

CAI IN LEARNING VOICE IN ENGLISH GRAMMAR AMONG EIGHTH STANDARD STUDENTS—AN EXPERIMENTAL STUDY

By

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ABSTRACT

English is a language which is spoken by numerous people across the world. It has acquired a prominent place in meeting the communicational needs of the people. Grammar is a set of rules that helps the people to use the language better. In schools, the teachers of English are considered as the most important factor in making the study of English Grammar successful. We all know that teachers are experts in their subjects, but face problems while teaching, because of the overcrowded classroom and heterogeneous group of students. This problem can be overcome by the application of innovative teaching technology. The most striking innovation in the field of educational technology is the application of Computer Assisted Instruction (CAI) in different mode. It makes the children more creative and provide them with an individualized environment. One of the most vital developments in school system is to meet the individual difference among the learners in a satisfying way. Considering the above, the investigators have developed and standardized a CAI package using Macromedia Flash 8 software for learning English Grammar – Voice for Eighth standard students. The selected content Active and Passive Voice is one among the important section in English Grammar. In this study, the quasi-experimental within and between the group pre-test and post-test design was adopted by the investigators. The investigators have undertaken the experimental study on 89 Eighth standard students of three Matriculation schools in Mecheri taluk in Salem. The identified students are allotted randomly for two groups such as control group and experimental group. Pre-test and Post-test were conducted for both the groups. Test of significance difference (t-test) is employed for analyzing the data. The study proves that the learning outcome through CAI is higher than the conventional method. The present study clearly demonstrates that the CAI as individualized self-instructional strategy could be employed for learning English Grammar-Voice in the place of conventional instructional situation.

Keywords: English Grammar, CAI, Self-Instructional Strategy, Individualized Instruction.

INTRODUCTION

Need For The Study

Educational uses of Information and Communication technologies have made an enormous contribution to improve the quality of teaching learning process. The adoption of innovative teaching methodologies modifies the teachers' role to introduce new contents, tools and methods, and to deal with a heterogeneous student population.

English is a language which is spoken by numerous people across the world. It has acquired a prominent place in meeting the communicational needs of the people

(Sharma, 2001). It occupies an important place in the education system in India. Now-a-days, academic, official and social correspondence needs good knowledge of English. Grammar is a set of rules that helps the people to use the language better. It is the structural foundation of our ability to communicate. English grammar can help foster precision, detect ambiguity, and exploit the richness of expression available in English (Jesa, 2005). In schools, the teachers of English are considered as the most important factor in making the study of English Grammar successful. The skills once acquired in school will constantly be use within and outside the academic institutions. All know that the teachers are experts in their subjects, but face

problems while teaching, because of the overcrowded classroom and heterogeneous group of students. This problem can be overcome by the application of innovative teaching methodology. One of the most vital developments in school system is to meet the individual difference among the learners in a satisfying way.

The innovative instructional technologies and modern educational technology devices are so handy in imparting knowledge among the students. It offers all sorts of stimulus to the learners and helps in learning the difficult concepts (Kumar, 1996). The most striking innovation in the field of educational technology is the application of Computer Assisted Instruction (CAI) in different mode. It makes the children more creative and provide them with an individualized environment (Stephen & Stanley, 1985). Considering the above, the investigators have developed and standardized a CAI package using Macromedia Flash 8 software for learning English Grammar –Voice for Eighth standard students. The selected content Active and Passive Voice is one among the important section in English Grammar. To find out the students' achievement in English Grammar the investigators have developed an Achievement Test on Active Voice and Passive Voice. In the present study, individualized instruction through Computer-Assisted Instruction (CAI) is considered as an alternative strategy for Conventional Instructional Method (CIM) for learning English Grammar. The individualized instruction helps the heterogeneous group of students to learn at their own pace depending upon their ability (Aggarwal, 1999).

Objectives

- To find out whether the students of two groups (CIM and CAI) are matched in their level of learning Voice in English Grammar at the entry level.
- To study the effectiveness of CIM and CAI in learning Voice in English Grammar among the students in CIM and CAI group.
- To compare the degree of effectiveness of CIM and CAI in learning Voice in English Grammar among Eighth standard students.
- To study the effect of intervening variable (sex) in learning Voice in English Grammar among the students in CIM and CAI group of the study.

Hypotheses

- There will be a significant mean score difference in learning Voice in English Grammar among the students in CIM and CAI group at the entry level.
- There will be a significant mean score difference in learning Voice in English Grammar among the students between the post-test and pre-test phase in CIM Group.
- There will be a significant mean score difference in learning Voice in English Grammar among the students between the post-test and pre-test phase in CAI Group.
- There will be a significant mean gain score difference in learning Voice in English Grammar among the students between CIM and CAI Group.
- There will be a significant mean score difference in learning Voice in English Grammar between male and female students in CIM and CAI Group of the study.

Variables

In the present study, the investigators have considered instructional materials on Voice through CIM and CAI as independent / manipulative variable. The Dependent variable is the students' achievement in English Grammar-Voice due to the manipulation of instructional materials through CIM and CAI.

Operational Definitions

The operational definitions of those concepts in the objectives and hypotheses of the study are presented as follows:

Conventional Instructional Method (CIM)

The Conventional Instructional Method (CIM) is a process by which the teacher brings the students and subject matter together with the help of a text book, blackboard and teaching skills or a set of teacher behaviour to bring about the desired changes in pupils behaviour. The similar process is adopted in the present study. The investigator prepared a lesson plan on English Grammar-Voice and explained to the teacher who is going to teach the students through CIM. This kind of instructional process is called CIM in the present study. Further, the students who have

attended in the CIM are considered as CIM Group in the present study.

Computer Assisted Instruction (CAI)

The use of computer in education has added a new dimension in the teaching-learning process. The Computer Assisted Instruction (CAI) tends to cover wide range of individual difference and used for cognitive as well as psychomotor objectives. It is also called as electronic brain because it takes decision about the instructional material in accordance to the needs of learner (Stephen & Stanley, 1985). Moreover, it motivates the students for self-learning. Considering these aspects, the present study employed the Computer Assisted Instruction (CAI) as an alternative strategy in Learning Voice in English Grammar. Further, the students who have attended in the CAI are considered as CAI Group in the present study.

Eighth Standard Students

There are four types of secondary grade schools (10 years of schooling) in Tamilnadu such as Central Board Secondary Education School (CBSE), State Directorate of Secondary Education School (SDSE), Inspectorate of Matriculation School (IMS) and Inspectorate of Anglo-Indian Matriculation School (IAMS). The course of study at the secondary grade is same in all the streams; however, there is a variation in the prescribed syllabi and course content. The investigators have selected the Matriculation schools for the present study. The Eighth standard students of the matriculation schools are considered as a population for the present study.

Phases of Test

Before the manipulation of independent variable, the test is administered to assess the students' entry level achievement in the selected content unit of the study, called as pre-test phase. At the end of the manipulation of the content unit of the study, the test is administered to study the students' achievement, called as post-test phase.

Design of The Experimental Investigation

The major objective of the present study is to study the effectiveness of CAI in Learning Voice in English Grammar. Such studies demand us to adopt any one of the three types of Experimental research methods like, non-

experimental, true (or) pure experimental and quasi-experimental method. Considering the pre-conditions of the research designs and major objective of the present study, the only experimental method which is appropriate and feasible for the present study is Quasi-Experimental Method. Generally different group designs are formulated for manipulating the independent variables in the quasi-experimental method. Such group designs are single group design, Parallel group design, Rotated-group design and within and between group design. Among the above designs, the researchers have adopted within and between the group design for the present study.

The first step in quasi experimental within and between group design is the administration of a pre test to measure the entry level of dependent variable i.e. achievement in English Grammar Voice among the students of the present study. The second step is the application of the experimental treatments or manipulation of independent variable i.e. manipulation of selected content unit through CIM and CAI. The final step is the administration of a post test to measure the gain in achievement in Voice English Grammar at the end of the experiment. Difference in achievement among the Eighth standard matriculation school students due to application of the experimental variable in two groups such as CIM and CAI group is determined by comparing the post-test and pre-test scores. The CIM group is considered as a control group. The CAI group is treated as experimental group. Thus the present investigation has adopted "Quasi-Experimental within and between group pre-test and post- test design.

Sample

The investigators have adopted group at hand sampling (purposive sampling) method for the selection of sample of Eighth standard Matriculation school students from the identified population of the present study. The investigators have undertaken the experimental study on 89 Eighth standard students of three matriculation schools in Mecheri taluk in Salem district. The identified students are allotted randomly for two groups such as control group and experimental group. The final sample of students of control group and experimental group involved in the study is given in the Table 1.

Tools & Statistical Treatment

The investigators have developed and standardized a CAI package on Tutorial mode using Macro media Flash 8 software. Further, the investigators have developed an Achievement Test on Active Voice and Passive Voice. After the validation of items through pilot study, the investigators have considered 50 items for the present study (Active Voice to Passive Voice 25 items and Passive Voice to Active Voice 25 items). Considering the hypotheses of the present study, the test of significance (t-test) is employed for analyzing the data.

Results and Interpretation

Hypothesis 1

There will be a significant mean score difference in learning Voice in English Grammar among the students in CIM and CAI group at the entry level.

Table 2 indicates that there is no significant difference in learning Voice in English grammar at the entry level between the two groups and hence it can be concluded that the students of the two groups are homogeneous at the entry level. The level of achievement acquired earlier is the same among the students of these two groups of the present study. So, the hypothesis No.1 is rejected.

Within the Group Difference in Learning Voice in English Grammar in CIM Group

Hypothesis 2

There will be a significant mean score difference in learning Voice in English Grammar among the students between the post- test and pre-test phase in CIM group.

From Table 3, it is clear that there is a mean score

difference in learning Voice in English Grammar between the post and pre test phase among the Eighth Standard Students in CIM group. However, these differences are not statistically significant at 0.01 level. So the hypothesis No.2 is rejected.

Within the Group Difference in Learning Voice in English Grammar in CAI Group

Hypothesis 3

There will be a significant mean score difference in learning Voice in English Grammar among the students between post-test and pre-test phase in CAI group.

From Table 4 it is shown that there is a mean score difference in learning Voice in English Grammar between the post and pre test phase among the Eighth Standard Students in CAI group. However, these differences are not statistically significant at 0.01 level. Hence the hypothesis 3 is rejected.

Between the Group Difference in Gain in Learning Voice in English Grammar

Hypothesis 4

There will be a significant mean score difference in gain in learning Voice in English Grammar among the students between CIM and CAI group.

From Table 5 it is shown that there is a mean gain score difference in learning Voice in English Grammar among the students between the CIM and CAI group. Further, the mean score differences are also statistically significant at 0.01 level. So the hypothesis 4 is accepted. Further, it indicates that the mean gain score of CIM group is significantly lesser than CAI group.

Name of the Group	Total Number of Students Participated in Each Group			Total Number of Students Participated in the Study
	Male	Female	Total	
CIM	21	22	43	89
CAI	23	23	46	

Table 1. The Final Sample of Students of Control Group and Experimental Group Involved in the Study

Group	N	Mean Score	S.D	t' Value	Level of Significance
CIM	43	52.32	23.56	0.39	Not Significant at 0.01 Level
CAI	46	50.43	22.18		

Table 2. Entry Level of Learning in Voice in English Grammar Between CIM and CAI Group

Phases	N	Mean Score	Difference in Mean Score	Mean Score S.D	t' Value	Level of Significance
Post - Test	43	57.02	4.7	4.57	0.18	Not Significant at 0.01 Level
Pre - Test		52.32				

Table 3. Mean Score Difference in learning Voice in English Grammar between the Post - test and Pre - test Phase in CIM Group

Phases	N	Mean Score	Difference in Mean Score	Mean Score S.D	t' Value	Level of Significance
Post - Test	46	59.35	8.92	4.17	0.32	Not Significant at 0.01 Level
Pre - Test		50.43				

Table 4. Mean Score Difference in Learning Voice in English Grammar between the Post-test and Pre-test Phase in CAI Group

From Table 5, it is concluded that the Individualized Instructional strategy through CAI seems to be effective while compared with CIM.

Influence of Intervening Variable (sex) on Learning Voice in English Grammar

Hypothesis 5

There will be a significant mean score difference in learning Voice in English Grammar between male and female in CIM and CAI group.

From Table 6, it is clear that there is a difference in gain in learning Voice in English Grammar between male and female students of CIM and CAI group. But, it is not statistically significant at 0.01 level. Hence, the hypothesis NO.5 is rejected. It is concluded that the sex variable does not influence or affect the students' achievement in English Grammar.

Findings of the Present Study

- There is no significant mean score difference in learning Voice in English grammar between the post and pre-test phase among the Eighth standard students in the CIM group. There is no substantial gain in Learning English Grammar through CIM.
- There is no significant mean score difference in learning Voice in English Grammar between the post and pre-test phase in CAI group in the present study. From the findings of CAI group, it is clear that the students have not gained the substantial amount of achievement due to the manipulation of the content unit through the CAI.

Group	N	Mean Gain Score	Difference in Mean Gain Score	S.D	't' Value	Level of Significance
CIM	43	4.7	4.22	4.57	4.58	Not Significant at 0.01 Level
CAI	46	8.92		4.17		

Table 5. Difference in Gain in Learning Voice in English Grammar between CIM and CAI Group.

Group	Sex	N	Mean Score	Difference in Mean Gain Score	S.D	't' Value	Level of Significance
CIM	Male	21	5.05	0.95	3.06	0.11	Not Significant at 0.01 Level
	Female	22	6		5.53		
CAI	Male	23	9.57	1.31	4.26	1.06	Not Significant at 0.01 Level
	Female	23	8.26		4.06		

Table 6. Difference in Gain in Learning Voice in English Grammar between Male and Female in CIM and CAI Group

- There is a significant difference between mean gain score in learning Voice in English Grammar among the students of CIM and CAI group. The mean gain score of CIM is lesser than that of CAI. It is also found that the individualized instructional strategy is better than the conventional method of teaching.
- There is no significant mean score difference in gain in learning Voice in English Grammar among the Eighth standard students in two groups between male and female. It indicates that the sex variable does not influence the achievement in the selected content unit in the teaching – learning process.

Educational Implications

The findings and conclusions of the study recommend the following suggestions to be implemented in the educational system:

- The investigated instructional strategy (CAI) may be employed as an alternative or supportive strategy in teaching / learning English Grammar in schools and open schools.
- The school teachers should be given training on development of text book based CAI packages.

Conclusion

It is clear from the findings of the between the group difference, the gain in learning Voice in English Grammar is more in CAI group while compared with CIM. So it can definitely be employed as an alternative or supportive strategy in teaching – learning process.

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