Name of Research Scholar: Bichitra Choudhuri

Name of Supervisor: Prof. Ahrar Husain

Department: Department of Teacher Training and Non-Formal Education, IASE, Faculty of Education, Jamia Millia Islamia

Title of Thesis: Impact of Smart Classes on Teaching- Learning Amongst Secondary School Learners

Abstract

Since 1972 many steps have been taken regarding the use of technology in the field of education like ET Scheme , ICT policy, ICT Scheme, ICT curriculum etc. 21st century is called the era of ICT based education. ICT has a huge potential and there are different ways in which ICT has been used in field of education. Use of digital classroom in the school is one of the way of ICT integration in formal education. It has been claim that this technique is going to create revolution in teaching – learning process. It helps the teachers in expressing their views and ensure teacher that every student is understanding and learning because of the above reason many secondary schools in Delhi has recently introduced Smart class in their schools by replacing the traditional classroom where teaching takes place by using blackboard. The present research work is a triangular evaluative study, the entire research work is divided into three parts. First part consists of experimental research, where the researcher studied the impact of smart classes on academic achievement of secondary school learners by comparing the Academic achievement of learners of Kendriya Vidyalaya, Government aided and private school of secondary level having traditional classes and the smart classes. Second and third part consists of survey research where science teachers perception and competency was studied. Entire research work was done on above mention three types of school. Through cluster sampling, sample have been taken from these three types schools. Total 228 secondary school learners and 140 science teachers have been taken for the study. It has been found that teaching - learning through smart technology is more effective in comparison to traditional classroom as achievement level of students taught using smart technology in all the three schools is higher than the traditional class. Although gender wise it has been seen that technology has same effect on both the gender i.e girls and boys. This technology appeal all the three senses i.e. sight, sound and touch which help the students to learn best through these dominant senses. As biology is the subject, full of diagram, teaching through digital technology using 3D images videos of different process and scientific phenomenon, increases the concept clarity.It has open the door for teachers and students to explore the world of information. Regarding perception , science teachers of all three types of schools have shown positive perception towards smart class technology. They agreed that smart class technology has positively influence the instructional process. It has made the process time saving and interactive. Through this technology teachers deliver the lecture with more updated knowledge, concept clarity has increased , explanation has become effective, teaching has improved and become innovative. Regarding learning outcomes students become more active, imaginative and attentive ,academic performance has improved. It has enhanced the knowledge of student as well as teachers. Regarding the use of

smart class technology, training is required and training should be regular and in short interval of time so that teacher become efficient and teaching-leaning process become effective and interesting.Related to competency level teachers are not very competent in handling the smart class technology. In all the three schools, maximum percentage of teachers are competent in handling the basic features of smart class and as we move from basic to intermediate and then to advance level the percentage of teachers competency in handling the features decreases. Private school teachers are most competent and government aided were least competent. For successful implementation of this technology, it should be included in the curriculum of the teacher education programme. Infrastructure should be according to the need of the technology and equipment should be maintained properly. For effective learning outcomes, teachers should integrate the technology during   teaching by adapting TPACK (Technological Pedagogical and Content Knowledge) model. Educational institute should organize in service and pre-service training in short   interval of time to aquatint teacher with technological advancement in education. Educational institute should appoint a full time technical person in school who can assist teacher   regarding the problem they face while using smart class technology in their class. Educational institute should motivate teachers for using smart class technology in their class. By implementing above suggestion the education system will become technically enriched and we can reach to the goal of digital India.