DEVELOPMENT OF COMPUTER BASED MULTIMEDIA COURSEWARE TO TEACH ELEMENTS TO PRONUNCIATION IN ENGLISH

Dr. V. Srinivasan*

*Associate Professor in English Education, Sri Ramakrishna Mission Vidyalaya College of Education, Coimbatore – 641 020 and

Prof. R. Krishnaraj**

** Professor Department of Lifelong Education, Alagappa University, Karaikudi – 630 003.

Abstract

Computer provide learning materials with multi-sensory approach and hence the e-contents are successful with students of varied interests and caliber. Computer based Multimedia Courseware creates a congenial and productive earning climate and better understanding with greater interest. The content on Elements of English Pronunciation for optional English trainees of B.Ed., Degree was programmed into Multimedia Courseware using the recent software. The courseware is developed under strict compliance of the software engineering concepts. Software validation is achieved through a series of tests that demonstrate conformity with requirements. A sample of 32 Non-English major students undertaking Technology of Teaching English of the B.Ed., Degree was selected for testing the empirical validity. Mean, Standard Deviation and One-way ANOVA with repeated measures were used to ascertain the validity of the courseware. The significance difference between the Pretest and Posttest means testifies the validity and effectiveness of the Courseware on Elements of English Pronunciation. A significant improvement of the B.Ed., trainees' acquisition of knowledge in the area is empirically observed.

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 optimize 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. Obviously, Pre-service Teacher Education has to include computer in Education to equip the would be teachers to be effective and successful or years to come.

The Present Study

The present study aims at developing a computer based Multimedia Courseware to each Elements of Pronunciation in English for B.Ed., trainees, and finding out the effectiveness of the same.

Objectives of the study

1. To develop Computer based Multimedia Courseware to teach Elements of Pronunciation in English to B.Ed., trainees.

2. To develop the font to be used in the computer for phonetic transcription.

3. To find out the effectiveness of Computer based Multimedia Courseware in teaching Elements of Pronunciation in English to B.Ed., trainees.

Hypothesis 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 B.Ed., trainees.

2. There exists significant difference between Pre test and Post test-I mean achievement scores of the experimental group.

3. There exists significant difference between Pre test and Post test -II mean achievement scores of the experimental group.

4. There exists significant difference between Post test –I and Post test-II mean achievement scores of the experimental group.

Development of courseware

Recent research findings reveal that the application of Computer based Multimedia Courseware creates a congenial and productive learning climate in schools and colleges, and brings real life situations facilitating better understanding with greater interest. This innovative approach inspired and prompted the

investigators to develop the Computer based Multimedia Courseware which is compatible with most of the computer systems widely used.

The 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 B.Ed., Degree course of Sri Ramakrishna Mission Vidyalaya College of Education (Autonomous), Coimbatore, Tamil Nadu. 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 with the known economic constraints, technical constraints and the time constraints.

The software was developed under strict compliance of the software engineering concepts. The investigator played the role of software engineer, web designer and database administrator during the development of the courseware, in addition to authoring the content of the courseware materials on Elements of Pronunciation in English. The most important features of the courseware is that it facilitates cross platform compatibility, which is an essential component of the international standards in software development.

Different testing mechanisms were attempted by the team of software engineers during the development phase of the courseware. Similarly the software validation is achieved through a series of tests that demonstrate conformity with requirements. field testing at two different levels was also carried out in the presence of the experts both in content and the computer network to ascertain the functions of the courseware. The panel of experts suggested necessary modification in the content and design of the courseware. Also an attempt was made to establish empirical validity of the courseware through quantitative analysis.

Research Design and Sample

One group Pretest – Post test design was used as the experimental design of the study. A simple of 32 Non-English major trainees undertaking Optional –I paper, Technology of Teaching English of the B.Ed., Degree course of Sri Ramakrishna Mission Vidhalaya College of Education, an autonomous college affiliated to

Bharathiar University, Coimbatore, Tamil Nadu was selected for the purpose.

Course ware in action and Data Collection

The computer based Multimedia Courseware was administrated to the sample for a period of 14 days. The achievement test consisting of forty multiple choice questions were constructed and administered as a Pre test to the sample prior to the treatment. Similarly two separate Posttests of forty multiple choice items were constructed with the purpose of collecting the cumulative data for 14 days treatment administered to the sample. Thus data were collected at regular intervals to understand the phenomenon under investigation. The data obtained from first test, second test and third test were subjected to descriptive and differential analyses for the interpretation of the results.

Data analysis and Hypotheses testing

The mean and standard deviation scores were computed descriptively and for differential analysis, one way ANOVA with repeated measures was employed to find out the significant difference among and between the treatment periods of Multimedia Courseware.

Table- 1

Significance of Difference among the Treatment Periods One Way ANOVA with Repeated Measures

Source of Variance	Sum of Squares	df	Mean Squares	F-value
Total	3851.8333	95		
Between Subjects	515.8333	31		
Within Subjects	3336.00	64	52.1250	
Treatments	2807.5833	2	1403.7917	164.7092*
Residual	528.4167	62	8.5228	

* Significant at .05 level

(The table value of F-ratio at 0.05 level with df 2,62 is 3.15

From the table 1, it is found that there existed significant difference among the Pretest and two Post tests mean scores in the Elements of Pronunciation in English as evidenced by the computation of 'F' value (164.7092, significant at 0.05 level). Hence the Scheffe's post hoc test was applied to find out the significant difference among the three levels of treatments and the computed scores.

Table- 2

Scheffe's Post-hoc Test for Significance of Difference between

Treatment Periods

Pre Test	Post Test-1	Post Test -2	Mean Difference	C.I.Value
12.3125	23.9375		11.6250*	1.8319
12.3125		23.6250	11.3125*	1.8319
	23.9375	23.6250	0.3125	1.8319

* Significant at .05 level

(The table value of F-ratio at 0.05 level with df 2,62 is 3.15

The table 2 shows that there existed significant difference between the Pretest and Posttest-1 mean scores, and the performance of the B.Ed., trainees in the Post test-1 was better than that of Pretest score. The better performance of the B.Ed., trainees was also observed in the Posttest-2 when compared with their Pretest performance. This shows the effectiveness of Multimedia Courseware in teaching the elements of pronunciation in English for the B.Ed., trainees.

When the Post test score of Elements of Pronunciation in English in the first time (Post test-1) and that of the Posttest score of second time (Posttest-2) are compared, it is observed that the computed mean difference 0.3125 is not significant at 0.05 level. This is because the B.Ed., trainees have already mastered the Elements of Pronunciation in English during the Posttest-1 period. 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.

Major Findings

The computer based Multimedia Courseware proved to be effective and valid in teaching Elements of Pronunciation in English at the B.Ed., Degree level as evidenced by judgement and empirical analysis. It is also inferred that the shorter duration of the application of Computer based Multimedia Courseware would lead to the greater effectiveness of learning the Elements of Pronunciation in English.

Implications of the Study

The trainees 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 besides annihilating their anxiety.

- ❖ It is recommended that similar courseware may be developed in different languages and comparative phonology may be undertaken to identify the similarities and differences in languages taken.

- ❖ 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 courseware are suitable to individualized instruction of all kinds of disabilities, special coursewares may be designed for the disabled learners.

- ❖ 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 creators of knowledge, generators of knowledge, promoters of knowledge besides being self-learners with adequate

skills to carry out their duties in the competitive world.

Conclusion

From an agrarian society the world has transformed into high-tech super way Global Village revolutionizing every walks of life. However the current teaching learning process at the under graduate degree of secondary teacher education programme level is of traditional nature, rigid, time bound and outmoded. Change with modernity holds almost all sections of people due to the spread of ICT revolution. With this new approach of making use 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 each learner individually. A significant improvement at the level of the trainees' acquisition of knowledge in the chosen area in empirically observed.

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