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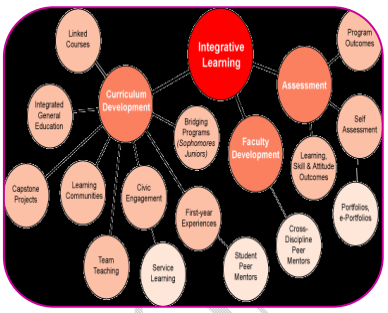
RELATIVE EFFECTIVENES AMONG DIFFERENT MODES OF CALL IN LEARNING ENGLISH



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ABSTRACT

There is an enormous worldwide change in the way things are produced and consumed. This could be attributed to the information revolution, the basis of which is associated with rapid flow of information and the capacity for its storage. Computers are exponentially smaller and cheaper with higher problem – solving potentially. Hence, it becomes fundamental to the information revolution. Under these circumstances, everyone has to prepare the younger generation for jobs which require a knowledge of computer technology and to enhance and shape their learning capability with computer technology. As such, the use of computers in education is directly related to the skills needed to the emerging jobs. It is also claimed that interactive computer based learning can change the human thought structure (Papert, 1980) and the systematicity and potential multi-dimensionality of computers as interactive, individualized tutors improve the overall level of student achievement (Martin, Hugh and Liza, 1987). In this paper, the Researcher aims at establishing the relative effectiveness among different modes of computer based instruction viz. Tutorial, Drill and Practice and Simulation. The study concludes that among the different modes of CALL package, Tutorial mode is the least effective while Simulation mode in the most effective in terms of their effectiveness in facilitating the acquisition of 'writing skill' in English among the pupils of Std. VIII. So far as the effectiveness of the Drill & Practice mode is concerned, it comes between the other two modes of CALL package.

KEYWORDS: *Computer Assisted Language Learning, Tutorial, Drill and Practice, Simulation, Criterion Referenced Test.*

INTRODUCTION

There is an enormous worldwide change in the way things are produced and consumed. This could be attributed to the information revolution, the basis of which is associated with rapid flow of information and the capacity for its storage. Computers are exponentially smaller and cheaper with higher problem – solving potentially. Hence, it becomes fundamental to the information revolution. Under these circumstances, every one has to prepare the younger generation for jobs which require a knowledge of computer technology and to enhance and shape their learning capability with computer technology. The principal source of future economic and social development may be associated with production and consumption of information. As such, the use of computers in education is directly related to the skills needed to the emerging jobs. It is also claimed that interactive computer based learning can change the human thought structure (Papert, 1980) and the systematicity and potential multi-dimensionality of computers as interactive, individualized tutors improve the overall level of student achievement (Martin, Hugh and Liza, 1987). In this paper, the Researcher aims at establishing the relative effectiveness among different modes of computer based instruction viz. Tutorial, Drill and Practice and Simulation.

REVIEW OF RELATED LITERATURE

Joshua A Cuevas, Roxanne L Russell, Miles A Jrving (2012) indicated that students from experimental group made greater gains than the control group in global reading comprehension. Chien-Hsien and Hasiao-Ching She (2012) indicated the impacts of recurrent online synchronous scientific argumentation on students' argumentation on conceptual change were positive as they demonstrate that online argumentation learning is far more effective than conventional instruction for promoting students' conceptual change and scientific argumentation. Debopriyo Roy (2012) indicated that the readers had done reasonably well with the design analysis, especially subjective responses in English on the questions on audience analysis and product goals were reasonable, well thought out and reflect higher order thinking skills. Yan Xu, Hyungsung Park and YoungKyun Back (2012) showed that digital story telling in a virtual learning environment is more effective than digital story telling off-line. That also improved the writing skill of the students. Chang Zhu (2012) revealed that the students engaged themselves in on-line collaboration but each involved to the different extent. They are also satisfied with the functions. Ali Farhan Abuseileek (2012) revealed that the computer based environment enabled the participants to blind their identities and reduced their anxiety from face-to-face and so was very helpful in developing their communication skills. Shana Shaw et al. (2012) showed that students who received Graphic organizers transfer knowledge better than those who received graphic overviews. Students those who viewed graphics after texts outperformed those who viewed before the text. Jongpil Cheon and Michael M.Grant (2012) revealed that the germane cognitive load positively affected the learning performance while there was no relationship between germane cognitive load and students' prior knowledge. Andrew Walker et al. (2012) showed that teachers in both the technology related professional development designs benefited with large self-reported gains in learning activities. Students in experimental group showed significant gains in their outcomes. Anne-marieke Van Loon, Anje Ros and Rob Martens (2012) showed that a digital learning task that combined autonomy support and structure had a positive effect on both intrinsic motivation and learning outcomes. Gwo Jen Hwang et al. (2012) revealed that the personalized educational computer game that met the students' learning styles significantly benefitted the students. They also enhanced the learning motivation and learning performance of the participants. Alfred Valdez (2012) showed that the four groups who received feedback performed significantly better on tests than those who did not received feedback and they also motivated the students for their better learning and understanding of the concepts. Han-Yu Sung and Gwo-Jen Hwang (2013) revealed that the approach not only benefitted students in promoting their learning attitudes and motivation but also improved their learning achievement and self-efficacy. Jai me Urquiza Fuentes and Angel Velazquez Iturbide (2013) indicated that animations actually improved learning in terms of some educational aspects such as short term and long term knowledge acquisition and also there is a learning improvement in complex topics using the viewing and constructing approaches. Erhel and Jamet (2013) showed digital game based learning instruction elicited deeper learning than the entertainment one without impacting negatively on motivation. This also promoted the learning and motivation. Randall.S.Davies, Douglas.L.Dean and Nick Ball (2013) showed that the simulation based approach was more instructionally effective and scalable than regular classroom for excel course studied. Aytac Kurtulus (2013) showed that the web based interactive tours have positive effective on mathematics teachers' spatial skill and this also encouraged the students to mentally visualize a place by using more of their spatial skills. Michael J. Kennedy et al. (2013) indicated a significance effects in learning and they also prove that the multimedia instructional tools, benefit undergraduates as they acquire necessary knowledge and skills. Abdullah S. Aldera and Mohammed Ali Mohsen (2013) revealed that ACA groups outperformed the control group on the vocabulary recognition and vocabulary production tests but it hindered the listening comprehension and recalling skills. Ejean Wu, Wen- Chuan Lin and Shu ching Yang (2013) showed that the mode modes of tutoring were equally effective. Face-to-face group members overcome their negative feelings towards English to a greater extent than the text based group members. Razagifard (2013) revealed that the participants in synchronous CMC group improved their L2 oral fluency significantly compared with oother two groups. Arslanyilmaz (2013) indicated that students in the task based instruction group produced

better and more fluent language than students with form focused instruction. Nabi A Ebrahimi, Zahra Eskandari and Ali Rahimi (2013) indicated that the students perceived that the CALL-informed communication class led to a learning environment which was more efficient and learner-centered. Awadh Al-Qahtani and Higginst (2013) showed that there was a significant difference between the three methods in terms of students' achievement. Blended learning method was effective than other two methods in improving students' achievement. Levi McNeil (2013) showed that the relationship between situated learning and call was strong and positive. Students' computer assisted language learning skills were higher at the end of the course. Ruslan Suvorov and Volker Hegelheimer (2014) elaborated on Computer-assisted language testing comprises different aspects of language testing and technology use and also presented a framework for the computer-assisted language testing. Balasubramanian (2014) concluded that the CALL facilitates the acquisition of writing skill in English among the pupils of Std. VIII. Balasubramanian (2015) the effectiveness of the syllabus based CALL package in English varies with regard to developing the language skill viz. writing among Higher Secondary Students. Drill and Practice as a mode of CALL is more effective when compared to Tutorial as another mode of CALL in realizing the instructional objectives in English at Higher Secondary stage. The psychological variables of the pupils viz. intelligence, achievement motivation, achievement anxiety and scientific attitude determine the effectiveness of the CALL package in developing their language skills.

STATEMENT OF THE PROBLEM

Computer as a tool of learning develops the skills and knowledge of the young people. Systematicity and multidimensionality of computer as interactive individualized tutor help them change their thought structure. Self – pacing, immediate feedback, freeness from classroom inhibition, etc., motivate the learner learn effectively. However, there has been no conclusive evidence whether computer is a positive educational force, worth an enormous investment in different cultural and social groups. Research in this area would help the decision makers to face the new challenges arising from the increasing use of computers in the society. It is seen that English as a curricular subject ranks first in the percentage of failure in examinations at different levels. Hence, it is high time that the educational technologists who are also specialized in English language teaching should endeavor to exploit the advantages of the new medium in order to ensure that quality teaching-learning process occurs in the English classrooms at schools.

OBJECTIVES OF THE STUDY

The objectives of the study are stated as follows:

i) To develop syllabus based computer software package in English at Std. VIII.
ii) To verify whether there is significant difference among different modes of CALL software viz., Tutorial, Drill and Practice and Simulation in their effectiveness as revealed by pupils' academic achievement in English as measured by the CRTs ie Post-Test.

HYPOTHESIS OF THE STUDY

The hypothesis of the study is stated as follows:

There is significant difference among different modes of CALL package viz., Tutorial, Drill and Practice and Simulation in terms of their effectiveness in facilitating the acquisition of the writing skill in English among the pupils of Std. VIII.

METHODOLOGY OF THE STUDY

Pre-test, Post-test Non-equivalent Groups Design was adopted while conducting experiments towards testing the formulated hypotheses. Pre-test, Post-test, Non-equivalent Groups Design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes which may be similar (Best & Khan, 1995). This design does not include the use of random assignment. If a researcher is interested in studying the effects of three different methods in changing the

cognitive behavior in a school subject, the researcher needs three classes of students to work with. Due to practical difficulties, it may not be possible for him to select the students at random from each class to form three groups corresponding to three methods. Therefore, he may use each class intact and give each class a different treatment. Usually, these groups naturally assembled sets of students as intact classes. The interpretation of the results will depend largely upon whether the groups are different on same characteristics related to the independent variable. The difference between the means of pre-test and post-test scores of each group is tested for statistical significance (Best & Kahn, 1995). Analysis of variance is also used to find out the significant difference among the groups.

To verify whether there is significant difference among different modes of CALL software viz., Tutorial, Drill and Practice and Simulation, Pre-test, Post-test, Non-equivalent Groups Design was attempted forming three groups each of 30 students of Std. VIII in Bharathi Matriculation Higher Secondary School, Coimbatore. Each group wes administered the pre-test followed by instructional treatment availing the respective CAI mode. Immediately after the intervention with the respective CALL Material was over, post-test viz. CRT was administered to all the groups. The responses made by the students of all the three groups on pre and post-tests were scored, tabulated and analysed using appropriate statistical techniques.

HYPOTHESIS TESTING

Hypothesis

There is significant difference among different modes of CALL package viz. Tutorial, Drill & Practice and Simulation in terms of their effectiveness in facilitating the acquisition of writing skill in English among the pupils of Std. VIII.

In order to substantiate that all the three experimental groups are identical so far as the writing skill in English of the students is concerned , an attempt was made to analyse the variance among the experimental groups on the scores as measured by the pre-test. The results are given in the Table 1.

Table : 1

Analysis of Variance among the Different Modes of CALL Package with Regard to the Scores as Measured by Pre-Test

Source	SS	DF	MS	F
Between Groups	3.88	2	1.94	0.67
Within Groups	253.93	88	2.92	
Total	257.78	90	4.86	

From the table 1, it is found that the 'F' value is significant at 0.01 level. Hence, it is concluded that all the experimental groups are identical so far as the writing skill in English is concerned.

To test the afore said hypothesis, analysis of variance was computed among the three experimental groups having been given the experimental interventions via different modes of CALL package viz. Tutorial, Drill & Practice and Simulation with regard to the scores of the students as measured by the post-test. The results are given in the Table 2.

Table : 2

Analysis of Variance among the Different Modes of CALL Package with Regard to the Scores as Measured by Post-Test

Source	SS	DF	MS	F
Between Groups	625.49	2	312.70	43.01
Within Groups	632.57	88	7.27	
Total	1258.06	90	319.97	

From the table 3, it is found that the 'F' value is significant at 0.01 level. Hence, the hypothesis is accepted. It is concluded that there is significant difference among different modes of CALL package viz. Tutorial, Drill & Practice and simulation in terms of their effectiveness in facilitating the acquisition of writing skill in English among the pupils of Std. VIII.

In order to find out the relative effectiveness among different modes of CALL package, an attempt was made to compute 't' tests between the mean scores of the different experimental groups as measured by the post-test. The results are given in the Table 3.

Table 3
Significance of Difference between the Means of Different Experimental Groups on the Scores as Measured by the Post-Test

Sl. No	Groups Compared	N_1	M_1	σ_1	N_2	M_2	σ_2	D	σD	't'
1	Tutorial Vs Drill & Practice	30	12.9	2.81	30	16.60	2.54	3.70	0.23	16.4*
2	Tutorial Vs Simulation	30	12.9	2.81	30	19.33	2.73	6.43	0.37	17.22*
3	Drill & Practice Vs Simulation	30	16.6	2.54	30	19.33	2.73	2.73	0.24	11.20*

* Significant at 0.01 level

From the table 3, it is found that there is significant difference between the means of the different experimental groups in the scores as measured by the post-test. The mean score of the simulation group is found to be greater than that of the other two groups while the mean score of the tutorial group is found to be lesser than that of the other two groups.

Hence, it is concluded that among the different modes of CALL package, Tutorial mode is the least effective while Simulation mode in the most effective in terms of their effectiveness in facilitating the acquisition of 'writing skill' in English among the pupils of Std. VIII. So far as the effectiveness of the Drill & Practice mode is concerned, it comes between the other two modes of CALL package.

DELIMITATIONS OF THE STUDY

The delimitations of the study may be stated as follows:

1. While selecting the content areas in English Grammar, the Investigator was not able to full justice to cover more elements of grammar in English.
2. In the context of developing the CALL Package in English in different modes viz. Tutorial, Drill and Practice and Simulation, Visual Basic Programming Language was chosen which may bring out compatibility problem while running the software at different locations due to changing advancements in operating systems.

EDUCATIONAL IMPLICATIONS OF THE STUDY

The educational implications of the study are stated as follows:

1. In conjunction with other process-product studies, the present study may contribute to the knowledge of CALL in teaching of English as a second language at upper primary/secondary level.
2. This study provides a rich fund of knowledge for identifying the emerging problems when CALL is introduced in schools and taking appropriate strategies in widespread induction of computers in schools particularly in rural areas.

3. The CALL Package developed covering wider area in terms of content in English grammar in modes viz. Tutorial, Drill & Practice and Simulation would be a great support to students population both rural and urban areas to develop their knowledge in English as self-learning materials.

SUGGESTIONS FOR FURTHER RESEARCH IN THIS AREA

Suggestions for further research in the area of CALL may be stated as follows:

1. Studies may be undertaken with a view to ascertain the relative effectiveness among different forms of web-based teaching-learning process in English viz. Online Learning, Online Tutoring, Virtual Learning, etc.
2. Exploring and exploiting the availability of the Open Educational Resources in the context of teaching and learning of English as a second language.
3. The effectiveness of the CALL materials supported with multimedia applications viz. audio, video, animation, graphics, stills, etc may be established among the student population in rural and urban areas.

CONCLUSION

There has been a need for training the young population in complications for high-skilled workforce, high tech production and microelectronic applications. Computers in education will ensure some meaningful participation of the youngsters in the growth of few forms of industrialization, commerce and service. Consequently, there will be development of industrial and social policies with changing global trade and investment patterns. Hence, there is a need for more research on the relationship between computer education and the pay-offs in the labour market for those who possess different levels of computer access.

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