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Special issue of Computers in New Zealand Schools

Assessment and ICTs: Innovative practices and future possibilities

Editorial

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The New Zealand Curriculum [NZC] document states that information and communication technology [ICT] and eLearning have considerable potential to support the teaching approaches recommended in the curriculum (Ministry of Education, 2007). In this special issue, we explore the potential for ICTs to support innovative assessment practices that complement effective teaching approaches. Such innovations can enrich the opportunities students have to demonstrate their developing understandings and knowledge, and foster a sense of responsibility for their own and group/class learning. Designed thoughtfully, they can also promote positive student attitudes and motivation towards learning in curriculum learning areas, and towards learning in general.

Developments in ICTs and internet access offer students and teachers new ways to represent, enhance, document and report on what students know and understand (Dron, 2007, Lee & McLoughlin, 2011, Otrell-Cass, Cowie, & Khoo, 2011). When using ICTs students have access to a rich range of resources that offer multimodal formats and means to express and manage their learning. When teachers use ICTs to support

students to construct and represent their learning through images, videos, podcasts, ePortfolios and blogs, for example, they can begin to cater for the diversity in student learning approaches and preferences. These tools can help break down traditional space and time learning and assessment configurations. Used this way, ICT-rich environments can inform teachers and students explicitly about what is being learnt and offer teachers with new and different opportunities for involving students in assessment in a meaningful and equitable manner. Students are able to obtain feedback on their learning not only from their teachers, peers but also from sources and people outside the classroom (De Freitas & Conole, 2010).

The seven papers in this special issue showcase innovative and inclusive ways for integrating ICTs into classroom assessment practices that are supportive of effective teaching and learning across the early childhood, primary and secondary schooling sectors.

Kerry Earl and Bill Ussher set the scene for this special issue by providing a comprehensive overview of the factors that need to be taken into account to ensure quality assessment practices. To be counted as quality, irrespective of its function or format, an assessment needs to be of benefit and do no harm and it needs to be valid and reliable, as they explain. They illustrate how these factors can be enacted through various ICTs. The paper concludes with some focusing questions that teachers can ask themselves when they are thinking of using ICT as part of an assessment programme.

Earl Irving and Mark Gan note that secondary schools tend to be rich with data but do not necessarily have a systematic and coherent approach to school-wide data collection and use. The Starpath project, of which they are part, has provided evidence that the systematic use of comprehensive longitudinal data can improve the participation and achievement of students from groups currently under-represented in degree-level education (University of Auckland, 2011). In their paper, Irving and Gan provide a user-friendly inventory of indicators and criteria for schools to use to enhance their student management system data organisation and use. Their intention is that schools

and teachers will be enabled and encouraged to use student data to design and refine their programmes to better meet the needs of their students.

The papers by John Williams and Garry Falloon are concerned with the need to adopt different evaluation processes and systems to ensure that assessment practice is authentic. Falloon and Williams illustrate how the use of ICTs can address the challenge of tracing the development of student learning over time. Falloon's paper introduces an innovative technology that can be used to monitor students' thinking moment-by-moment whilst Williams' documents learning of the time-span of a unit. In each case, this information is difficult to ascertain through everyday tasks and interactions. Both papers include a practical framework for teachers to use. Williams provides a framework to guide student assessment in performance-based subjects and Falloon, a framework that can be used to map the development of key competencies in the NZC.

Emily Nelson and Sara and Simon Archard illustrate how ICTs can support students to represent what they know and can do, and to extend on this. Importantly, the papers provide examples of students learning in collaborative activities and through conversation with others, including people in the wider community, who act as an authentic audience for and provide feedback on their learning. Both papers incorporate student voice and include examples of assessment that are student initiated and led. Nelson's paper describes how foundational assessment principles can be enacted through innovative ICT use within an intermediate digital classroom. Archard and Archard's paper illuminates the role ICT can play in helping young children pursue questions that are of interest to them. This said, both papers make it clear that student use of ICT for authentic self-assessment is reliant on a classroom environment that is supportive of their active engagement in learning and not just the use of ICTs.

The paper by Ann Harlow, Junjun Chen and Megan Brooks offers a different interpretation of the relationship between assessment and ICTs. Their study reminds us of the importance of teacher assessment and evaluation of curriculum materials. Web-based teaching resources tend to be developed for a general audience. Teacher customisation of these teaching materials therefore is important and a key aspect of

pedagogy that is responsive to students' strengths and interests. More than this, teachers not only need to consider how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning.

It is our hope that the papers in this special issue will contribute to the dissemination of innovative practices and open up a space for discussing future possibilities for ICT-based assessment approaches.

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