THE EFFICACY OF COMPUTER ASSISTED LANGUAGE LEARNING FOR TEACHING AND LEARNING OF ENGLISH GRAMMAR

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ABSTRACT

Computer-Assisted Language Learning (CALL) has a lot of potential in teaching and learning a second language. Despite the fact of the emergence of CALL in teaching and learning less attention has been given to the development of CALL in the Indian education sector. As a part of the study, 40 students were selected for the study. The students were divided into experimental groups and control groups, 20 students were selected for each group.The experimental group was provided training of grammar by using online tools. The result of data analysis demonstrated that experimental group performed significantly as compare to the control group. The study has some pedagogical suggestions for L2 teachers to use web-based applications as a crucial way to teach a large section of the grammar of English language teaching.

Keywords: *CALL, L2 Teaching, and Learning Grammar; Web-Based Applications.*

Introduction

Technology and innovation have played an important role in the life of people in the 21st century. Therefore, innovation has become an inseparable part of individual life. Due to the use of the technology world has become a global village. The variety of forms of communication is now available for the use of people. Language plays an important role in building connectivity among people. People want to improve the language of communication for cultural exchanges. Language is the source of communication and one of the features of improvement. Numerous students have been engaged in building a relationship and having a correspondence with individuals from different social-cultural background. The academic goals are achieved by using technology and innovation. To accomplish goals, language learning is a fundamental concern among a group of students who want to academically pursue the goals. Computer Assisted Language Learning is the most relevant technology which assists second language learning experience.

Literature Review of The Study

Recent Studies

Computerized technology assumes a critical job in present-day second/unknown dialect schooling. Tremendous changes in technology and the developing accentuation on 21st-century skills raise a concern about English as a foreign language (EFL) instructors' capabilities in computer-assisted language learning (CALL) like never before (Park and Son, 2020). The test affirmed that CALL emphatically influenced the members' inspiration toward the topic (Dordevic, 2020). The findings of the research uncovered that numerous language understudies in Iran and Spain affirmed that CALL gives a wide scope of tools, assets, and materials for language learning (Tafazoli et al., 2020). Educators considered computer technology as a valuable teaching device that can improve methods of teaching by growing the learning experiences of understudies in genuine and credible contexts and offering them an assortment of language inputs (Burhan and Lynn, 2020). In light of the discoveries from a meta-study of 286 peer-reviewed articles during 2002-2018, it tends to be anticipated that computer-assisted language learning is moving towards integrated skills assessment just as nonlinear unique individual-student focused assessment (Bahari, 2020).

Authenticity

Reinders and White (2010) have explained the authenticity of CALL materials. With the help of computer and software technology, we can incorporate the parts of learning theories into practice. The utilization of games in learning methodology is a model that can be interesting

for students. It is guaranteed that utilizing computers includes students learning a language with more valid materials.

The Importance of Interaction

Reinders and White (2010) stated the significance of interaction. Different Programs are tailored to build opportunities for a language learner to use email and other forms of communication where a student's native language communicates with non-native speakers of the language. The contribution of some researchers expresses that reasonable contribution from dialogue alone doesn't prompt the advancement of accuracy.

Features of CALL

Chapelle (2001) presented the features of CALL programs. The effective use of computer programs helps in language learning. The other components of language learning such as grammar, pronunciation skills, four language skills, and other linguistic skills are taught through CALL program material. The CALL programs are also useful to give feedback on any teaching and learning activity.

Technology Tools to Assist Language Learning

Liu et al., (2002) explained the technology tools to assist language learning experience among learners. A lot of research carried out demonstrated the multiple possibilities of computer technology and innovation related to teaching and learning of languages. By understanding the effectiveness of computer innovation, teachers have become keen on its utilization as an instrument to expand the teaching of English as a foreign language.

Warschauer, M., Shetzer, H., &Meloni, C. (2000) explained the use of the internet for English language teaching. The utilization of CALL can be valuable in any classroom. It is particularly valuable in the language learning classroom. Computer Assisted Language Learning is rapidly getting one of the favored training instrument among ELT teachers. Utilizing CALL, language instructors can assist their students in teaching grammar and vocabulary by watching the video, listening to the audio, play computer games, or even explore the web accessing for their target language. It helps learners to utilize that target language in a more dynamic manner, which assists them to learn it more normally than just rote memorization

Beatty (2003) has started changing nature technology in language teaching. *"A definition of CALL that accommodates its changing nature is any process in which a learner uses a computer and, as a result, improves his or her language"*.

Beatty cited the following characterization of CALL programs/materials:

Table 1: Characterization of CALL programs/materials

CALL-Specific Software	General Software	Web-Based Learning Programs	Computer-Mediated Communication (CMC) Programs
It includes applications development, use of CDROMs, Online platform learning, activities, and quizzes.	It incorporates applications designed for general purposes, use of Microsoft word, presentation software (PowerPoin), and spreadsheet (Excel) helps language learning.	It includes online dictionaries, online encyclopaedia, news/magazine sites, e-texts, web platforms, web publishing, blog, wiki, etc.	It consists of the synchronous - online chat; asynchronous - email, group discussion, direction board, and other forms of communication, etc.

Levy (1997) has defined computer-assisted language learning in his seminal work. According to Levy, CALL is *"the search for and study of applications of the computer in language teaching and learning"*.

Problem Statement

The traditional ways to deal with English language teaching and learning is maybe one reason for the absence of Indian students towards English language learning. The materials utilized by English language teachers

and students are generally limited to the blackboard and the course curriculum of the affiliated university or institution. This is the reason the utilization of innovations and technology for teaching grammar may develop Indian students' interest in the acquisition of English as a Second language.

Objectives of The Study

The objective of the paper is to understand the efficacy of computer technology. The CALL helps Indian students to learn English grammar more effectively and correctly. This study

encourages students to use online multimedia tools for developing linguistic communication students.

Research Methodology

Hypothesis

It was hypothesized that CALL leads to significant improvement in language skills.

Scheme of Tests

1. Conduct a proficiency test-1 (50 marks) with n = 60
2. Select 40 students from the 60 with marks that are above the threshold limit of 35.
3. Conduct another proficiency test-2 (50 marks) with n = 40
4. Distribute randomly the 40 students into two groups, controlled and experimental with the size of 20 each.
5. Conduct pre-tests for both the control and experimental groups (n = 20 each).
6. Administer CALL program to the experimental group
7. Conduct post-tests for both the control and experimental groups (n = 20 each).

Participants

Direct Second Year Computer Engineering 60 students' participants were selected, who have studied Communication Skills in English subject as a part of the diploma. The ages of participants were from 18 to 23. Students were randomly selected for the study. The proficiency test of students was conducted to test the homogeneity. The researcher has finally selected 40 students for the study. The 40 participants were randomly divided into two groups experimental and control groups.

Materials

In this study, online tools were used to collect the relevant data of the study.

Proficiency Test: The proficiency test of students conducted to ensure the homogeneousness of the classroom. Same level proficiency level students are selected for the study.

- The 50 questions were administered in the test. Two such tests were administered.

Achievement Test:

- The achievement test was conducted to examine the level of participants in this study. The L2 achievement test was developed by the researcher for grammar items. The participants were asked to take pretest and posttest.

Procedure

To have a uniform level of students the proficiency test for participants developed. This ensured equal proficiency of the participants of the study; a proficiency test was developed for 60 students who have been enrolled in Second Year Computer Engineering at Savitribai Phule Pune University. They have studied Communication Skills as a compulsory course as a part of the curriculum of affiliated universities. The researcher analyzed the data of 40 students for this study. The 40 participants were randomly divided into experimental (N=20) and control (N=20) groups.

In the further course of action, the participants in both groups were asked to take a pretest. The training was scheduled for eight weeks. Training of 16 grammar components was organized for both groups to the Experimental group through free web-based applications and control group through offline mode/ conventional mode. Both groups were asked to compose sentences including the trained grammar sections. Feedbacks of both the group were received. The Control group received it orally and the experimental group received by using google form. Finally, both groups were asked to take a post test.

Results and Discussion

The data collected for this study were analyzed for inferential testing.

Results of Proficiency Test

Based on the results of the 1st-proficiency test 20 students with marks less than 30 were eliminated.

Another proficiency test – 2nd was conducted on the balance of 40 students to confirm that their scores are consistent with the 1st proficiency test. Results of the 2nd proficiency test were as under:

Table 2: Descriptive Statistics for Proficiency Test 2

Statistic	Marks/50
Nbr. of observations	40
Minimum	34.000
Maximum	46.000
Median	38.000
Mean	39.100
Standard deviation (n)	3.169
Skewness (Pearson)	0.540
Kurtosis (Pearson)	-0.861
Standard error(Skewness (Fisher))	0.374
Standard error(Kurtosis (Fisher))	0.733

Measures like skewness and kurtosis confirmed that the distribution was normal.

Result of Study Pretest

Table 3: Analysis of Pretest Results

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
CG-Pre-test	20	0	20	36.000	46.000	40.000	3.095
EG-Pre-test	20	0	20	34.000	45.000	38.200	3.139

t-test for two independent samples / Two-tailed test:
95% confidence interval on the difference between the means:
[-0.195,3.795]

Difference	1.800
t (Observed value)	1.826
|t| (Critical value)	2.024
DF	38
p-value (Two-tailed)	0.076
alpha	0.05

Test interpretation:
H0: The difference between the means is equal to 0.
Ha: The difference between the means is different from 0.
As the computed p-value is greater than the significance level alpha=0.05, one cannot reject the null hypothesis H0.

Result of Study Posttest

Table 4: Analysis of Posttest Results

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
CG-Post-test	20	0	20	38.000	48.000	42.150	2.720
EG-Post-test	20	0	20	44.000	50.000	46.500	1.792

t-test for two independent samples / Two-tailed test:
95% confidence interval on the difference between the means:
[-5.824,-2.876]

Difference	-4.350
t (Observed value)	-5.973
|t| (Critical value)	2.024
DF	38
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:
H0: The difference between the means is equal to 0.
Ha: The difference between the means is different from 0.

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis Ha.

Table 5: A Summary Table Showing Pre and Post-Test Comparison

Parameter	Pre-test		Post-test	
	CG	EG	CG	EG
Mean	40	38.2	42.15	46.5
SD	3.14	3.14	2.72	1.79

The experimental group mean, which pre-test was 38.2 shot-up to 46.5 post-test. This increase is 22%. The control group mean which pre-test was 40also went up but to 42.15 post-test. This increase is, however only 5%. Further, the difference in the mean result in the post-test between the control and experimental group was found to be statistically significant ($p<0.0001$).

Conclusion

The study illustrates that a computer as a tool to study grammar by using an online free web-based application can assist students with expanding their language grammar learning. The result also indicated that grammar learning through online platform help learners for improvement

Since the utilization of computers in the classroom has been growing quickly in India, L2 teachers can be urged to utilize online tools as accessible supporting to encourage language teaching. It develops the interest of students in learning. Students should be trained to use technology.

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