

**Name of the Scholar:** Smriti Malhotra

**Name of the Supervisor:** Prof. Anita Rastogi

**Department:** Educational Studies

**Title:** A Study of ICT-Pedagogy Integration and its Determinants

## **ABSTRACT**

**Key words:** ICT, ICT-pedagogy integration, ICT competence, Attitude towards technology, School support.

The study aimed at exploring ICT-Pedagogy integration along with finding out the factors that determined integration of ICT into the pedagogical practices of teachers and how these affected the actual implementation of ICT in the classrooms. The study was undertaken on 200 teachers teaching class IX in private schools of Delhi. The major factors considered in the study as determinants of ICT-pedagogy integration were teachers' attitude towards technology, ICT competence of teachers and school support. One-way analysis of variance was done to find out the differences among the variables based on the age of teachers, their years of teaching experience and the subject taught. A step-wise regression analysis was used to study the influence of independent variables (ICT Competence, Attitude towards Technology, Level of ICT Integration Competence, and School Support) on the dependent variables (Technology use and Level of Technology Integration). The study found out the level of ICT integration in their pedagogical practices and also threw light on the various ways in which ICT was being used in the classrooms by the teachers. It was found that the teachers were using technology in their pedagogical practices at the level of 'Infusion' of ICT integration according the LoTi scale and were at 'Application' stage as per the UNESCO's integration stages of ICT. The teachers were yet to achieve the highest level of ICT integration which was the 'Refinement' according the LoTi scale corresponding to 'Transforming' stage of UNESCO where the learners collaborate with teachers within and beyond the classroom boundaries. There are a number of factors influencing teachers' decisions to integrate ICT in the classroom and these factors are interrelated. The success of the integration of ICT does not depend on the availability or absence of one individual factor,

but it is determined through a dynamic process involving a set of interrelated factors. Given that the proliferation of ICT options poses different pedagogical and technical challenges for teachers, it is important that the dialogue over the integration of ICT is deepened and extended. Most of the research studies have cited the lack of availability of ICT resources and infrastructure to be a major barrier in the process of ICT integration into the pedagogical practices. As per the NMEICT, 2012, provision of ICT resources has been the first step towards ICT integration. Once the availability of ICT resources is ensured, one can think of heading towards the integration of these technologies in to the pedagogical processes. Thus, for studying the process of ICT- integration in the present study, it was ensured that all the teachers had availability and access to ICT resources. The next step was to find out the factors that determined the integration of ICT with pedagogy and to what extent. Thus the present study examined the factors affecting teachers teaching with technology and factors that may possibly promote or impede the efforts of teachers to teach with technology in the school. Such factors were those of teachers' ICT competence, teachers' attitudes toward technology and school-related factors such as school support. It was found that the teachers in the present study were competent in ICT skills and also had a favourable attitude towards technology. However, as far as the teachers' technology use and the level of integration of ICT into the pedagogical practices were concerned, it was limited to 'infusion' of ICT rather than 'integration' of ICT. The integration of technology was limited to the use of technology in the form of pre-designed modules embedded in the educational packages that were being provided by private companies in the school. The element of active participation by the learners that is required for effective ICT integration was missing. The ability to select and to use the appropriate technology is what is required in effective integration of ICT with the pedagogy, but this was missing element as the teachers were simply habitual of using the modules along with other components of the educational packages.

The factors considered in the study namely teachers' ICT competence, their attitude towards technology and the school support for integration of technology contributed to 41.4% of variance in 'technology use'. The factors namely teachers' level of ICT competence integration; technology use; ICT competence; attitude towards Technology and school support explained 45.5% of variance in 'level of technology integration'. Also, significant correlations were found among the teachers' ICT competence, their attitude towards technology, the school support provided, technology use and the level of technology integration.