ABSTRACT

The aim of this research was to develop a framework to design professional development programmes (PDP) to support school teachers to integrate ICT in their instructional practices. The key research question was formulated as, "How to support teachers' integration of ICT in their instructional practices through a professional development framework on ICT integration "

The study adopted a Design-Based Research (DBR) approach, which allowed the researcher to work in collaboration with the practitioners in real world settings, leading to develop a solution to the problem through a systematic process, addressing the contextual parameters too. Research objectives were aligned with the four phases of the DBR approach: Analysis of the problem; Design and development of a solution in the form of an intervention; Implementation of the intervention and evaluation through multiple iterations; and finally, Reflection to produce design principles as an enhanced solution. Both quantitative and qualitative methods were used for collection and analysis of data, during the process.

The conceptual framework of the study was developed based on the Technological Pedagogical Content Knowledge (TPACK) framework. Professional development of teachers in respect of ICT integration was designed to develop teacher competencies in terms of their Technology Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), TPACK as well as their attitudes. Theoretical aspects of ICT integration into teaching and learning such as, instructional design theories and principles of multimedia learning were also incorporated. Demonstrations, activity-based learning and problem-based learning were applied as instructional strategies in teacher skill development in the intervention.

It was found that requirement analysis of the teachers for the selection for PDPs is essential. Two separate PDPs, as one for TK and TCK, and the other for TPK and TPACK are necessary. Awareness-raising programs for principals and teachers in-charge of ICT laboratories of schools should also become a part of the PDP. Evaluation of the impact of a PDP on the teachers should be conducted in two stages: i.e. at the end of a PDP, and when teachers utilize competencies in their instructional practices at their respective schools. Principals and educational administrators should be involved in the selection of teachers and the evaluation of them at their schools. Identification of exemplary instructional material developed by the teachers for dissemination in the school system and recognition of teachers who are proficient in ICT integration by rewarding them could have a moral boosting effect on ICT integration by teachers.

Reflection on the key findings of the study led to the development of the framework. This unified framework for the development of PDPs to support teachers in the integration of ICT in instructional process was the significant outcome of the study. It provides insights for relevant stakeholders to effectively design PDPs for ICT integration by teachers in the school settings.