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**Evolutionary development: a model for the design, implementation, and evaluation of ICT for education programmes.**

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Summary: The impact of information and communication technology (ICT) in primary and secondary education is still an open question. Following review of the available literature, we classify the causes of the lack of impact on students' attainment in four dimensions: (1) the design and implementation of ICT in educational settings; (2) the evaluation of its impact; (3) the scaling up of these kinds of innovations; and (4) the cost-effectiveness of technology-enhanced learning environments. Based on this evidence, we proposed the evolutionary development model (EDM), which aims to produce a cost-effective and sustainable ICT for education (ICT4E) programme in three steps: efficacy, effectiveness, and efficiency. In each step, one component of the programme is built and validated in real educational settings. Therefore, the resultant ICT4E programme is ready to be replicated across the school system. We also show how the EDM guided the development of a programme based on mobile computer supported collaborative learning, known as Eduinnova. Finally, we discuss how EDM can serve as an analysis tool for researchers and policy makers.

*Classification:* D20 U50 D40 C70

*Keywords:* assessment; cost-effectiveness; design-research; monitoring; evaluation; primary education; secondary education; scaling up

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