

Introducing mobile technologies: Preparatory staff development issues



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This paper explores some of the staff development issues relating to the implementation of a mobile technology project involving academics and students in a Faculty of Education at a regional university. This project has been established to explore new pedagogies that may be associated with the use of mobile learning technologies in teaching and learning activities. The staff development process was approached through the provision of opportunity for staff to own and use mobile technology in their professional and personal contexts prior to their engagement with students. These provided a lead-up time for staff to think differently about how they could engage their students in the completion of assessment activities. We explore the process of how staff members became familiar with smartphones and ipods and examine some of the issues relating to this development and readiness for using them with students. The work required to adequately prepare staff to be comfortable with their implementation with students allowed us to identify issues that would enhance the use of new and or unfamiliar mobile technologies.

Keywords: mobile learning, action learning, staff development, pedagogy

Introduction

As mobile and ubiquitous computing technologies become an extension of the hands of the millennium generation, how can we use the affordances of such technologies to support learning in the higher education sector? This paper explores some of the issues relating to staff development in preparation for the implementation of these technologies and new pedagogies for teaching in a Faculty of Education. The purpose is to engage future educators in using the technologies that provide opportunities for them to consider pedagogically sound practices to engage their prospective students. A JISC funded project to map the landscape of mobile technology warns of the importance for lecturers to not only become aware of such new devices if they are to use such technologies effectively in their teaching, but also to have a real ownership of them. Kukulka-Hulme, Evans, & Traxler (2005), suggest through “access to a range of mobile devices [they] will develop familiarity, expertise and confidence” (p. 8). Whilst acknowledging a range of influence on institutional policy on mobile technologies, a key strategy they recommended is “sustained, timely and accessible staff development ... mixing ‘just-in-case’ with ‘just-in-time’” (p. 8). Of significant importance to this research is the need to implement supportive staff development programs that acknowledge the challenges faced by academics. It is not sufficient to support the technology aspects of the use of new devices, we must also consider the impact on pedagogy, especially “the achievement of learning goals and maintain[ing] fidelity with existing beliefs about teaching and learning.” (Lloyd & Irvine, 2005, p. 378).

In a recent report on teacher learning with digital technologies the authors point out that there is an assumption that teachers **will** learn with digital technologies but there is little research on **how** they will learn (Fisher, Higgins, & Loveless, 2006). Our staff development program aimed to address this gap through a range of formal and informal activities (Hoban & Herrington, 2005). The paper describes the background to the project and the methodology used. It then provides an overview of the staff development implementation and resultant issues from this preparatory stage.

Background

Early definitions of mobile learning centered on the novelty and development of handheld technologies and wireless technologies allowing access to resources. The focus for the most part was on the mobility of

the technology. In recent years the focus has moved to recognize that it is the mobility of the learner and the learning that is important (Sharples, 2006). O'Malley et al. (2003) have defined mobile learning as taking place when the learner is not at a fixed, predetermined location or when the learner 'takes advantage of the learning opportunities offered by mobile technologies' (p. 6). This shift is also noted by Seppala & Alamaki (2003) in their explanation of mobile learning as an extreme form of flexible learning where the "mobile environment integrates studies that take place on campus, at home or outside universities facilities into one shared, flexible learning environment" (p.330). We have considered these efforts to define and categorize these new environments and for the purpose of this paper we define mobile learning or m-learning as: *Personal access to mobile technologies providing learners with opportunities to be flexible in the way they collect, store and share information to support their problem solving.*

We describe the staff development phase of a larger project investigating the potential of two devices, a smartphone and digital audio/video player (<http://edserver1.uow.edu.au/mlearning/index.html>). This larger project uses a design based research approach to:

- "Investigate the potential uses or 'affordances' of mobile devices.
- Engage teachers from a Faculty of Education using an action learning professional development framework to explore and invent pedagogies appropriate to the use of a mobile device in completing a complex task within an authentic learning environment.
- Implement and evaluate the use of mobile technologies and authentic tasks in learning activities over a period of 3-5 weeks in a range of different subject areas.
- Describe, categorise and disseminate resultant pedagogies and professional development activities through a dedicated website and a published handbook.
- Implement the professional development activities for m-learning across other contexts, and disseminate in web-based template form to other universities across Australia and overseas."

Selecting mobile technologies for this project was difficult considering the rapid changes in this area and limits imposed by the budget. The initial proposal included three devices: a mobile phone; an mp3 player and a personal digital assistant but after initial investigations into a range of devices the distinct nature of each became blurred. Issues such as connectivity (bluetooth and/or wireless), computer platform, ease of use, standard features and price were all considered. The final choice was made to provide the best combination of an mp3 player - a 30gb video iPod, with voice recorder attachment, and a smartphone – the Palm Treo 680, allowing the combination of phone, voice recording and playback, calendar, camera and video recording.

Methodology

A series of staff development activities were provided based on an action learning framework to explore and develop new pedagogies to use mobile devices in the different subject areas in an appropriate way. Action learning can be defined as a process in which a group of people come together more or less regularly to help each other to learn from their experience. This approach allows the concerns and needs of individuals to be met through inquiry learning rather than a pre-planned scope and sequence of activities and is appropriate for professional learning needs in this context (Zuber-Skerritt, 1993). Data was collected from anonymous evaluation sheets from workshops and recorded feedback sessions during staff development activities. Some aspects are reported elsewhere (Lefoe & Olney, 2007).

Action learning program

Various staff development activities were conducted to support the project. These included:

- A series of face-to-face, hands on workshops
- A regular newsletter informing academics and others of project happenings
- Informal sessions with individuals or small groups
- Email communication to inform staff of issues or specific technical tips and tricks

Throughout these activities lecturers were encouraged to consider the use of the mobile devices as cognitive tools to support learning within an authentic learning environment and this process was modelled within the workshops and throughout other activities. By modelling these practices with the digital devices we aimed to support this development.

Participants

The twelve self-selecting participants in the staff development process included teacher educators from a faculty of education in a regional university. They are lecturers in a range of disciplines within this area. They bring to the project a diverse and solid understanding of pedagogy with a varied understanding of how new technologies can impact on the learning of their students. There was a range of technology expertise within this group and this was to have an impact on the staff development activities and the subsequent issues. The overall enthusiasm of the participants was encouraging for the researchers. The participants were provided with the two devices to make their own. They were encouraged to use the smartphone as their personal phone so they could become familiar with the devices in their everyday work and in their personal lives, often engaging other family members in the use of the devices.

The issues for staff development

The provision of staff development activities for time poor academics is a challenge with many competing deadlines in their daily lives. We identify a number of issues faced in implementing the program, including: attendance at and commitment to workshops; familiarity with devices; informal support; just-in-time support and separation anxiety. We expand on these issues in the following areas.

Workshop attendance and commitment

The workshops were designed to facilitate regular collaboration, reflection and sharing of experiences but they were not well attended by all participants. The schedules were prepared six months in advance to cater for the commitments of the lecturers but still regular attendance was an issue for some. A number of the infrequent attendees were subsequently found to be those most in need of support.

Each meeting followed a semi-formal structure with flexibility to provide staff considerable opportunity for group discussion and individual problem solving. Initially the meetings focussed on learning to use the technology including: unpacking and preparing the devices for use; initial exploration and sharing discoveries; connection of devices to desktop computers; short introductions and practical tasks using device key features. Often participants only attended for part of the session and missed key features of the devices and their possible application with student activities.

Device familiarity

Participants were provided with both devices and encouraged to explore their features. Some focussed on one device and somewhat ignored the other. This single device focus also impacted on the subsequent preparation for use with the students. Due to the tight scheduling required to share the devices, some lecturers were ill-prepared for using a particular device with their planned activities.

Access and use of informal support

At the conclusion of each of the formal workshops participants were given take-home tasks to further explore or extend and understand operational procedures. Sporadic use was made of this support possibly due to the various locations on campus of the participants and the support personnel. 'At elbow' support was still provided where possible by the technical staff and 'corridor' meetings also provided day to day support for solving immediate problems with the technology.

Just-in-time support

As the first classroom activity became imminent, the necessity for just-in time-support was clear, and well-supported by the team, who had identified "the best way to win widespread use of new technologies is to provide just-in-time support, assistance, and encouragement when needed. Not tomorrow. Not next week. Now." (McKenzie, 1998, p1/11). Some lecturers requested quick ways of using the devices in a manner that would support their activities. Often this form of support was all that was necessary to reignite and refocus their attention on their intended task.

Separation anxiety

Since the participants were encouraged to take ownership of the devices in order to gain maximum familiarity, the task of retrieving the devices for checking, resetting and packaging ready for student use was difficult. Many staff had become attached to the devices, as was our intention, but this in turn made the process of getting them back that much harder. Each device contained a number of components and the process of making sure they were all available and working in readiness for the scheduled classes was time consuming.

Discussion

Collis and Moonen (2002) identified, 'An individual's likelihood of voluntarily making use of a particular type of technology for a learning-related purpose is a function of four 'E's: the environmental context, the individual's perception of educational effectiveness and of ease of use, and the individual's sense of personal engagement with the technology' (p. 219). We attempted to address the environmental context and educational effectiveness through a series of workshops and informal meetings in order to promote team building, collaboration, reflection and sharing ideas. However, workshops alone did not meet these needs as many staff members were unable to commit to the time required for the program. Instead just-in-time support and devices which were easy to use were essential ingredients. Many of the lecturers integrated the mobile technologies into their daily work routines using the electronic diary, contacts and camera components. Some of them have gone on to purchase their own devices after feeling a sense of loss when separated from the device, especially the smartphone. The real proof in the success of the staff development activities will be in the implementation phase where the devices are used in the learning activities. For those who made the technology their own, the engagement was positive and for those who did not engage as much there was a sense of relief that many of the students were capable users who provided support for others. After discussions with the participants we concluded that an important facet of this project has been ownership of the devices but this in turn has created challenges for staff development relating to the use of mobile technologies. As a result future staff development will concentrate on the individual staff needs by one to one or small group sessions to further support the sense of ownership and allow for greater exploration of the affordances of such devices with their fellow colleagues.

Conclusions

The focus of this paper is on the issues and implications for staff development that have emerged from the preparatory phase of this mobile learning project. We worked towards addressing the gap of HOW staff will learn with mobile technologies through identifying a need for ownership of the devices in a supportive environment that is enabled through workshop programs and individual just-in-time assistance. We identified the key issues for implementation as attendance at and commitment to workshops; familiarity with devices; the need for informal and just-in-time support and separation anxiety. Some issues are common to other staff development activities such as attendance, time and commitment but the additional layer of device introduction, familiarity and retrieval indicate that these are areas that require further research.

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