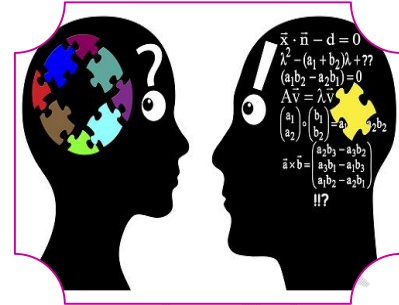_____

## DEVELOPMENT AND VALIDATION OF COMPUTER ASSISTED LANGUAGE LEARNING MATERIALS

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### ABSTRACT

The principal source of future economic and social development will be the production and consumption of information increasing the demand for higher level of skills. The use of computers in education happens to be directly related to the development of the types of skills needed to the emerging job market. 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). Yourdon (1986) argued that by the year 2000, 80 per cent of jobs in USA would require computer literacy, a minimal amount of computer – related training.  There lack of studies relating to computer access in schools to income or the type of job taken in the labour market.  The spread of computer technology may not produce a mass of high technology occupations requiring high level of programming skills.  There is a need for developing countries to produce a significant number of specialists with programming and engineering skills.  Otherwise,  they cannot participate meaningfully in micro-electronic revolution. Under these circumstances,  a large number of young people should have access to computers at school level. The only possible way to develop a computer-literate labour force in the developing countries is equipping the schools with computers. There is a need for high level research studies with respect to the relationship between computer education and the pay-offs in the job market to those who get different levels of computer access. Hence, the Research Scholar has taken up the project to develop Computer Assisted Language Learning materials in the context of teaching and learning of English as a second language.

**KEYWORDS:** Computer Assisted Language Learning, Evaluation Proforma, Pedagogical and Technological Points of View and Feedback.

### INTRODUCTION

The principal source of future economic and social development will be the production and consumption of information increasing the demand for higher level of skills. The use of computers in education happens to be directly related to the development of the types of skills needed to the emerging job market. 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).  Yourdon (1986) argued that by the year 2000, 80 per cent of jobs in USA would require computer literacy, a minimal amount of computer – related training.  There is lack of studies relating to computer access in schools to income or the type of job taken in the labour market.  The spread of computer technology may not produce a mass of high technology occupations requiring high level of programming

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## STATEMENT OF THE PROBLEM

Computer as a tool of learning develops the skills and knowledge of the youngchildren. Systematicity and multidimensionality of computer as interactive individualized learning material cause them change their thought structure. Self – pacing, immediate feedback, freeness from classroom inhibition, etc., influence the learners learn effectively. But at the same time, there has been no conclusive evidence whether computer is an effective instructional medium, worth for an enormous investment in different cultural and social groups. Studies in the area of computer mediated instruction would help the decision makers to face the new challenges emerging from the increasing use of computers in the society. English as a curricular subject ranks first in the percentage of failure in examinations at different levels. Hence, the educational technologists who are also specialized in English language teaching should exploit the advantages of the new medium with a view to ensure quality teaching-learning process emerges in the English classrooms at schools by developing most effective learning materials in English Language Teaching for   the computer medium.

## OBJECTIVES OF THE STUDY

The objectives of the study are given as follows:
i)    To develop syllabus based computer software package in English at Std. VIII in different modes viz., Tutorial, Drill and Practice and Simulation
ii)    To validate the developed CALL package in terms of pedagogical and technological points of view

## DEVELOPMENT OF CALL PACKAGE

The development of Computer Assisted Language Learning package involved eight steps viz., defining the purpose, collection of research materials, generating required ideas, organizing the ideas, producing displays on paper, flow charting the steps, programming the steps and evaluating the quality and effectiveness of the package (Stephen,M., Alessi & Stanely, R. Trollip, 1985 ).

Totally,  eleven CALL materials in English for Std. VIII students have been developed for teaching  of 'The Verb', 'Tense', 'Degrees of Comparison', 'Articles', 'Prepositions', 'Concord', 'Text-based vocabulary items' and  'Text based English phrases' using Visual Basic Programming / computer – based multimedia applications, viz., pictorial illustration and audio presentation in three different modes viz. Tutorial, Drill and Practice and Simulation. To ensure the user friendliness of the CALL package so developed, a user guide has also been developed and distributed among the students during experimentation.

## EVALUATION OF CALL PACKAGE

There is a need for an evaluation of the developed good CALL materials by certain well defined procedures with a view to ensure whether they are pedagogically and technically effective.  It is desirable to get the CALL materials evaluated before used in the classrooms. Hence, all CALL materials should be examined by a thorough and detailed system of evaluation. Unless the computer technology is not well planned and used effectively, it will become a distraction from the content of presentation. In order to establish the validity of the CALL package developed, an attempt was made to evaluate the materials with the support of 25 practicising teachers and experts in the field of CALL availing the evaluation proforma

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developed by Rangaraj, K.R. and Balasubramanian, N (1995). The evaluation proforma takes care to ensure whether the media materials are upto the level of expectation of the users in terms of the objectives of the programme, coverage of content, design of the material, instructional strategy and process and exploiting the potentialities of computer as a medium.

All the eleven CALL materials have been presented to the said experienced teachers and experts in the field of CALL with a request to validate the same in pedagogical and technological points of view.  From the responses made by the teachers and the experts who evaluated the said materials using the evaluation proforma, it is revealed that more than 80% of them had high opinion on the CALL package developed by the investigator.

## DELIMITATIONS OF THE STUDY
The delimitations of the study may be stated as follows:
1.  While selecting the content areas in English Grammar in the context of developing the CALL package, the Investigator was not able to do full justice to cover more elements of grammar in English
2.  In the context of developing the CALL Package in English and the Question Bank Software, 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 given as follows:
1.  In conjunction with other process-product  studies, this study contributes to the knowledge of CALL in teaching of English as a second language at upper primary/secondary level.
2.  This study offers  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.
3.  The CALL Package so developed covering wider area in terms of content in English grammar that too in different modes viz. Tutorial, Drill & Practice and Simulation would  greatly support the students population both rural and urban areas in developing their knowledge in English as self-learning materials.

## SUGGESTIONS FOR FURTHER RESEARCH
Suggestions for further research in the area of CALL  may be stated as follows:
1.  Studies may be taken up to establish the relative effectiveness among different forms of web-based teaching-learning process in English viz. Online Learning, Online Tutoring, Virtual Learning, etc.
2.  Counseling studies may also be undertaken how to  motivate the teachers and students to explore and exploit the available media based instructional materials in the internet in the context of teaching and learning of English as a second language.
3.  The effectiveness of CALL Package supported with multimedia applications viz. audio, video, animation, graphics, stills, etc.,could be established among the student population in rural and urban areas in the context of teaching and learning of  English as a second language
4.  Studies may also be taken up to find out how far the teachers and the learners are availing the e-learning materials so called Open Educational Resources for their personal/professional developments.

## CONCLUSION
Martin, Hugh and Liz ( 1987) are of the view that there are researches on the effects of computer – mediated instruction for the last three decades. It has been realized that computer interaction changes the learning environment with its effective way to raise the learning curves of the students in various school subjects. Drill and practice sessions of limited duration over an extended period of time increase reading and mathematics learning among primary children. CAI has already proved that it is an effective supplement to classroom teaching. There is greater cognitive gain at the high school level when compared to primary level

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when computer acts as a complete substitute for teachers, text-book, etc. It is also found that there is a declining effect on CAI with longer the length of instruction. There is no clear indication as to which aspect of CAI software design, intensity of contact, external reinforcement of CAI material, etc. most directly affects the learning efficiency. Several aspects of modern tutorial software make the subject intrinsically more interesting and increase the motivation to learn a particular subject. Designing and implementing good drill and practice software is easier than problem-solving software in spite of the teachers' performance for the later one. Little information exists about the relative effectiveness of different kinds of applications in education in different learning settings of social and cultural contexts.

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