

**The Effect of Deductive and Inductive Approaches on Iraqi
EFL College Students Learning of Grammar**

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Abstract

In the present days, many researchers are interested in the best ways of teaching English grammar to EFL (English as Foreign Language), or ESL (English as Second Language) students. As a contribution on this direction, the present study examines and compares the impact of deductive versus inductive approaches in the teaching of the subject of grammar to the first stage Iraqi students in the Department of English at College of Arts/University of Thi-Qar. The two groups of students were taught the order of adjectives through deductive and inductive approaches and then they were given identical exam to measure their understanding after the lesson. Also, feedback was provided to the participants following the lesson. The results of the study indicated that there was a slightly higher level of achievement as well as a higher level of satisfaction in the group exposed to the teaching of grammar deductively in comparison with the group exposed to the teaching of grammar inductively. The conclusions suggest that the deductive approach has more positive effect on EFL teaching than on the inductive approach.

المخلص

في هذه الايام يهتم الباحثون بايجاد افضل طريقه لتدريس مادة النحو للغه الانكليزيه لغير الناطقين باللغه الانكليزيه. وكمساهمه في هذا الاتجاه يهدف البحث الى اختبار ومقارنة تاثير طريقه التعلم الاستقرائي وطريقه التعلم الاستنتاجي في تدريس مادة النحو في اللغه الانكليزيه لطلبة المرحله الاولى في قسم اللغه الانكليزيه في كلية الاداب/جامعة ذي قار. لقد تم اختيار مجموعتين من الطلبة لتدريسهم موضوع ترتيب الصفات بحيث ان المجموعه الاولى تم تدريسها باستخدام طريقه الاستقراء والمجموعه الثانيه تم تدريسها باستخدام طريقه الاستنتاج ثم اجري امتحان موحد لكلا المجموعتين وبنفس الاسئله لتبيان مدى استيعاب الطلبة للموضوع. كذلك تم اجراء برنامج تغذية مرتده لكل المشتركين في الامتحان. لقد تبين من خلال التحليل الاحصائي لنتائج الامتحان لكلا المجموعتين بان هنالك اختلاف واضح ومهم في نتائج الامتحان للطريقتين ولصالح

طريقه التعلم الاستنتاجي. لذا يوصي الباحث باستخدام طريقة التعلم الاستنتاجي بدلا من التعلم الاستقرائي لتدريس مادة النحو الانكليزي.

Keywords: deductive teaching, inductive teaching, learning grammar.

الكلمات المفتاحية: التعلم الاستقرائي, التعلم الاستنتاجي , تعلم النحو الانكليزي.

1 Introduction

It is well-known that English is an international language and has become a language of different disciplines: technology, economic and a communication system. In Iraq, due to the internationality of English language, a large number of people are interested in learning English at different departments and institutes. Students taught under standard curriculum of these departments and institutes should be proficient speakers of English and versed in every aspect of the language. Unfortunately, this is not the truth. Students in English Departments are good listeners, readers, but poor writers and speakers because of the lack of essential grammar knowledge. This lack of grammar knowledge can be clearly seen by reading students' writing and observing their speaking skills. In Iraq, English Departments used to use the traditional deductive approach, according to which the teacher joins the class, presents a specific grammar rule, and then provides the students with some examples. Clearly, using this method, the teacher can help the students to learn grammar items through explanation.

This paper investigates whether the deductive approach of teaching grammar, which is currently used in Iraq, is an efficient way comparable with the inductive approach. According to Nunan (2003:154), grammar is generally thought to be a set of rules specifying the correct ordering of words at the sentence level. As far as grammar teaching is concerned, Ellis (2006) mentioned that the old definition of grammar presentation was to present or teach a rule to the students and then to provide them with activities to reinforce the "grammatical structure". Ellis argues that teaching grammar means more than presentation of a grammatical structure and follow-up activities. As Ellis declared, some grammar lessons may have only presentation while others may have only activities without presentation. Moreover, there are some grammar lessons, he says,

which have neither presentation nor practice. Finally, he explained that “grammar teaching involves any instructional technique that draws learner’s attention to some specific grammatical form in such a way that it helps them either to understand it metalinguistically and/or process it in comprehension and/or production so that they can internalize it”. Further, Ellis (2006) points out some key concepts in teaching grammar. First, some grammar lessons might consist of presentation by itself (i.e., without any practice), while others might entail only practice (i.e., no presentation). Second, grammar teaching can involve learners who discover grammatical rules by themselves (i.e., no presentation and no practice). Third, grammar teaching can be conducted simply by exposing learners to input contrived to provide multiple exemplars of the target structure. Here, there is no presentation and no practice as well—at least in the sense of eliciting production of the structure. Finally, grammar teaching can be conducted by means of corrective feedback from learner errors when these errors arise from the context of performing some communicative task. In general, induction usually means concluding the general fact from specific facts while deduction begins with the general fact to obtain specific facts. In grammar teaching, deductive instruction occurs when the instructor presents a grammar rule before showing the structure in its natural setting or within target language examples. On the contrary, inductive instruction occurs when the students see the structure embedded in instances where it is naturally used, which later leads to an explicit definition of the grammar rule (Hulstijn, 2005). Widodo (2006) states that there are two main methods for grammar presentation. The first one is teaching grammar deductively. According to this approach, teacher first explains the grammar point and then provides students with examples of the point discoursed. The approach, as he mentioned is also called “rule-driven learning”. This method, according to Widodo(2006), has been widely used in language classes and today it is the dominant approach of teaching grammar in all over the world. The second approach is presented by Widodo (2006) who discussed the inductive approach. In inductive approach, or as it is called “rule-discovery learning” by Widodo, examples are first given and then

students by themselves discover the rules. Thus, they come from a broad theme to a more and more focused forms.

The aim of this paper is to test the effect of deductive and inductive approaches on Iraqi EFL college students learning grammar. The outline of the paper is as follows. First of all, there will be a brief introduction and literature review of grammar teaching. Second, there will be a presentation of data collection and discussion of the present study. Third, the findings of the study will be presented. Finally, the paper ends with some suggestions for further research and implementation of the new methodology of grammar teaching.

2 Literature Review

Teaching grammar was considered as an important issue by many authors from the nineteenth century up to present time (Kuder (2009)). However, if teaching grammar is essential and that it must be taught, the question now is how should we teach grammar? It is not a simple and easy question to be answered by saying that it can be done through either inductive method or through deductive method. Krashen (1982:113) stated that there has been a big argument on whether grammar should be taught inductively or deductively. As the second research study (Seliger, 1975) showed, if students learn a rule through deductive approach, they would keep the rule for a long time in their mind. According to Krashen (1982: 113), instructors should choose the approach which meets learners' needs; otherwise, they will face failure and will not be as successful as they should be. Additionally, as stated by Krashen (1982: 113), "acquisition and inductive learning" have apparent similarities, which have made a confusion between the two. Nunan (2003:158) posed a question about which one of the methods: inductive grammar teaching or deductive grammar teaching is useful for teaching students. As expressed by the author, he himself in his own teaching of grammar would mix between the two methods. In other words, he sometimes uses inductive method and other times he uses deductive method for teaching grammar. As Nunan (2003: 158) claimed, inductive approach requires to a great extent mental exertion and, as he believes, this great mental effort

will lead to remembrance of the grammar rule or lesson for a long time and consequently, he recommended to use inductive method for teaching grammar. He furthermore explains that the pitfall of this method takes longer period of time than the deductive method. But eventually teaching grammar inductively results in efficient learning of the point and keeping the point in mind for a lingering time span. Widodo (2006: 127) discussed teaching grammar using inductive approach. In the inductive approach or "rule-discovery learning" examples are first contributed and then students by themselves try to formulate the rules. Thus, they come from a broad theme to more focused forms. Mohammed and Jaber (2008) conducted an empirical study on deductive and inductive approaches. The study investigated the effects of each approach and the interaction between "the type of teaching approach" and "the use of the active and passive voice sentences" in English as a foreign language (EFL). The results of the study reveal a significant statistical result between the two approaches for the deductive group. But there is no significant difference between classes for the same type of approach. Xin (2012) applied both inductive approach and deductive approach with multimedia assistance into an English grammar class for the acquisition of subjunctive mood. He investigated whether this kind of teaching approach, as a general grammar pedagogy, would improve the efficiency of students' acquisition of certain grammar points. Findings revealed that the students encounter obvious difficulties in inductive approach indicating certain lack of self-learning skills in Chinese students. Chalipa (2013) examined whether various rule explication techniques should precede or follow a focus on the use of grammatical forms. Negahdaripour and Mallia (2014) examined adult learners' perceptions on inductive and deductive teaching approaches of English grammar. The written performance of two student groups were taught via an inductive and deductive approach, respectively, and created by random allocation was also contrasted. Learners overwhelmingly preferred the deductive approach, but minimal differences between the inductive and deductive groups' performance were found. The study showed a deductive approach-with terse explanations, and aided by the systematic use of concrete and meaningful examples during the procedure, particularly when those examples are

drawn from a familiar local cultural context, is both successful and relates to learners' expectations. Amirghassemi (2016) investigated whether or not that the deductive and inductive approaches of teaching would differently affect EFL learners' accuracy and fluency. An experimental study was carried out to compare the performances of two groups of pre-intermediate Iranian EFL students on the fluent and accurate use of three English tenses, namely the simple present, present continuous and simple past, in oral picture description activities. The results indicated that although there was no significant difference between the groups in their oral fluency, there was a significant difference regarding their accurate use of two of the aforementioned tenses suggesting that a deductive approach towards grammar instruction could have a more positive impact on EFL learners' oral accuracy.

3 Research Hypotheses

The deductive approach is more effective than inductive approach on Iraqi EFL college students learning grammar.

4 Methodology

The aim of this paper is to test the effect of deductive and inductive approaches on Iraqi EFL college students learning grammar. The main hypothesis of this research was "The deductive approach is more effective than inductive approach on Iraqi EFL college students learning grammar".

4.1 Participants

The subjects of this paper are 70 university students enrolled in junior classes of the department of English /college of Arts at University of Thi-Qar. They were divided randomly equally into two groups.

4.2 Method

This study follows a mixed method approach (mixed of quantitative and qualitative approaches) to analyze the data. The quantitative part included a statistical analysis using bar chart, descriptive statistics, independent-samples t-test and one-sample Kolmogorov –Smirnov test of normality.

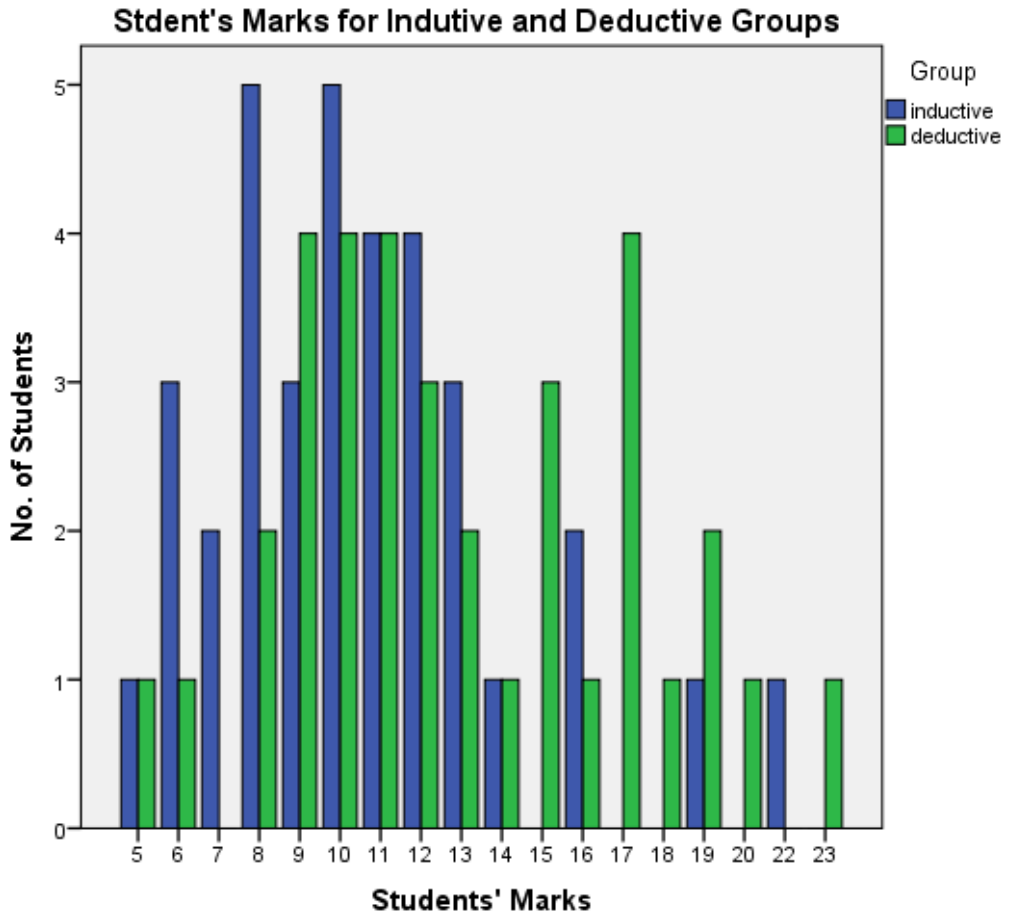
The qualitative part used a descriptive account of the data to further triangulate for the sake of reliability.

There were two groups of students divided according to the type of approach applied; i.e inductive and deductive, respectively. One instructor was teaching both groups. Each group was taught the same topic but through different approaches with teaching experiment of 45 minutes. The first group was taught adjective order via deductive approach while the second group was taught the same topic via inductive approach. The plan of teaching the deductive group is as follows: after introducing the topic, the researcher presented the rules of adjectives order and give the students some explanations followed by providing some examples in which he applied the considered rule. Several exercises and questions were given to the students to enhance their ability to understand the topic. For the group of inductive approach, the plan of lesson is as follows: after introducing the topic trying to motivate the students to discover the rule; students of the group were given several examples related to the rule. The researcher gave them enough time for discussing and concluding the right rule of making order to the adjectives. After was this done, the teacher checked the rule and made some possible corrections. At the end, several examples were given to the students to apply the rule. To get the students' points of view regarding the lessons, feedback sheet was distributed to the students of each group. The final step was to assess the ability of distinguishing the adjective rules by providing assessment test for the students in each group. The test consists of three parts. In the first part, the teacher asked the students to write the adjectives in the correct orders for five questions. The second was true and false sentences for 5 questions while the third part was to choose the correct order of adjectives for 10 questions.

5 Data Analysis

The data represents the results of the test of both groups which is statistically analyzed using SPSS 19 package. The bar graph of the student scores of the test for the both groups is depicted in Figure 1. According to Figure 1, it is clearly shown that there is significant

difference between the students' scores for the two groups in favor to the deductive group.



The averages, standard deviations, one-sample Kolmogorov-Smirnov tests with their significance and skewness of the results of the exams for inductive, deductive and both groups are computed and reported in Table 1. Clearly, we saw that the mean of the deductive group is higher than that of inductive group with insignificant difference in their standard deviations. To test the normality of the data, we used one-sample Kolmogorov-Smirnov (KS) hypothesis test. The p-values of the one-sample KS reveals that for the three cases; inductive, deductive and both groups, there are no significance differences between the normal

distribution and the distributions of the students' scores. This result is required to conduct two-sample t-test as it is one of the fundamental assumption of it. The significance level of the analysis was set at $\alpha = 0.05$.

Table. 1. Mean and Standard Deviation for the Results of the Exam

Statistics\Group	Inductive	Deductive	Both groups
Mean	10.6	12.9	11.8
Standard deviation	0.6	0.7	0.5
One-sample Kolmogorov-Smirnov (p_value)	0.7(0.6)	0.7(0.6)	1.1(0.1)

To test the difference between the scores of the two groups, two-samples t-test was applied and the results were given in Table (2). According to the p-value of the test (p-value=0.02 is less than $\alpha = 0.05$) it is concluded that there is a significant difference between the two groups in favor to deductive group and with a confidence of 95%, that difference lies in the interval (0.36,4.15). The results of the t-test indicate that deductive approach is more effective than inductive approach.

Table 2: T-test of Deductive and Inductive Groups

Computed t	p_value	Mean difference	Standard error of the difference	95% confidence interval of the Difference
2.4	0.02	2.25	0.95	(0.36,4.15)

6 Students' Feedback

To get an insight into the efficacy and to analyze the trends of the students under the study in terms of the two approaches of grammar teaching, a feedback sheet is provided to the participant. We assess their level of satisfaction, understanding, likes and dislikes and overall opinion on the lesson with four levels; outstanding, good, acceptable and poor. For example, the outstanding level means that the student was highly

satisfied (liked) with the lesson while the poor level means that the student was highly dissatisfied (disliked). The results are reported in Table 3.

It can be seen from Table 3 that the majority of the students who participated in the study of the deductive group marked “good” for satisfaction, “outstanding” for understanding and “good” for like while the majority marked “good” for satisfaction, “acceptable” for understanding and “good” for like for the inductive group. For the overall opinion, in the deductive group the percentage of the students marked “good” is higher than other levels while in the inductive group the high percentage is recorded at the “acceptable” level.

Table 3: Students Feedback for the Inductive and Deductive Groups

	Deductive Group				Inductive Group			
	Outstandi ng	Goo d	Accepta ble	Poor	Outstandi ng	Good	Accepta ble	Poor
Satisfaction	20%	40%	18%	22%	32%	42%	10%	16%
Understandi ng	34%	31%	25%	10%	28%	28%	38%	6%
Like	26%	37%	23%	14%	30%	32%	20%	18%
Overall	25%	33%	24%	18%	24%	27%	35%	14%

Therefore, from the feedback results, we conclude that the deductive teaching approach is more useful than inductive teaching from the point views of the participated students

7 Conclusion and Recommendation

In the present investigation, we find that teaching grammar deductively is more useful than teaching it inductively according to the student’s scores and student’s point of views. The researcher we have seen, students who were taught deductively were highly satisfied with deductive approach of grammar teaching. Moreover, most students in the deductive group were able to recall the rule after a month while most of the students who were exposed to inductive lesson were not able to remember the rule after one

month. This long term performance presents another positive impact of the deductive approach in grammar teaching.

The consequences of this investigation draw attention to the need for further study into the effects of substitute methodologies to grammar instruction. In particular, it may be very much of interest to conduct a study examining how the amount of time dedicated to each lesson, short-term vs. long term performance of both approaches and mixing of the two approaches; deductive and inductive in one approach impacts the outcome. Moreover, a study with a larger sample size could be inducted to enhance the results of data analysis.

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