Effectiveness of Using Inductive and Deductive Approach of Teaching English for School and University Students

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Abstract:
The study investigates the comparative effectiveness of teaching English grammar by using deductive and inductive teaching models. The study also attempts to see which of these two methods has a positive effect on the grammar academic achievement of the university students and elementary school students in Uzbekistan so it answers the following questions:

➢ What is the effect of inductive method on grammar achievement compared with deductive method at university level?
➢ What is the effect of inductive method on grammar achievement compared with deductive method at elementary stage?

To answer the questions of the study, the researcher prepares two programs based on inductive and deductive methods for each level based on its syllabus. The sample consists 180 students; eighty at the 1st year level in English departments at university level and one hundred at the elementary stage. The participants of the study consisted of four assigned sections.

Introduction

According to Bastone (2014), grammar is multi-dimensional; it is a formal mechanism, a functional system from signaling meanings, or a dynamic resource which both users and learners call on in different ways at different times. The main goal of grammar teaching is to enable learners to achieve linguistic competence; learners use grammar as a tool or resource for comprehension, and creation of
oral and written discourse efficiently, effectively, and appropriately depending on the situation (Huang, 2015).

Teaching grammar plays a central role in every English foreign language (EFL) teacher's classroom and has been the focus of language teachers and learners for many years. Some people perceive it as essential to teaching any foreign language whereas others view it as an impediment to second language acquisition (SLA). Through his empirical study, (Ellis, 2016) concluded that grammar teaching can help students enhance their language proficiency and accuracy, facilitate the internalization of the syntactic system of the second and foreign language, and supply the development of fluency. In addition, grammar teaching can contribute to both acquired knowledge as well as learned knowledge.

**Materials And Methods**

The main aim of the present study is to find the comparative effectiveness of deductive and inductive methods on the academic achievement of the elementary school and university students.

The objective is split in to the following sub-objectives:

➢ To find the effect of both models on the students' grammar academic achievement in schools.

To find the effect of both models on the use of the rules of grammar by the university students.

Many researchers are interested in comparing the effectiveness of deductive and inductive methods in teaching EFL. In the present study, the researcher mentioned some of their studies that conducted at school level, while others were conducted at university level.

**Studies related to School level**

Aisha (2002) conducted a study to investigate the comparative effectiveness of teaching English grammar with the help of textbook (deductive method) and by using group work activities (inductive teaching model). The sample size was eighty (80) at the secondary and one hundred and twelve (112) at the elementary stage in Pakistan. The duration of teaching was about one month with daily period of thirty-five minutes at each stage. The experimental group at each stage was taught English grammar through group work activities by using the inductive teaching model whereas the control group was taught English grammar through textbook using deductive method (traditional method). At the end of the treatment period, relevant post-tests were administered to the students of both the groups at each stage and were scored. The main findings of the study were; the experimental and control groups at both the elementary and secondary stage were equivalent at the time of starting the experiment and the teaching of English grammar through group work activities (inductive approach) played a positive role in improving the academic achievement of the students studying English at the elementary as well as the secondary stage.

Al- Emami (2005) carried out a study aimed at comparing the effect of the inductive and deductive ways of teaching on learning relative clauses in English Language. The sample of the study consisted of 160 scientific and literary male and female students who were divided into two groups, the inductive and deductive. This sample was given a pre-test to find out if there was a statistically significant difference (α≤0.05) between the means of students' achievement marks. After conducting the experiment, a post-test was given to the students in both groups; results indicated a statistically significant difference (α≤0.05) between students' achievement on relative clauses according to way of instruction, sex and stream.
of study. Concerning the first question of this study which addresses if there are any statistically significant differences ($\alpha \leq 0.05$) in the students’ achievement according to ways of instruction, results show a significant difference in favor of the inductive way of teaching.

The sample of the study was randomly chosen from EFL learners at universities and schools. They were divided into four experimental groups. The first and second groups learn grammar at university level (deductive and inductive methods) by the two instructors (specialized in TEFL & curricula); the third and fourth groups learn grammar by using inductive and deductive methods in schools by English teachers. Duration of teaching university students is about one month with weekly period of five classes of an hour at each class, twenty lessons for the two classes but duration of teaching school students is about a month with daily period of forty-five minutes at an elementary stage.

To achieve the aim of the study, the researcher designed the following instruments:

- A grammar achievement test for university students (as pre-post test & post-test) and a test for elementary school students (as pre-post test & post-test)
- Inductive instructional program based on the syllabus of each level and deductive instructional program based on the syllabus of each level.

**Results And Discussion**

For the purpose of the study two grammar achievement tests were used. Forty-item test were prepared for each level by the researcher to cover the Grammar at university and school levels. The general purpose of these instruments was to compare the achievement of the four groups on the pre and post tests.

The test of both levels measures the students’ ability to:

1. Recognize the rules of tens.
2. Recognize subject-verb agreement.
3. Make yes/no questions.
4. Make WH questions.
5. Make or form negative form.

There searcher designed to table so specifications for both tests (for university and school students) that show the distribution of questions among content and objectives.

This study was conducted during the second semester of the academic year 2021 at university level and conducted during the 2nd semester of the academic year 2021 at school level so it finished in June. The following procedures were followed for the purpose of the study:

1. Getting the approval of the selected universities and schools to conduct the study.
2. Drawing a sample of the study from Uzbek schools and universities.
3. Preparing the inductive and deductive programs which were taught to the experimental group and ensuring its validity.
4. Constructing the pre-/post-test and ensuring its validity and reliability.
5. Two instructors (almost similar in respect of educational qualifications, age, training,
teaching experience at university level, socio-economic status) are selected; one instructor assigned to the 1st experimental and one to the 2nd experimental group.

6. Administrating pre-test to the four groups of the study to measure their grammar before applying the programs.

7. Training the volunteer instructors and teachers in implementing the programs by the researcher.

8. Conducting the experiment and visiting the experimental groups regularly to help them overcome any difficulties or problems that may appear during the implementation of the program.

9. Post-testing the group to measure their grammar.

10. Analyzing the obtained data.

Firstly, to make sure that both group were equivalent, the pre-test between the two groups of university stage was computed as shown in Table 1.

**Table 1. Results of T-test on the Grammar Achievement on the Pre-test Between the Two Groups of University Stage**

<table>
<thead>
<tr>
<th>Method</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>21</td>
<td>30.24</td>
<td>10.990</td>
<td>.189</td>
<td>40</td>
<td>.851</td>
</tr>
<tr>
<td>Deductive</td>
<td>21</td>
<td>29.62</td>
<td>10.244</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 1, the experimental group's mean score on pre-test was slightly similar to the control group's mean score on the same test (30.24; 29.62) respectively. It indicates that the T value of grammar was .189. Thus, it is not statistically significant at (α≤0.05) and both groups are equivalent.

To test the significance of these differences between the mean scores of both groups on the reading comprehension in the post-test, the T-test statistical procedure was computed as shown in Table 2.

**Table 2. Results of T-test on the Grammar Achievement on the Post-test between the Two Groups of the University Stage**

<table>
<thead>
<tr>
<th>Method</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST</td>
<td>21</td>
<td>37.38</td>
<td>10.230</td>
<td>2.034</td>
<td>40</td>
<td>.049</td>
</tr>
<tr>
<td>Deductive</td>
<td>21</td>
<td>31.48</td>
<td>8.507</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 indicates that the T value of grammar was 2.034. It is statistically significant at (α≤0.05). Thus, the null hypothesis which stated that there is no statistically significant difference at (α≤0.05) in the mean scores of grammar between the two groups was rejected. The mean scores of the grammar post-test shown in Table 2 indicate that the means scores of the experimental group were higher than the mean scores of the control, where the mean score of the experimental group was 37.38, while the mean scores of the control group was 31.48.

The pre-test between the two groups of school stage was computed to show that both groups...
are equivalent as shown in Table 3.

**Table 3. Results of T-test on the Grammar Achievement on the Pre-test between the Two Groups of School Stage**

<table>
<thead>
<tr>
<th>Method</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE Inductive</td>
<td>20</td>
<td>29.55</td>
<td>9.654</td>
<td>-0.328</td>
<td>38</td>
<td>0.744</td>
</tr>
<tr>
<td>Deductive</td>
<td>20</td>
<td>30.60</td>
<td>10.545</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 3, the experimental group's mean score on pre-test was slightly similar to the control group's mean score on the same test (30.24; 29.62) respectively. It indicates that the T value of grammar was -0.328. Thus, it is not statistically significant at (α ≤ 0.09) and both groups are equivalent.

According to the second question, which addresses if there are any statistically significant differences (α ≤ 0.09) in the university students’ achievement according to ways of instruction, results also show a significant difference in favor of the inductive way of teaching. This result is expected because the characteristics of inductive method where all students like to learn grammar through communicating and practicing structures so they don’t need to peak grammatically correct sentences to communicate well. Also, in inductive method, the teacher provides as many examples as possible in teaching structures so eliciting the grammatical rules from examples, make students improving their grammatical accuracy.

The result of the first question is consistent with Takimoto (2015), who proves experimentally that the difference in students’ score is in favor of the inductive way of teaching when combined with problem-solving tasks or structured input tasks. It is also consistent with Vogel et al. (2011) who supports the idea of the guided inductive approach on short-term learning. On the other hand, the result of Haight and et al., 2017 shows that the guided inductive method had statistically significant effects on the long-term learning of grammatical structures.

Concerning the first question of this study which addresses if there are any statistically significant differences (α ≤ 0.09) in the school students’ achievement according to ways of instruction, results show a significant difference in favor of the inductive way of teaching. This result can be explained through the fact that the Ministry of Education has recently held many training courses for English language teachers in order to acquaint them with up-to-date contemporary methods of teaching English language. I think that these training courses have changed the atmosphere of the class to become more suitable for students to induce the grammatical rules from relevant activities and exercises. Also, the teachers understand the instructions and strategies given in the "Teacher's Book" that based on inductive method so they make students infer the rules from the given examples.

The result of the second question is consistent with Al-Emami (2015) who proves experimentally that the difference in students’ score is in favor of the inductive way of teaching. It is also consistent with Aisha (2012) whose results show the efficiency of the inductive method in teaching English grammar to non-nativespeakers.

**Conclusion**

The expected findings of the study indicate that the experimental groups at both primary and university stages are equivalent at the time of starting the experiment and the teaching of English grammar through
inductive approach plays a positive role in improving the academic achievement of the students studying English grammar in both levels (university and elementary).

- It is necessary for teachers to vary their techniques and ways of teaching according to their students’ interests and achievement levels with more emphasis on using the inductive way of teaching grammar.

- Teachers and instructors are encouraged to attend different intensive training courses held by the Ministry of Education in order to be aware of various modern ways of teaching English language. They are also encouraged to apply modern ways of teaching in their classes since this is one of the aims of the educational reform for knowledge economy.

Researchers should conduct other studies in other regions and on other areas on syntax in order to obtain a more comprehensive idea about which way of teaching is more influential in teaching grammar in Uzbekistan.

References


