SYNOPSIS OF THE THESIS

" DEVELOPMENT OF COMPUTER BASED MULTIMEDIA COURSEWARE FOR INDIVIDUALISED INSTRUCTION TO TEACH ELEMENTS OF PRONUNCIATION IN ENGLISH AT SECONDARY TEACHER EDUCATION PROGRAMME LEVEL"

1.1 INTRODUCTION

The Information and Communication Technology (ICT) that involves the use of different types of hardware and software systems for storing, retrieving, processing, communicating, diffusing, accessing and sharing of useful information in an optimized and organized way has drastically changed the world. The world has entered the era of e-education, e-business and e-administration in cybernetic-e-society. Computers provide learning materials with multi-sensory approach and hence the e-contents are successful with students of varied interests and caliber. The students at higher education stage particularly in professional courses benefit from the use of computer as an educational tool. Obviously, Pre-service Teacher Education should include this component to equip the would-be teachers to be effective and successful for years to come.

1.2 THE PRESENT STUDY

The present study aims at developing a Computer based Multimedia Courseware to teach Elements of Pronunciation in English for the trainees of Secondary Education level and finding out the effectiveness. The title of the present study is **"DEVELOPMENT OF COMPUTER BASED MULTIMEDIA COURSEWARE FOR INDIVIDUALISED INSTRUCTION TO TEACH ELEMENTS OF PRONUNCIATION IN ENGLISH AT SECONDARY TEACHER EDUCATION PROGRAMME LEVEL".**

1.3 OBJECTIVES OF THE STUDY

Major Objective

To develop Computer based Multimedia Courseware to teach Elements of Pronunciation in English to the trainees of Secondary Teacher Education Programme level.

Specific Objectives

1. To develop the font to be used in the computer based phonetic transcription.
2. To find out the effectiveness of Computer based Multimedia Courseware in teaching Elements of Pronunciation in English to the trainees of Secondary Education Programme level.
3. To find out the attitude of the trainees of Secondary Teacher Education Programme towards the Computer based Multimedia Courseware that aims at teaching Elements of Pronunciation in English.

1.4 HYPOTHESES OF THE STUDY

The following hypotheses are formulated to give a specific direction to the study:

1. The Computer based Multimedia Courseware is effective to teach the Elements of Pronunciation to the trainees of the secondary teacher education programme.
2. There exists significant difference between the pre test and the post test I mean achievement scores of the experimental group.
3. There exists significant difference between the pre test and the post test II mean achievement scores of the experimental group.
4. There exists significant difference between the post test I and the post test II mean achievement scores of the experimental group.
5. There exists significant difference between the pre and the post test mean attitude scores of the experimental groups.

1.5 DEVELOPMENT OF COURSEWARE

It is felt that the application of Computer based Multimedia Courseware may create a congenial and productive learning climate in schools and colleges, and brings real life situations facilitating better understanding. This may encourage the learners with greater interest and motivation. This inspired and prompted the investigator to develop the Computer based Multimedia Courseware for Individualized Instruction. The investigator developed the Computer based Multimedia Courseware using the latest software packages, which is compatible with most of the computer systems widely used.

The Computer Based Multimedia Courseware with four major headings from the Pronunciation in English form the part of the curriculum in Bachelor in Education of Sri Ramakrishna Mission Vidyalaya College of Education (Autonomous), Coimbatore, Tamil Nadu. This course on English Pronunciation is one among the five units in the Optional – I, The Technology of Teaching English - Paper – II for all the students who opt for this optional paper in their Secondary Teacher Education Programme (B. Ed). It is the compulsory part of the curriculum of all Colleges of Education both theoretical and practical level for the trainees of Secondary Education Programme in India. The content of the same course on English Pronunciation was programmed into Multimedia Courseware using the recent software such as MS Word, MS FrontPage, Visual Basic 6.0, Macromedia Fontographer, Macromedia Dreamweaver, Macromedia Flash, Adobe Photoshop, Adobe premiere, Coral Draw, Dynamic HTML, and SQL Server for the feasibility and user Interface convenience. The investigator carried out the Requirement Analysis of the courseware and its feasibility was ascertained within the known economic constraints, technical constraints and the time constraints.

The software is developed under strict compliance of the software engineering concepts. The investigator played the role of a software engineer, web designer and database administrator during the development of the courseware, in addition to authoring the content of the courseware materials as far as the teaching of Pronunciation

in English is concerned. The most important feature of the courseware is that it facilitates cross platform compatibility, which is an essential component of the international standards in software development.

Different test methods have been done during the development phase of the courseware. Software validation is achieved through a series of black box tests that demonstrate conformity with requirements. In the present study, an attempt was made to establish empirical validity of the courseware through quantitative analysis.

1.6 RESEARCH DESIGN OF THE STUDY

The present study is an experimental one based on Individualized learning through Computer based Multimedia Courseware Learning Technology. One group, pre-test, post test design is used as the experimental design of the study. A sample of 32 Non-English major students undertaking Optional I paper, Technology of Teaching English of the B. Ed., Degree Course of Sri Ramakrishna Mission Vidyalaya College of Education, an autonomous college affiliated to Bharathiar University, Coimbatore, Tamil Nadu, was selected for the purpose.

1.7 COURSEWARE IN ACTION

The Computer based Multimedia Courseware was administrated to the subject for a period of 14 days. The multimedia treatment was preceded by a pre test and succeeded by two post tests at the regular intervals of 7 days. The achievement test constructed was administered as a pre test to the sample prior to the treatment. Similarly two separate post tests were developed with the purpose of collecting the cumulative data for 14 days treatment administered to the learners. Thus data were collected at regular intervals to understand the phenomenon under investigation. An attitude scale was developed and validated with the aim of studying the attitude of B.Ed teacher trainees towards computer based multimedia technology.

1.8 DATA ANALYSIS AND HYPOTHESES TESTING

Mean and standard deviation scores were computed for the total aspects of the language as well as individual aspects of the phonetics. For further analysis of descriptive data, gap closure technique was also employed. For differential analysis, one way ANOVA with repeated measures is employed to find out the significance of difference among and between the treatment periods in various aspects of phonetics.

1.10 MAJOR FINDINGS

The Computer based Multimedia Courseware proved to be effective and valid in teaching Elements of Pronunciation in English at the Bachelor of Education level as evidenced by judgement and empirical analysis. The significance of the difference between the pre test and post test means testifies the validity and effectiveness of the Computer based Multimedia Courseware for teaching the Elements of Pronunciation in English.

There exists no significant difference between the post test I and post test II. The greater performance of the experimental group is observed during post test I than post test II. Although there is little improvement in the post test II duration, the optimum mastery is achieved during the period between the pre test and post test I. Hence it is concluded that the application of the software is much effective and the mastery is ensured even in an early duration of seven days. The subsequent treatment period, though useful, does not have any significant impact statistically on the mastery of the content of the Computer based Multimedia Courseware. It is also inferred that the shorter duration of application of the Computer based Multimedia Courseware would lead to the greater effectiveness of learning the Elements of Pronunciation in English.

The post test mean attitude score of the experimental group is greater than the pre test mean attitude score of the experimental group. This indicates the effectiveness of the Computer based Multimedia Courseware. Hence it is concluded that the B.Ed trainees have positive attitude towards the Computer based Multimedia Courseware.

1.11 IMPLICATIONS OF THE STUDY

The learners are able to experience the flexible approach in learning, self testing, consolidating, and further learning with the use of Computer based Multimedia Courseware which provides maximum freedom to learn at their own pace and annihilate their anxiety.

- It is recommended that similar coursewares may be developed in different languages and comparative phonology may be undertaken to identify the similarities and differences in languages taken.
- Similarly, such coursewares may be developed to teach the Accent, Tune and other areas of Phonetics for the learners of all levels.
- Similar coursewares using symbols besides the default fonts can be encouraged in the disciplines of Mathematics, Biological Science, Music, Communications, Cryptography and other developing disciplines of interdisciplinary nature.
- Computer courseware can also be developed for knowledge subjects with animated pictures, digital pictures, video files, sound and other media assuring the reality.
- Since the coursewares are suitable to Individualised Instruction all kinds of disabilities, special coursewares may be designed for the learners with visual impairment, hearing impaired, locomotors impaired, mentally retorted and multiple categories of disabilities.
- The Computer based Multimedia Courseware is a boon, and may help the learners of distance education programme who want to continue their education further at their own time and place.
- The government authorities may initiate to offer the facilities of networking all Universities, Colleges of Education, Engineering Colleges, Medical Colleges and Schools of different nature to share the resources and healthy practices.
- The trainees of the College of Education using Computer based Multimedia Courseware will be a set of ‘techno-based’ or ‘techno-tasted’ breed to meet out

the future demands of the classroom. The National Council for Teacher Education (NCTE) may recommend revamping the teacher education curriculum considering the challenges and prospects in Indian Education.

- Thus teachers in higher education assign a new role as generators of knowledge, creators of knowledge, promoters of knowledge and self-learners with adequate skills to carry out their duties in the global competitive world.
- Therefore, the educational planners and policy makers should come out with a new policy to revamp and reconstruct the entire system of education from primary to tertiary levels. The college and university teachers may also be insisted on mandatory requirement of compulsory training in Computers and Networking in order to meet the demands of ICT era.

1.12 CONCLUSION

The current teaching-learning process at the undergraduate degree of secondary teacher education programme level is of traditional nature, rigid, time bound and outmoded. With this new approach of making use the computers for Individualized Instruction with the Computer based Multimedia Courseware, the trainees feel motivated through personal involvement in the process of learning. The Computer based Multimedia Courseware is user controlled in which the tasks are constructed and offered to every learner with a separate personal computer. A significant improvement at the level of the trainees' acquisition of knowledge in the chosen area is empirically observed.

From an agrarian society, the world has transformed into high-tech super way Global Village revolutionizing every walks of life. Change with modernity holds almost all sections of people due to the spread of ICT revolution. The only thing holding them back is knowledge. Institutions, the world over, need talented people with skills and know-how to drive their business forward into economy. The trainees who underwent the Computer based Multimedia Courseware not only put themselves at the forefront of this revolution, but also keep this useful tradition of disseminating knowledge and skills through Computer based Multimedia Coursewares in future schools.