and this is what the researcher adopted in the procedures for applying the inductive model, as its teaching methods varied, and he tried to diversify in the means and activities.

This result may also be attributed to the fact that the use of the inductive model does not restrict the teacher to a single teaching method, which gives him more flexibility in teaching subjects, and makes him change his roles during teaching. Interesting for him and the students, and away from specific restrictions in teaching, and deals with mathematical topics in an enjoyable way that appeals to students.

The use of the inductive model in teaching Arabic grammar made the tenth-grade students in constant contact with the Arabic language; In this model, students were subjected to declared and unannounced reviews,

which may be in the form of short tests or in the form of confusing questions that require the use of acquired knowledge and concepts. In favor of the experimental group in the achievement of students, and it also agreed with the results of the study (Fendi and Ghaidan, 2011), which showed an effect of the selection model on the academic achievement of female students in the Arabic language. And the study (Kazim, 2008), which showed the superiority of the students of the first experimental group who studied according to the (induction model) over the second groups who studied according to the (Fryer model) and the control group who studied in the usual way in the test of acquiring Islamic concepts and critical thinking.

RECOMMENDATIONS:

Based on the results of the study, the researcher recommends the following:

1. Emphasis on the use of Arabic language teachers inductive model in teaching Arabic grammar, for the positive impact on students' achievement.
2. The necessity of employing the inductive model in the Arabic language curricula, and building activities that students pass through the stages of the inductive model, which increases their academic achievement.
3. Working on holding training courses for Arabic language teachers to use the inductive model in teaching.
4. Experimenting the strategy of teaching the inductive model in Arabic grammar on classes other than the tenth grade.

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