

Editorial on Educational challenges: ICT-based responses

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Education systems around the world face many challenges. Educators, parents and administrators frequently look to ICT for possible solutions but the complexity of most social and technical settings makes it difficult to determine appropriate courses of action. The papers in this Special Edition each concern an educational challenge where ICTs are being used to bring about positive and effective change. Several of the papers focussed on social inclusion while others examine effective teaching. All of them offer implications for pre-service and in-service teacher education in the areas that they address.

The International Conference “Addressing educational challenges: the role of ICT” was held in Manchester, UK in July 2012. Authors of highly rated refereed papers were invited to submit extended and updated versions of their work to this special issue. The six papers presented in this section of the special issue are the result of that process.

In “Aligning digital and social inclusion: A study of disadvantaged students and computer access” Nicola Yelland & Greg Neal discuss key findings from a study of an Australian programme designed to provide home Internet access for low socio-economic status families. The findings emphasise that a well-designed programme needs to do far more than simply provide equipment.

In “Creating an effective Professional Learning Sessions model on technology integration for a Kenyan school district” Anthony Gioko considers the design of effective ICT related in-service training for teachers in a context where resources are very limited and where high-stakes school evaluations mitigate against change.

In “Word Score: a serious vocabulary game for primary school underachievers” Petra Fisser, Joke Voogt, & Mila Bom report on an investigation into the effective use of a serious game with under-achieving and disaffected pupils in a low socio-

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economic school district in the Netherlands. The game was used by a group of schools as part of a national programme. An important feature of the national programme is an extended school day for under-achieving pupils.

In “Transition in pedagogical orchestration using the interactive whiteboard” Gary Beauchamp & Steve Kennewell explore the evolution and transformation of teaching with an interactive whiteboard as teachers move from using it as a blackboard replacement to a situation where both pupils and teachers use the affordances of the interactive whiteboard for orchestrating activity. The paper has implications for pre-service and in-service teacher education.

In “Competence Descriptions for Informatics Education – using the example of logic programming” Barbara Linck argues that well-designed competence descriptors can provide an effective foundation for learning and teaching. She explores different methods describing competencies and advocates the reasons for one in particular.

In “Using information and communication technologies to engage students in the later years of schooling in learning content and literacy: Case studies of three teachers” Katina Zammit confronts the issue of teaching multiple literacies to pupils from low socio-economic backgrounds in ways that are authentic and relevant. The case studies provide practical illustrations of how this can be done.