

Inductive Approach and Grammatical Awareness of Student Teachers

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Abstract

To assess the effectiveness of inductive approach for teaching grammar on grammatical awareness of student teachers was the major objective of the study. The difference between the achievement scores in grammatical awareness test of the student teachers treated with inductive grammar teaching approach and the student teachers in traditional approach group is not significant- was the major hypothesis. The study was quasi experimental in nature. Pre and post tests were conducted by using a self-developed grammar achievement test. Two class sections of BS Education were selected conveniently and randomly labelled as control and experimental group. Inductive approach for teaching grammar was applied in the experimental group whereas control group was dealt with traditional grammar teaching. Results indicated that the student teachers taught through inductive grammar teaching approach performed better in test of grammatical awareness than the student teachers taught through traditional teaching. Difference in mean achievement score among high, low and average achievers in the treatment group was not significant in test of grammatical awareness. Similarly, the difference in mean achievement score was also not significant between female and male student teachers in the treatment group.

Keywords: Student Teachers, Inductive Approach, Grammatical Awareness, Traditional Grammar Teaching

Introduction

Place of grammar always remained under discussion in the dominion of language learning. In the early phases of communicative language teaching, grammar was altogether neglected. Later on, significance of grammar was recognized by the teachers and experts of the field in communicative paradigm. Grammar is purely the study of forms in a sentence. It works as a nucleus in the learning of language which is also considered a difficult area of language to teach. Grammar is taken as a set of forms and rules by many experts including language teachers. Good grammar is associated with the standard forms of the language (Shashirekha, 2014; Thornbury, 2001). These forms are mostly those that are utilized in formal oral presentations and writing. No grammar or incorrect grammar is associated with use of language in everyday informal conversation (Mukminatien, 2011). This is the belief of language teachers who are inclined towards taking grammar as a set of rules and forms. Explaining the rules and conducting language drills in the class is their focus. The product of this method are the students who are bored and dissatisfied individuals having the ability of producing correct forms of language structures in exercises and tests. But when faced with real life situation, they make a lot of errors in language usage (Mahmood & Jabeen, 2011).

In a research conducted in Pakistan, Bibi (2002) found out that inductive approach to teach grammar played a positive role in increasing students' academic achievement in English at elementary and secondary levels. The solution to the deficiency related problem in the linguistic competence among the second language learners was put forward by Badilla and Chacón (2013) and Glaser (2013) in the form of inductive approach. As suggested by Henry, Evelyn, and Terence (2009) and Charernwiwatthanasri (2012), it is worthwhile to apply inductive grammar teaching approach both in schools and in language courses as it is expected to benefit the learners during teaching learning process. Inductive method is helpful for the student teachers as higher rate of knowledge was indicated among the students trained through inductive approach (Charernwiwatthanasri 2012).

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Objective of the Study

To see the effectiveness of inductive grammar teaching approach on the grammatical awareness of student teachers.

Hypotheses

- H₀₁: Difference between the mean achievement scores of the student teachers taught through inductive approach in test of grammatical awareness and the student teachers taught through traditional approach is not significant.
- H₀₂: Difference among mean achievement scores of high, average and low achiever student teachers taught grammar through inductive approach is not significant.
- H₀₃: Difference between the mean achievement scores of male and female student teachers taught grammar through inductive approach is not significant.

Literature Review

The contemporary works of linguistic experts regarding the difference between language acquisition and learning significantly impact on language teachers which results in their belief that no grammar at all is needed in teaching learning of a language (Mukminatien, 2011). They believe in the probability of the students learning the second language same as children learn the first language in natural setting (Shamim-ur-Rasul, Ahmad, & Mehmood, 2019). They assume that the students, with their usage of language in listening, reading and writing, are expected to acquire the grammar rules (Ahmad, Shah, & Faisal, 2013).

Pakistan is a multilingual country as it has 70 languages spoken by its residents in different regions. Even though English is a second language, a central place is occupied by it in academic and official circles. Hence, with every passing day, English language teaching and learning is gradually gaining importance. Traditional grammar teaching method is mostly used in most of the institutions. As the traditional method is not compatible with the growing demands of today's world of globalization, desired results are not likely to be possible (Ahmad & Rao, 2013). While demand of coming generations is expertise in oral and written communication, it is need of the hour that the point of view may be considered in English language teaching (Warsi, 2004).

The question on the instructional approaches is under discussion since decades that which approach can be the most effective in foreign language learning in actual classroom setting (Wilhelm, 2018). The question which is the most commonly debated and unreciprocated is concerned with the issues such as (i) rules should be focused before the use of structural forms (the traditional / deductive approach) (ii) the presentation of rules should be followed by structures of grammar in practice sessions (the inductive approach) (Zamani & Mohammadi, 2014; Nagaratnam & Al-Mekhlafi, 2012; Haight, Herron & Cole, 2007). The effects of grammar teaching methodology on the student teachers' teaching competence are needed to be seen keeping in mind their upcoming teaching activities (Charernwiwatthanasri, 2012; Cho, 2012; Henry, Evelyn & Terence, 2009; Lin, 2007).

Since the inception of Communicative Language Teaching in Language pedagogy, the inductive deductive debate can be seen among linguists (Warford, 2010; Maehara, 2008; Mohammed & Jaber, 2008). Many studies conducted in the English speaking countries, placed inductive approach superior to the traditional deductive grammar teaching. Deductive approach to teach English grammar is considered to be unproductive and uninteresting as, according to this approach, language grammar is not attained through abstraction of grammatical rules (Chomsky, 2002). On the contrary, students are exposed to the new grammatical structures in the context of real language using inductive grammar teaching (Henry, Evelyn & Terence, 2009). Due to the extraction of rules of grammar from examples, it is activity based and student focused which ultimately leads to the application of grammar in real life communication (Ahmed, 2013). To teach grammar, inductive approach by essence is a bottom-up approach. Students, by themselves, discover the grammatical rules from their everyday text and speech. As deductive approach is a top down approach by essence, it stands as opposite of inductive approach (Mallia, 2014; Nagaratnam & Al-Mekhlafi, 2012). To apply deductive approach, teacher explains the rules, so, training the teachers accordingly is significant to further teaching the learners for using appropriate grammar in meaningful communication. For the said purpose, the significance of teaching method all the more increases particularly when it is involved in teacher training. Inductive approach deals with grammar learning in which grammatical structures are practiced in context and their definitions are extracted by the students themselves (Nazari & Allahyar, 2012).

After learning English language for many years, majority of the students do not feel very friendly with English language communication (Mahmood & Ghani, 2012). Despite learning the grammatical rules and sometimes successfully attempting test items related to grammatical rules, students feel difficulty in functional use of grammar. It is need of the hour to teach grammar to the students inductively (Nagaratnam & Al-Mekhlafi, 2012; Thornbury, 2001).

Methodology of study

The study design was quasi experimental using pre-test post-test method.

Population of the Study

Population for this study was all the student teachers enrolled in BS Education program in the Department of Education, University of Sargodha (Pakistan).

Sample of the Study

Forty five students teachers studying in two sections of BS Education semester V were randomly taken as intact groups for the study. There were two sections; one including 30 students and other including 15 students. Due to administrative problem making equivalent groups was not possible so through flipping coin one group of 30 students was randomly selected as an experimental group and second group of 15 students as control groups. Experimental group received treatment of inductive approach for teaching grammar during the experiment whereas control group was taught through traditional teaching. Out of 30 students of experimental group, six were male and twenty four were female students. Out of 15 students of control group, six were male and nine were female students.

Instrumentation

A test to assess the grammatical awareness of BS Education students was developed which was to be applied as pretest and posttest in the study. Items were constructed by the researcher himself after taking help from various sources after extensive review of related literature (Swan & Baker, 2012; Swan & Walter, 2011; Swan, 1995). Test of grammatical awareness for the students of BS Education was developed to assess four levels of the domain. These were; i) comprehension of parts of speech which is also considered as basic level, ii) comprehension of phrase structure which is also considered as intermediate level, iii) comprehension of clause structure which is also named as advance level and, iv) composition abilities; also considered as expert level.

Pilot testing of the test was carried out on the 50 students of BS semester VII in Department of Education, University of Sargodha after the expert opinion taken from the experts. Item difficulty level was the parameter of item analysis. Acceptable range for item difficulty was from $p = 0.3$ to $p = 0.7$ with $D = 3.0$ or above was the item discrimination index (Boopathiraj & Chellamani, 2013; Gajjar, Sharma, Kumar, & Rana, 2014). Items falling outside the range of discrimination index and item difficulty were either deleted or revised after the item analysis. Total 28 items were finalized after the pilot testing. The last item (28th) was of composition which carried 10 marks. Nature of the remaining 27 items was objective. Twenty three out of 27 items had sub-items and 04 items had one item each. Each sub-item contained one mark each. Total number of objective type items was 90. Grammatical awareness of student teachers was developed on four levels of Cognitive Domain i.e., Comprehension, Application, Analysis and Synthesis.

Procedure of Experiment

Following procedure was adopted for the experiment to apply Inductive Approach in Teaching Grammar as a treatment to the student teachers.

- 1- The experiment lasted for the period of twelve weeks. Both the treatment and control groups were housed in the separate classrooms in the building of the Education Department of University of Sargodha.
- 2- On the first day the pre-test (Test of Grammatical awareness) was administered to the student teachers of both the treatment and control groups.
- 3- During the experiment, inductive grammar teaching approach was applied by the researcher himself during teaching of the lessons to the experimental group. The teachers available were not willing to teach the classes as inductive approach was a new way of teaching for them and they were not trained to teach following the inductive approach. Control group was taught through traditional approach by the teacher assigned through traditional teaching.
- 4- Material prepared for the treatment was comprised of 3P format (Presentation, practice and production). The lessons were activity based. The activities designed for the lessons were based on the principles of inductive approach to teach grammar to student teachers which was

a new way of teaching. Thus, the student teachers were not only able to learn grammar but also learnt about the way of teaching grammar through inductive approach. In the last 12th lessons, ideational function of Systemic Functional Grammar (SFG) was incorporated in the lesson material through transitivity analysis of verbs. Nominal groups, adjective phrases and clauses and adverbials were also incorporated in the lessons.

5- After the completion of the experiment, post-test on both the groups was administered.

Data Analysis and Interpretation

Data analysis of the study is stated as follows;

Table 1

Analysis of mean scores of student teachers of treatment and control groups in pre-test

Groups	N	Mean scores	SD	t	df	Sig (p-value)
Control Group	15	38.53	7.180	-2.425	43	.020
Experimental Group	30	44.70	8.425			

Difference in total pretest score of the student teachers of control and treatment groups is presented in table 1. Difference in mean scores was significant in pretest of the student teachers in control and experimental groups as $t = -2.425$ with $df = 43$ and $p=0.020 < 0.05$. The greater mean score (44.70) indicates that the student teachers belonging to experimental group displayed better performance than the student teachers belonging to control group with mean score 38.53.

Due to this difference, further analyses will be carried out by analyzing the difference in achievement score, calculated by subtracting pretest score from posttest score.

Table 2

Difference in mean achievement scores in grammar achievement test between control and treatment groups

Groups	N	Mean achievement scores	SD	t	df	Sig. (p-value)	Effect size
Control Group	15	2.80	4.601	-4.120	43	.000	1.494
Experimental Group	30	12.77	8.748				

Table 2 reflects that the difference in mean achievement scores was significant in achievement scores obtained by the student teachers included in the control group and experimental group is visible by $t = -4.120$, $df = 43$ and $p = 0.000$. Therefore, hypothesis (H_{01}) was rejected. Greater mean achievement score 12.77, indicates that student teachers of treatment group performed better than the student teachers participated in control group with mean 2.80. Effect size 1.494 indicates quite large difference in performance.

The analysis reflects that the performance of the student teachers of experimental group treated with inductive grammar teaching approach was much higher than the student teachers of control group taught through routine teaching.

Table 3

Analysis of achievement scores of low, average and high achievers of treatment groups

Posttest minus Pretest	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	284.850	2	142.425	1.988	.157
Within Groups	1934.517	27	71.649		
Total	2219.367	29			

Table 3 reflects the results of ANOVA shows that difference found among the three levels of student teachers was not significant as indicated by F value= 1.988 and p value= .157 > 0.05. Therefore, the hypothesis (H_{02}) was accepted and performance of student teachers of all levels (High, average and High) was equivalent.

Table 4

Difference of mean achievement scores of female and male student teachers of treatment group

Groups	N	Mean achievement score	SD	t	Df	Sig. (p-value)
Male	6	14.67	12.707	.588	28	.561
Female	24	12.29	7.760			

Table 4 shows that the difference in mean achievement scores of female and male student teachers of treatment group was not significant as shown by $t = .588$, $df=28$ and $p = 0.561$. Henceforth

the hypothesis (H_{03}) was accepted. Female student teachers performed equivalent to male student teachers in grammar achievement test scores of experimental group.

Discussion and Conclusion

After analysis of data, it was concluded that performance of the student teachers of experimental group treated with inductive grammar teaching approach was better in test of grammatical awareness in comparison with the student teachers taught through traditional teaching in control group. The performance of high, low and average achiever student teachers within treatment group in test of grammatical awareness was equivalent whereas the performance of male and female student teachers from experimental group was equivalent in test of grammatical awareness.

Student teachers taught through inductive approach to teach grammar performed better than the prospective teacher taught through traditional teaching. This conclusion is consistent with the conclusions of Charernwivatthanasri (2012) who conducted a study in Thailand on student teachers. He found that prospective teacher trained through inductive approach performed significantly better than the prospective teacher trained through traditional deductive approach.

Performance of the male and female student teachers of experimental group was equivalent in the test of grammatical awareness for student teachers as indicated by a significant finding. Similar academic background of male and female students may be given as a possible reason behind it. At the time of admission, no gender discrimination in merit is applied at the time of admission in University of Sargodha. Both male and female students are taught in the same class by the same teacher. Therefore, when the treatment was given to the experimental group, both female and male student teachers' performance was equivalent moreover the treatment put forth the similar results on the student teachers of both the genders.

Recommendation

It is evident from data analysis and findings that the inductive grammar teaching approach is more effective in teaching grammar as compared to traditional deductive method of teaching. So, it is recommended that for pre-service teachers, grammar teaching through inductive approach in teaching of English may be incorporated by the curriculum developers of universities.

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