

## **Editorial**

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## **1 Introduction**

This special issue was brought up by the intense interest and potential for the use of mobile technologies for supporting and developing learning and cultural development. Communities are now more mobile and more flexible learning communities are being supported by developments in hardware (e.g., smart phones, smaller more powerful notebook computers and a variety of wireless communication options) and software (e.g., the rise of the applications that operate on a small portable devices [personal digital assistants (PDAs), smart phones]. Learning essentially is a social process and does not only rest upon virtuality and ubiquity. The mobile phone and PDA have become the default communication device and thus create new opportunities for flexible, contextual learning like web-based communities. Learning seems to become endemic to are now more mobile than ever before. The creation of more flexible learning communities is being supported by developments in hardware (e.g., smart phones, smaller more powerful notebook computers and a variety of wireless communication options such as Wifi and 3G telephony networks) and software (e.g., purpose-built applications that operate on a small portable devices such as personal digital.

PDAs, smart phones and web-based communities are characterised by:

- diversity of access to content and modes of communication
- more opportunities to store, share and disseminate information
- convergence of technologies that support more diverse community interactions.

In selecting the papers to be included in this special issue, there has been an attempt to provide a range of views, cultures, community groups and contexts. The studies in this special issue focus on the following themes:

- To what extent are mobile technologies impacting upon communities of educational practice?
- Can mobile technologies simultaneously support flexibility and improved learning outcomes?
- Who are the best users and creators of content in a mobile environment: the instructor or the student?
- Are there specific cultural issues in the use of mobile devices on communities?
- How is the integration of wired and wireless environments impacting on, or supporting communities?

## **2 Mobile and ubiquitous learning**

In the ten papers in this special issue ‘Mobility: adding flexibility to life-long learning communities’, what has emerged is the dominance of mobile tools that can be used to support communities of practice for a diverse range of needs: from learning in universities and schools, data gathering and interaction in field studies and improving the lives of people in developing countries. While the mobile device is the key to the interactions and outcomes described in the papers, the web is often an enabler in the new environment. Its existence is often the underlying glue that connects mobile devices and holds the communities together. The web and increasingly, wireless access to the internet, has become so ubiquitous that it is simply assumed to be there, to be a part of people’s lives in both developed and developing countries. Evidence is also provided in this special issue that mobile telephones can also play very important roles in supporting communities in developing countries. At the time the commencement of the call for papers for this special issue, there were approximately 3.3 billion mobile phones (International Telecommunications Union, 2007) which represented more than 70% of all telephones in the world (the remainder are fixed line telephones). Currently, there are over 4.1 billion mobile phones and this number is growing. The work described in this special issue has grown and developed very rapidly. In the developing world, and in remote environments, wireless mobile devices may be the only forms of rapid communication. As Oblinger and Oblinger (2005) have observed, the current generation of people younger than 24 years old in developed countries have spent their entire lives surrounded by technology. However, evidence is growing that mobile telephones can also support communities in developing countries.

## **3 Learning communities**

Communities as described in this special issue include:

- university students at the Chinese University of Hong Kong using eBook readers
- high school students engaged in geographical field studies who used a range of mobile tools to gather, share and process data
- high school students in Finland engaged in geographical field studies

- university students in the Faculty of Economics and Business at the University of Sydney and podcasting
- university students in the USA and their preparedness to share social and personal technologies for learning and podcasting
- the use of SMS in connecting farming communities in Cambodia
- the retrospect of ICT in life-long learning scenarios along the past two decades.

The technologies and devices providing the affordances for community building include eBook readers, podcasting (MP3 players), mobile telephones with access to simple messaging services (SMS), PDAs and smart phones. This special issue provides insights into a broad range of situations where mobile devices play a pivotal part and should provide members of governmental organisations, technologists who develop applications, and those concerned with lifelong learning and the creation of more flexible learning environments with exemplars of good practice.

#### **4 The ten journal articles**

- 1 The first paper by Paul Lam, John Lam and Carmel McNaught suggests that while many emerging technologies with web delivery are extremely powerful, it will be some time before eBooks displace their analogue counterparts. While this was a small pilot project it allowed a variety of eBook platforms to be examined in detail. Like many good studies this article stimulates as many questions as it answers. However, it does provide considerable guidance to those considering the strengths and weaknesses of the use of books for distributing content either via conventional libraries or as part as course content. Like many articles of this type where an investigation is carried out to see if a new platform can replace the tried and trusted old platform, communities require more from the newer technologies than older ones.
- 2 The second article by Kirsti Sääskilahti, Outi Sippola, Timo Partala, Mika Luimula and Juha Yli-Hemminki report a study on collaborative learning using mobile devices. The students proved they had the ability to make an accurate rating of the help these media gave to their interaction. The results suggest that the students' theoretical knowledge provided by classroom teaching can be supported by linking in real-time to actual practice. The conclusion is that students' theoretical knowledge provided by classroom teaching can be enhanced by engaging with practitioners using mobile communications. The authors suggest that the current approach is a fruitful combination of many contemporary learning paradigms such as collaborative learning, situated learning and problem-based learning.
- 3 The third article by Jelle De Boer described a research project that investigates the possibilities to make learning management systems more adaptive at run-time, based on log files from streaming media servers. In an earlier experiment the authors defined four viewing scenarios based on anonymous entries in log files from streaming media servers. In this paper the authors intended the investigation to ask

whether these log files can tell something about the individual leaning processes of students. Students had to perform a learning task required by a teacher. Clustering the viewing scenarios of a student for the learning task gives a digital trail of the learning process of a student. These trails can be utilised to design learning management systems that are more adaptive at run-time. The results show that most of the students showed a diversification of learning processes. However, some students exhibited an appropriate but unintended learning process: they started developing the assignment before finishing the instruction video. Adaptive learning systems, through clever design, may be developed to respond automatically and in real-time to this user-specific information.

- 4 In the fourth article by Daniel Churchill, David Kennedy, David Flint and Nick Cotton, the use of mobile technologies in conjunction with wireless devices and the presence of a local area network significantly contributed to student learning outcomes. The evaluations of students and teachers indicate that the availability of the web in the form of a local area network when students undertake field studies has a significant place in future technology and information rich learning environments.
- 5 In the fifth article by Robert Fitzgerald, we see the opportunities for mobile technologies to establish communities in less developed countries. This paper provides further evidence of the power of technology to build social networks. This paper brings together several aspects of mobility and community building in less developed countries as well as the opportunities for using open source software (Boyer, 2007). In this paper the combination of wireless technologies in conjunction with simple PC-based open source software provide evidence of the potential for such tools for addressing basic information needs and training.
- 6 The sixth article by H.K. Slettenhaar and P.A.M. Kommers reviews the last two decades in learning technology and innovative teacher education and leads you back to the essence of teaching: the relearning to learn. The background question here is if and how communicative and cognitive developmental results from a careful control by the teacher, and if so how they manage to do so without a precise model of the students' learning profile. Its underlying question is in how far the instructional approach helps both the more talented and the mediocre teacher students too?
- 7 The seventh article by Carlos Eduardo Barbosa, Luciano Maia, Jonice Oliveira and Jano Moreira de Souza notices the predominance of explicit knowledge being manipulated and distributed. Along with knowledge management, this kind of system supports the organisation in better identifying competences, it helps users to engage in a continuous and dynamic knowledge exchange and customise knowledge dissemination as much as possible. MISIR is a collaborative recommender system, developed to help to the process of knowledge exchange. The article presents a collaborative recommender system which is used in a scientific knowledge management environment. It shows that this approach involves a KM tailoring process using knowledge in research centres and universities.
- 8 The eighth article by Kay Kyeongju Seo, Andy Curran, Nancy Jennings and Chris M. Collins describes podcasting as a becoming important content delivery medium. Its strategy shapes new mobile learning communities both in live classrooms and in distance learning environments. Students have shown favourable

responses to podcasts, and some universities now offer formal podcasting initiatives or programs to assist faculty in using the technology. As podcasting is becoming more popular, there is a need to accurately assess the educational potential of the technology and develop effective strategies for supporting a podcast community. This article explores recent developments in podcasting, reports on a recent survey of 137 US students' perceptions of the technology and describes existing support services for podcasting in 50 US universities. Its conclusion is that instructors who effectively incorporate podcasts into their teaching strategy can increase student satisfaction and may increase learning comprehension. Even when educators are encouraged to begin recording their material there are ample sources for hesitation like the lack of technical knowledge or support.

- 9 The ninth article by Steve Clarke and Lucy Taylor launches the podcasting phenomenon as exponent of both broadcasting and individualist need to receive and digest at unpredictable moments. This facility can be seen as luxury and even as a redundant one. In the frame of education and training it has been welcomed as vital for mitigating the immense time constraints that mid-careers go through. This paper presents a study on the impact of short podcasts on students and academic staff in the Faculty of Economics and Business, The University of Sydney, and has exposed a potential concern about the technical competencies of the student community.
- 10 The tenth article by Piet Kommers questions how life-long learning can benefit further from ICT infrastructures without falling back in the 'overall contract' of institutions that legitimate learning progress as it resembles more on the prior generation of experts. Its conclusion is that the unorchestrated just-in-time learning is both in its instrumental and its paradigmatic sense a natural consequence of striving towards more learner autonomy. However, it will not be sufficient to promote a larger scale creation of professional expertise. A voucher system is proposed in order to kick-start a cascade of collaborative learning attitude.

As an overall we may conclude that the synergy between mobility, technology, community and collaboration can manifest itself in diverse ways. The synergy among stakeholders is often the traditional social cohesion. However, the web is increasingly manifesting as a critical journalistic body. As co-editors of this special issue we would like to thank both the authors and the reviewers. Without the latter it would have been very difficult to conquer its complexity.

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