Review of Key Competencies in the Knowledge Society Conference 2010: E-Learning and Computer Competency Research in the Age of Social Media

Introduction

In September 2010, I attended the Key Competencies in the Knowledge Society (KCKS) conference, held as part of the International Federation for Information Processing World Computer Congress (WCC) in Brisbane, Australia. The WCC is held every two years in a host nation and was organised by the Australian Computer Society. The uniqueness of this conference is the mix of commercial and corporate sectors, non-profit organisations, government departments, schools and academic researchers from many countries who present academic and commercial research.

The key observation of the conference was that social media and technological devices are educational tools now becoming indispensable for learning and acquiring information and knowledge. As Gray et. al (2010) argue, with the large array of Web 2.0 tools currently in existence, students are now authors of content in their learning. How to develop competent skills to use Web 2.0 tools for learning greatly concerned the researchers at the conference.

Understanding and Defining Key Information Technology Competency Skills

A core theme at the conference was how to teach computer skills effectively, especially internet and Web 2.0 use skills, to a growing audience of students, some of them first-time information technology users. These newer users included older adults over 50 years of age (Nycyk & Redsell, 2010), teachers unfamiliar with but forced to use information technologies in their lessons (Carvalho, 2010) and high school students with learning or personal life difficulties (Jones & Wilkie, 2010). All the conference's studies aimed to maximise the user's chances for developing key information technology competencies to continue learning in the fast emerging digital education environment.

Digital divide literature recognises not just computer access inequality issues, but skill training issues such as the ability to acquire digital literacy with supportive training (The Smith Family, 2008) which give the user the necessary social support when undertaking computer skilling (Buré, 2006) and the ability to select and use internet information in a critical and discerning way to assess its relevance to the user's goals (Van Dijk & Hacker, 2003). The presenters recognised these themes and reported different ways to continue digital literacy acquisition through computer skills education. For example both Leahy and Dolan (2010) and Dörge (2010) theorised that although difficult to clearly define what digital literacy is as it is always changing, it is possible to map a skills set that is currently needed by all students using computers for digital learning.

The argument which Leahy and Dolan (2010) strongly gave was that to take advantage of the knowledge society and achieve what is termed eInclusion, a set of competencies should be available to be learnt, in this case, by European citizens. An important point of this argument was the link between digital literacy and competency and social exclusion. It is a valid view that whilst it is not to be forced on citizens to learn computer skills a gap can develop that disadvantages citizens if they cannot use digital technologies. Social exclusion is a lack of or denial of resources and an inability to participate in activities that are available to many other (Aged Concern, 2010). An ability to access educational resources is one part of that

inclusion requirement. The skills identified by Leahy and Dolan (2010, p 218) are those required as a minimum to participate in a digital environment including:

1. Searching for information, locating it and identifying valid information

2. To know how to connect to any type of internet network

3. Send emails, reply to emails and send attachments

4. Have an awareness of security and ethical issues in using computer technology

5. Using hardware such as printers, MP3 players and new devices to come

6. The importance of accessing and using any learning resources on networks

Dörge (2010) did expand not just on the idea of the type of competencies needed but asked how do society and technology educators define what are skills, competences and qualifications? She co-presented a second paper with Diethelm showing clearly how complex is the process of designing digital education can be and that the context of the material, what is being learnt and how, must guide what becomes labelled as a competency (Diethelm & Dörge, 2010).

This part of the conference left the audience thinking about the complexities of learning and assessing digital education competencies. How are digital educators going to measure what is meant by the acquisition of a skill and how will the learner be deemed competent to use it? This part of the conference also demonstrated that research over the past decade in understanding how to skill those at risk from social exclusion is being refined well as systems and skills teaching designed to support digital education further improves.

Issues in Using Social Media as Learning Tools

The second major theme researchers presented was the ever-growing use of social media and Web 2.0 platforms in the digital education field. An abundance of literature shows how and why it is being used. However, the researchers presented studies that argued there is a case for integrating platforms not as distractions which Web 2.0 platforms can be, but be used effectively to disseminate information and support learning.

Twitter was suggested as a technology that can enhance learning by information finding and encouraging collaboration among students. Wheeler and his co-researchers argued strongly that Twitter 'has also been instrumental in changing the way people exchange information, links and their engagement with social media in general' (Ebner et. al, 2010, p. 103). As Twitter can function as an information or knowledge source, it was stated that despite the short messages on it, it can link to vital and important research and knowledge. Their study suggested that conferences, where much information is shared, can have content shared with the wider community through Twitter comments and links. Though they argued it might be less useful for non-conference participants, the potential is there for sharing information which is yet to be fully researched and understood how this can be useful (Ebner et. al, 2010).

However, Wheeler's second Twitter paper co-written with some of the researchers gave a roadmap of how this platform can be used successfully in educational settings. Their

argument rested strongly on showing how to behave on Twitter and how it is possible to build informal but potentially powerful learning and knowledge sharing networks. Their conclusion was that Twitter can connect students to each other and to other experts and researchers in the student's field of study well (Reinhardt, Wheeler and Ebner, 2010). The audience's discussions following this presentation suggested that Microblogging should be viewed as a platform to stimulate discussions with a firm set of rules to operate in such an environment. Given that social platforms can be used for trivia, argument and controversy, Wheeler's presentation reminded us that social formality and structure is important if this type of tool is to be part of one's digital education.

The Wiki Social Media Tool was also discussed as a potential learning channel to support digital education. A presentation by Krebs et. Al (2010) was particularly important because it critically evaluated if wikis and weblogs are appropriate for digital education. Their argument took a different approach because the wiki is often an informative and reflective tool. Yet they also argued clearly that motivation to use wikis for learning is of major importance (Krebs et. al, 2010). If the student is given within boundaries, the choice to design the wiki and information content themselves then motivation to contribute to the wiki can be higher.

Zammit (2010) by contrast viewed the wiki as a collaborative writing tool arguing that the construction of a wiki is empowering as the student chooses the information content and how the wiki will be presented. Her description of primary school students under 11 years of age was remarkable in that it gave young children an opportunity to engage with social media responsibly. The chosen topic of Antarctica by her participants in the study stimulated electronic conversations on the individual's wikis hence making it useful for learning and collaboration. However, the outstanding finding which surprised some audience members was the reporting in the study of how the young students liked being able to add to the wiki at home or another location (Zammit, 2010).

The conclusion from this part of the conference was that perhaps as digital educators we are still attempting to understand how to successful use social media in our lessons. What is clear from Wheeler and Zammit's research is that there are the tools to undertake using social media in a constructive way. Yet what are needed are social frameworks and boundaries such as personal etiquette to guide the way users behave in this collaborative environments. Also, the presented studies were unclear about the users' proficiencies with social media before undertaking the learning.

As Judd, Kennedy and Cropper (2010) state in their study the wiki in their studied population was introduced after a considerable amount of time was spent designing how the wiki would be used. They reported that support was given before and during the wiki assessment. This meant the students were accustomed to the new technology before submitting their assessment. What came out of this conference was the need to be aware of such issues before making assumptions that all users are keen competent users of social media already.

Designing Effective Information Systems to Support Digital Education

Some presenters focused on issues concerning information technology systems that need to be created and improved to support digital education. An area of growing concern is a shift towards undertaking formal course exams by computer rather than paper and pen written exams and what systems can support a fair and equal written exam process. Although e-

learning assessment has become common place e exams pose a challenge to traditional assessment practices.

A comprehensive study by Fluck (2010) was striking in the comprehensive way it covered the trials of eExaminations in Tasmania in Australia. The presentation and paper covered the barriers not only to acceptance of this type of assessment but the possible problems in the exam room. For example, the constant typing may be a distraction to the candidate; infrastructure to support the exam must be flawless and efficient. If a server went down it would be a distraction and may require typing back lost work (Fluck, 2010). The use of USB sticks which have the software and questions was one innovative way to make sure the exam was carried out correctly.

It was recognised that the systems that support digital education are in need of much work to be accepted and used just as human acceptance of new ways of learning are. For example, Hadjerrouit (2010) stated how digital literacy resources still meet with some resistance from teachers in the classroom environment. Such resources, such as electronic textbooks for reading and wiki's for information sharing, can be complex to implement as teachers struggle to learn how to use the systems the resources are embedded in.

This theme of digital education systems management was broadened in a presentation by Tarrago and Wilson (2010). Their overall argument is leadership, such as that researchers and scholars write about in this journal, is a key component in encouraging acceptance of digital education systems worldwide. It is as if there is no choice because of the ingrained habits of student at all age levels to turn to the internet for information finding and collaboration with others. Nevertheless, other presentations of successful digital education system implementation and use were given to suggest there are positive strategies being developed to assist learners and educators to use systems well.

Conclusions of Conference and Implications for Digital Education

The KCKS conference had one overarching message; the growing area of e-Learning and digital education is moving fast, yet we as educators in these fields are still learning how to develop and manage these systems. All the presentations concerned themselves with how to use and improve what is currently on offer in digital environments for the betterment of the student and any teacher at any level of education. It is not a matter, as one audience member pointed out, of being forced to use social media or digital resources; it is not, in some cases, a choice. Certainly the benefits of mastering such resources bring positive results such as social inclusion in a networked word and the ability to learn further skills as society and one's own needs change. This paper's reported studies suggest digital education researchers and practitioners do have a passion for discovering how useful technology can be for the learner. That was a positive message that was taken away at the close of the four-day conference.

The implications of the presentations all pointed towards the fact that we are only beginning to understand the consequences of using technological systems in any educational institution or learning setting, formal or informal. A previous review in this journal by Gurmit Singh (2009) about the IADIS 2009 Conference called for a need to understand broader social concerns such as how e-learning can drive education toward social equality. The KCKS conference presenters preferred to show micro-detail of their research programs, as seems the norm at conferences. However, what was heartening were the large number of presentations that addressed the inequalities learners may encounter through age, illness, illiteracy, income

levels and learning difficulties. Presenters seemed comfortable presenting the methodologies of their work. However, perhaps due to the presence of a mix of academic and industry delegates, the presentations moved towards showing how digital education can potentially improve the opportunities for greater educational access.

Summary

This review is a positive one because the research currently being done by researchers and industry in improving access to and fostering better use of digital technologies is happening quickly. Educators have little choice but to use the internet and the various platforms on there in some way as Web 2.0 moves to greater content creation and collaboration levels. The researchers provided a mix of technical, theoretical and philosophical perspectives to suggest much work is being done to address the widening breadth of issues digital education technologies are creating. It is difficult to criticise the structure and form of the conference.

The key lesson to digital educators and all those using digital technologies is that the generally fast-paced uptake will bring more challenges and problems to explore about how to use such resources and systems responsibly and to advance the learning of all rather than those who can afford it. The presentations were positive in addressing this yet many societies where educational inequalities exist need to be aware of the possibilities and problems of digital education. There is much work to do to in this area but the conference was positive in showing this process is now in operation.

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