Effect of Computer Mediated Teaching Practice on the Performance of Student Teachers for Education of Children with Hearing Impairment

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Abstract

The importance of teachers is especially enormous during the formative years when children learn in the classrooms. The teachers should have the necessary teaching skills and competencies to perform their tasks efficiently in classrooms. Present scenario teaching through traditional teaching practice including textbooks and teaching learning material adapted material, is replaced with the computer mediated teaching such as computer with internet, power point presentation, educational CDs/DVDs, tablets, educational apps, you tube etc. Majority of the teachers feel computer mediated teaching as a very useful method and instructional support for teaching in classrooms. It is often observed and reported that certain aspects of the learning process can be carried out more easily and more efficiently when they are supported by computer mediated teaching. It also helps students to access education, enhance their learning experiences and support their multiple learning styles. Computer mediated teaching have the potential to transform the way we teach and learn. It can raise standards, and widen participation in lifelong learning. In special education, use of computer for teaching to children with hearing impairment has become imperative to improve the efficiency and effectiveness at all level of learn to language and concept. Thus the main objective of the study is to investigate Effect of Computer Mediated Teaching Practice on the Performance of Student teachers for Education of Children with Hearing Impairment.

KEYWORDS: Effect, Computer Mediated Teaching, Performance

Introduction

The teachers in educational institutions are expected to use the best practices and strategies to meet challenges and demands of their career. If the teachers are well trained and highly motivated, they can meet the expectations of all stake holders. Very often, teacher training programmes act as a catalyst in preparing such teachers. It is well documented that the major purpose of any teacher training programme is to prepare prospective teachers to meet challenges that they have to meet in future in the classrooms. Hence, teacher training is designed to develop highly specific and immediately useful skills in student teachers. Teacher training therefore is a specialized and significant segment of education entailing systematic preparation for the development of teaching skills among those who may have attracted towards teaching profession. The effectiveness of teacher training is reflected in the teaching of teachers in the classrooms. The performance of teachers for effective delivery with computer

mediated instructions is thus related to the knowledge and skills that they acquire during training. Teacher training should be imparted so effectively with effective methods and strategies that the student teachers may be able to perform in a better way in a practical situation. A sound programme of teacher training is thus required for effective teacher preparation. In the field of special education, teacher training programmes run in government and nongovernmental setup are under Rehabilitation Council of India, New Delhi.

Article 26 of the Declaration of Human Rights documents that every individual has a right to education. The directive principle of the Indian constitution Article 45 endorses free and compulsory education for all children till 14 years. The 86th amendment of the Indian constitution brought out education as a fundamental right, which resulted in the enactment of Right of children to free and compulsory education act (2009). The Government of India has also taken education of children with disabilities on a priority basis. The Government being a signatory member in United Nations Convention on the Rights of Persons with Disabilities (2006), BIWAKO Millennium Framework (2002) is committed to safe guard the rights of disabled including education. Disability specific legislations like PWD Act (1995) promotes the access to free education in an appropriate environment for children with disabilities till 18 years. Thus education is given top priority in India.

Computer mediated instruction form the core of any knowledge based society. They are playing an important role in improving the knowledge and economy of the society. Education not only increases the productive skills of the individual but also his earning power. It gives him a sense of well being as well as capacity to absorb new ideas, increases his social interaction, gives access to improved health and provides several more intangible benefits(Kozma, 2005). Jhurree (2005) noted that the impact of technology, especially computers, in education. Computers and applications of technology become more pervasive in society which led to a concern about the need for computing skills in everyday life. Bransford et al. (1999) states that good educational software and teacher- support tools, developed with a full understanding of principles of learning, have not yet become the norm. Moore (2005) summarized about the positive impact of computer mediated teaching on pupils' learning such as increased students' motivation to stay on-task and drive them to behave better and produce high quality work. Besides, through CMT, students learnt more independently and did more works at a fast pace. Since the importance of CMT and its contributions to all fields including education had been proved in previous studies, this study will demonstrate the impact of CMT use in learning on the achievement of primary students.

Training of computer mediated teaching skills

Generally, programmes for training teachers at diploma, degree and master levels require certain amount of practice teaching. The traditional practice teaching is planned in two stages: (i) observation, and (ii) practice. These stages spread over a period of a few weeks, a few months or a few years depending on how the practical part of the trainee's programme fit into his/her professional course for the training of teachers.

Observation is the first stage of practice teaching. It is divided into two phases namely; identification and analysis. A teacher trainee cannot be expected to give a performance of good teaching if he/she has never seen any. Therefore, the first thing to do is to show the trainee the model of good teaching that he/she may observe, study and analyze. He /she should be further able to identify the parts of the teaching process and should look at the right thing at the right time. It is also important on the part of the trainee to know when one part of it ends and the other. Observation is generally followed by practice. Once the trainee has acquired knowledge of what constitutes teaching and the various essentials of it, she/he enters the second stage of practice teaching. She /he prepare the lesson plans and starts teaching in the allotted class. Very often, the trainee carries forward the same framework of teaching which was provided to them during observation stage.

A major criticism emerged was that the traditional system of training using imitation method produces incompetent teachers who are hardly prepared to face challenges in education. Sometimes, the trainees are forced to observe the teachings of less skilled teachers. Thus force them to imitate the same without understanding the errors. To overcome these, one of the best practices evolved for modifying the behavior of teachers is to offer skill based training (CMT). Training on each of the CMT skills will help the trainees to gain correct knowledge of each skills and their effective use during practice teaching. The special education teacher training programmes follows the curricula prescribed/approved by the Rehabilitation Council of India. The prime emphasis for all these training programmes is to equip the trainees in educating the children with hearing impairment through specialized methods and techniques. Very often, the emphasis of teacher training at diploma level is given more on methods (natural, structural & combined) and techniques of language development (news, visits, directed activity etc.) and less on general teaching skills like CMT. Hence, it is quiet natural that the trainees & teachers overlook the intricacies in CMT and give undue importance on other aspects of teaching. However good skills of CMT can compliment all the methods and techniques of teaching. Training on CMT can certainly bring changes in practice teaching which can be mutually beneficial to both teacher trainees and students with hearing impairment mutually.

Need of the Study

In the field of special education, the research studies carried out on CMT explored the CMT practice that the trained teachers use in classrooms. Some of the studies have even looked at the difficulties experienced by children with disabilities in comprehending ICT as a part of teaching. The effective CMT is an essential area of training; very few efforts have been made to train the teacher trainees. Hence, training of this nature and studying its effect had great relevance today and tomorrow.

CMT help the teacher trainees to include different types of skills during teaching practice. It was also motivating master trainers to develop other skill based training modules and implement the same as a part of training. Therefore the present investigation was undertaken.

Aim of the Study

The main aim of this study was to investigate the Effect of Computer Mediated Teaching Practice on the Performance of Student teachers for Education of Children with Hearing Impairment

Objectives

The specific objectives of the study are as follows:

1. To study the effect of overall teaching skills acquiring through CMT practice on performance of student teachers for education of CWHI in science
2. To study the effect of CMT Practice on the achievement of CWHI in science

Hypotheses
1. There is no significant difference in the pre test and *post test score*s of student teachers from experimental group on overall teaching skills
2. There is no significant difference in the pre test and *post test scores* of student from experimental groups on academic achievement

METHOD

Research Design: Pre-test post -test single group design

Participants:

-        10 student teachers – pre–test and post- test

-        10 CWHI – pre–test and post- test

Sampling technique: Purposive sampling

Tool:

•   Researcher made lesson supervisor assessment form
•   Researcher made student achievement test

Development of Tool:

The researchers' experience with CMT, review of literature pertaining to CMT practice and discussions with the experts gave key inputs to the present researcher for developing a tool for data collection. Two prominent areas that emerged essential to ascertain the CMT practice of student teachers were: Skills required for lesson preparation and skills required for lesson execution. Two researcher made test (one for CMT practitioner ascertain the CMT practice required for lesson preparation and one for students with hearing impairment to ascertain the academic achievement through CMT. The face validity of the tool was established with the help of judges and the tool was finalized.

Training material

The present researcher in consultation with the experts was develop a training module on CMT. The frame work of the module proposed is as follows:

Sr no	Topic	Duration for Theory session	Duration for Practical session
1	Introduction to Computer skills	2	-
2	Tips for preparing lesson through computer	2	-
3	Access to Internet and PPT	2	-
4	Planning lesson through CMT	2	3
5	Presentation lesson through CMT	2	4
7	Evaluation Question and its development	-	3
Total		**10**	**10**

i.   Preparation of blue print
Blue print was prepared based on the above mentioned weightage tables

ii.   Preparation of test items and editing

Based on the blue print, and content of training, test items were prepared. Editing was also be done

Finalizing the   TMT

Based on the out course of the content validity the TMT was finalized for data collection.

iii.   Preparing the scoring key

Scoring keys were prepared for evaluator.

 Process of Data Collection

Phase I – Subject selection

Student teachers each of participants be purposely assigned to pre-test and post-test groups.

Phase II – Administration of pre test

The researcher was administer the developed teacher made tests on both pre-test and post-test groups of participants.

Phase III – Treatment

Based on the content of the training module and sessions planned, the researcher was conduct 20 training sessions in 5 working days.

Phase IV – Administration of post test

After completion of all the intervention sessions with post-test groups of participants the tests were be re administered groups so as to obtain the post test scores of groups participants separately.

Data Analysis

't' test was applied to analyzed the data.

RESULT AND DISCUSSION

Effect of overall teaching skills acquiring through CMT practice on performance of student teachers:

In order to study the CMT practice on performance of student teachers taking a teachers training with students with hearing impairment the objective framed was **"To study the effect of overall teaching skills acquiring through CMT practice on performance of student teachers for education of CWHI in science over conventional teaching practice"** The researcher was design to evaluate the effect overall teaching skills acquiring through CMT practice on performance of student teachers for education of CWHI in science was measured following that specific training for five day was imparted to the same student teachers after five days again the students teachers were tested for CMT. Scores obtained by them in the pre-test and post-test condition were first treated by means and SD and finally to evaluate the affectivity of training programme. The data were treated by "t" test for correlated by mean.

Table 1: overall teaching skills acquiring through CMT practice on performance of student teachers

Parameter	Groups	Mean	SD	Df	't'	P

		(x)				(1- tail)
CMT performance of student teachers	Pre-test n=10	23.2	1.75	18	14.22	0.0001
	Post-test n=10	36.0	2.26			**(Significant)**

The obtained mean and SD of pre-test were 23.2 and 1.75. Similarly, the mean and standard deviation of post-test were 36.0 and 2.26. In order to find out whether the observed difference in mean value 23.2 of pre-test and 36.0 of post-test is statistically significant paired 't' test was applied using STATSDIRECT package. The obtained value of "t" is 14.22, which is much larger than what is required to be significant as .01 levels when the df are 18. Since there is significant improvement in the post-test condition. It could be concluded that the training programme was effective significantly.

Effect of CMT Practice on the achievement of CWHI in science

In order to study the CMT practice on achievement of students with hearing impairment when student teachers impart the lesson through CMT, the objective framed was **"To study the effect of CMT Practice on the achievement of CWHI in science over conventional teaching practice"** The researcher was design to evaluate the effect of CMT practice on the achievement of CWHI in science was measured following that impart the lesson on CWHI for five day and was imparted to the same CWHI after five days again were tested for CMT. Scores obtained by them in the pre-test and post-test condition were first treated by means and SD and finally to evaluate the affectivity of training programme. The data were treated by "t" test for correlated by mean.

Table 1: effect of CMT Practice on the achievement of CWHI in science

Parameter	Groups	Mean (x)	SD	Df	't'	P (1- tail)
achievement of CWHI in science	Pre-test n=10	10.4	1.26	18	15.90	0.0001
	Post-test n=10	13.9	1.28			**(Significant)**

The obtained mean and SD of pre-test were 10.4 and 1.26. Similarly, the mean and standard deviation of post-test were 13.9 and 1.28. In order to find out whether the

observed difference in mean value 10.4 of pre-test and 13.9 of post-test is statistically significant paired 't' test was applied using STATSDIRECT package. The obtained value of "t" is 15.90, which is much larger than what is required to be significant as .01 levels when the df are 18. Since there is significant improvement in the post-test condition. It could be concluded that the training programme was effective significantly.

CONCLUSION

The findings presented here suggest that computer mediated teaching performance can provide student teachers a learning environment superior to that of the traditional classroom. On all available measures of academic performance, student with hearing impairment who was actively involved in the computer-mediated teaching groups earned higher grades than other students. Thus, there must be some training for student teachers to develop skills taking lesson through computer mediated and necessary for lesson preparation and lesson execution.

LIMITATIONS

- Study was restricted to Bhavnagar Gujarat.
- Out of 21 B.Ed HI student teachers only 10 students teacher have some skills of computer to participate in the study.
- The data was collected from 10 participants for this study.
- . Only science subject is taken for this study.
- Only hearing impaired children's academic achievement was studied

RECOMMENDATIONS

- Special educator should be trained to use CMT in lesson preparation and lesson execution.
- Practical work of CMT skills should include in the D.Ed. (special education) and B.Ed. (Special education) syllabus.

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