International Referred Research Journal ISSN-0974-2832 VOL. II * ISSUE—15 April, 2010

Research Paper—Education

DEVELOPMENT OF MULTIMEDIA INSTRUCTIONAL SYSTEM ON EDUCATIONAL TECHNOLOGY FOR B.ED. PUPIL TEACHERS

April, 2010

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INTRODUCTION:

It is observed that the theory courses are completed by lectures. The teacher educators rarely use other methods of instruction. Instructional materials are also used rarely in teaching learning of these theory courses. It results in memorization for examination purpose and it is also observed that the pupil teachers forget the pedagogy and rarely apply it in their day-to-day in-service career.

It is not needed to say that Educational Technology is a latest and important subject that the teachers should know. Advances in Computer & communication technology affect all aspects of our lives – and teacher education is no exception. Both private and public sectors in international economies are undertaking huge efforts to build revolution in educational environment. It is now not expected to teach the subject/subjects by traditional instructional strategies, but one should use variety of the strategies. Today the teachers and educationists have recognized instructional media as indispensable and integral components of instructional materials in both formal and informal education. To increase the interest of students and teachers also, new instructional media can help.

STATEMENT OF THE PROBLEM

The statement of the problem for research on hand was, therefore, stated in the following words."Development of Multimedia Instructional System on Educational Technology for B.Ed. Pupil Teachers"

SIGNIFICANCE OF THE STUDY

The significance of the present study is as follows: 1.As far as the knowledge of investigator is concerned, no study of such kind has been done earlier. 2.The study will deeper the understanding of the Educational Technology course to be taught in B. Ed. colleges. 3. The developed instructional system will help the teacher, educators and the pupil-teachers in teaching and learning of Educational Technology. They will not depend only on textbook. The study will enable the pupil teachers to understand the nature and purpose of Educational Technology develop communication skills and enable to use modern information technology for school purposes.4. The deficiency of unavailability of multimedia CD-ROM on Educational Technology will be removed to some extent. 5.It is observed that the multimedia instructional system is more significant than traditional teaching learning approach. This multimedia instructional system will help in revising the Educational Technology course 6.The system will be helpful for the distance learning mode and in-service training.

SCOPE AND DELIMITATION'S OF THE STUDY

1) This study was limited to B.Ed. syllabus Educational Technology course only. 2) This study was restricted to the units from Educational Technology course in B.Ed. revised syllabus of Solapur University, Solapur. 3) The development of multimedia instructional system was restricted to marathi medium Colleges of Education only. 4) The experiment was restricted only to the pupil teachers

admitted in College of Education, Barshi affiliated to Solapur University, Solapur 5) The development of a system included designing, developing and evaluating stages. The evaluating stage includes large-scale try-out of the system, but the study was confined to experimental try-out in one College of Education. The results of the evaluation of developed system were limited to this institute only.

OBJECTIVES OF THE STUDY

The study was undertaken with the following objectives. 1) To analyse the conventional approach of teaching Educational Technology. 2) To plan multimedia instructional system for Educational Technology. 3) To design and construct multimedia instructional system for Educational Technology. 4) To test the effectiveness of constructed multimedia instructional system. 5) To compare the effectiveness of constructed multimedia instructional system with the conventional system of instruction. 6) To validate multimedia instructional system in terms of their effectiveness over conventional system of instruction. 7) To equip the pupil teachers and teacher-educators with reliable system to overcome the difficulties in instruction of theory course of Educational Technology.

HYPOTHESES OF THE STUDY

Following were research hypotheses of the study.

R.H.1: The present setting of teaching of Educational Technology in B.Ed. Colleges is unsatisfactory for better learning of the pupil-teachers.

R.H.2: An instructional system for Educational Technology instruction through multimedia technology can be planned, designed and constructed. The research hypotheses R.H.3 to R.H.6 were stated below into null form for sake of experiment and for testing purpose.

Ho.1: There is no significant difference between the performance of the pupil-teachers from control and exp. group in pre test.

Ho.2: There is no significant difference between the performance of the pupil-teachers from control and exp. group in posttest.

Ho.3: There is no significant difference between the performance of the pupil-teachers from control group in pre over post testing.

Ho.4: There is no significant difference between the performance of the pupil-teachers from exp. group in pre over post testing.

Ho.5: There is no significant difference between the gains in achievement in terms of scores in pre over posttest of the pupil-teachers from control and exp. group.

Ho.6: There is no significant difference between the performance of the pupil-teachers from control and exp. group in retention test.

THE EXPERIMENTAL DESIGN:

The investigator decided to use the **Solomon Four-Group Experimental Design** for Beta testing also. The investigator had decided to use this design because it provided equivalency, accuracy with less labor and such is a source of economy. The hypothesis formulated by the investigator can be resolved with the help of this design

$R_1 \rightarrow \quad O_1 \rightarrow \quad X \rightarrow \quad O_2$
$R_2 \rightarrow \quad O_3 \rightarrow \quad C \rightarrow \quad O_4$
$R_3 \rightarrow \quad\quad\quad X \rightarrow \quad O_5$
$R_4 \rightarrow \quad\quad\quad C \rightarrow \quad O_6$

THE EXPERIMENT:

The experiment was conducted within whole academic year 2006-07, the procedure of which is explained in the following paragraphs: The investigator selected two colleges of Education i.e. College of Education, Barshi and D.P.B. Dayanand College of Education, Solapur affiliated to Solapur University, Solapur. Out of 160 pupil teachers, 120 pupil teacher's form both colleges of education in the year 2006-07 were the sample of the study. The investigator considered the group of pupil-teachers from D.P.B. Dayanand College of Education, Solapur as a control group and the group of pupil teachers from College of Education, Barshi as an experimental group. The investigator administered a pre test on half of the pupil teachers (30) from both the groups and gave a treatment of developed multimedia instructional system to an experimental group; the control group was treated with traditional system. He then administered a posttest on both the groups and compared the results. The data was analyzed and interpreted and the effectiveness of the system was

tested.A pretest of 50 marks for pupil-teachers was administered on the sample. The answer-scripts were assessed; the scores were collected, analyzed and interpreted. A posttest of 50 marks for pupil-teachers was again administered on the sample. The responses of the pupil-teachers were collected in terms of scores. The data was analyzed and interpreted.'Is the developed system used in experimental group of pupil-teaches proved helpful to the pupil-teachers fro the group?' was a question to be answered. A comparative analysis and interpretation of the gains both in achievement was done to answer the question.'Is the developed system used in experimental group of pupil-teachers proved helpful to retain the content?' was a question to be answered. Hence a retention achievement test was administered on the pupil-teachers from the sample after three months of the treatment to collect the information of the pupil-teaches about their retention in treatment. The data was collected, analyzed and interpreted.Conclusions were drawn about the effectiveness of the developed instructional system and suggestions were stated

ANALYSIS AND INTERPRETATION OF DATA OBTAINED THROUGH EXPERIMENT :

The data was analysed with the help of statistical and non-statistical measures. The techniques of t test, F test were used to test the hypotheses. The investigator tabulated the collected data and calculated the t- values and F- values to compare achievement of pupil teachers from control and experimental group.

CONCLUSIONS:

Conclusion 1:The research hypothesis No.1 is accepted. The present setting of teaching of Educational Technology in B.Ed. Colleges is unsatisfactory for better learning of the pupil-teachers.

Conclusion 2:The research hypothesis No.2 is accepted. An instructional system for Educational Technology instruction through multimedia technology can be planned, designed and constructed.

Conclusion 3:The null hypothesis No.1 is accepted. There is no significant difference between the performance of the pupil-teachers form control and experimental group in pre test.

Conclusion 4:The null hypothesis No.2 is rejected. There is significant difference between the performance of the pupil-teachers from control and experimental group in posttest. Developed Multimedia Instructional System helped the male, female and all 60 pupil-teachers in performing better than the male, female and all 60 pupil-teachers from the control group.

Conclusion 5:The null hypothesis No.3 is rejected. There is significant difference between the performance of the pupil-teachers from control group in pre over post testing. Conventional Instructional System helped the male, female and all 60 pupil-teachers from control group in performing better pre over posttest.

Conclusion 6:The null hypothesis No.4 is rejected. There is significant difference between the performance of the pupil-teachers from experimental group in post testing. Developed Multimedia Instructional System helped the female pupil-teachers, male pupil-teachers and all 60 pupil-teachers from experimental group in performing better in pre over posttest.

Conclusion 7:The null hypothesis No.5 is rejected. There is significant difference between the gains in achievement in terms of scores in pre over posttest of the pupil-teachers from control and experimental group.

Conclusion 8:The null hypothesis No.6 is rejected. There is significant difference between the performance of the pupil-teachers from control and experimental group in retention test.

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