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Teaching, Learning and Evaluation Enhancement of Information Communication Technology Education in Schools through Pedagogical and E-Learning Techniques in the Sri Lankan Context

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Abstract : This study uses a researchable framework to improve the quality of ICT education and the Teaching Learning Assessment/ Evaluation (TLA/TLE) process. It utilizes existing resources while improving the methodologies along with pedagogical techniques and e-Learning approaches used in the secondary schools of Sri Lanka. The study was carried out in two phases. Phase I focused on investigating the factors which affect the quality of ICT education. Based on the key factors of phase I, the Phase II focused on the design of an Experimental Application Model with 6 activity levels. Each Level in the Activity Model covers one or more levels in the Revised Bloom's Taxonomy. Towards further enhancement of activity levels, other pedagogical techniques (activity based learning, e-learning techniques, problem solving activities and peer discussions etc.) were incorporated to each level in the activity model as appropriate. The application model was validated by a panel of teachers including a domain expert and was tested in the school environment too. The validity of performance was proved using 6 hypotheses testing and other methodologies. The analysis shows that student performance with problem solving activities increased by 19.5% due to the different treatment levels used. Compared to existing process it was also proved that the embedded techniques (mixture of traditional and modern pedagogical methods and their applications) are more effective with skills development of teachers and students.

Keywords : activity models, Bloom's taxonomy, ICT education, pedagogies
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