

Supporting Practitioners in Implementing Mobile Learning and Overcoming Ethical Concerns: A Scenario-Based Approach

Trish Andrews
The University of
Queensland, St Lucia
Australia
t.andrews@uq.edu.au

Laurel Evelyn Dyson
University of Technology,
Sydney
Australia
Laurel.E.Dyson@uts.edu.au

Jocelyn Wishart
University of Bristol, UK
J.M.Wishart@bristol.ac.uk

ABSTRACT

Ethical concerns about mobile learning have been raised across all sectors of the educational system, sometimes resulting in the banning of mobile phones in schools and retarding the adoption of mobile learning as rapidly as might have initially been envisaged. A way of dealing with this problem is to empower mobile learning practitioners and researchers to deal effectively with ethical dilemmas through the development of their ethical reasoning. A commonly accepted approach to ethical development is by means of scenarios, to which ethical principles are applied in order to produce solutions. In this paper four scenarios are presented which were developed at two mobile learning and ethics workshops conducted in 2012. An ethics framework for the analysis of the scenarios is described and finally a strategy is outlined for conducting professional development of teachers and academics as well as training for student teachers. The authors propose that ethical scenarios provide not only a means of developing the competence of teachers and academics in dealing with ethical issues in their mobile learning practice and research, but may well lead to the greater adoption of mobile learning as fears of ethical issues diminish once a way to providing solutions is demonstrated. Finally, scenarios are seen as a tool to foster conversations with educational managers and administrators in order to promote policy development and practical responses to ethical issues in mobile learning.

Author Keywords

ethical issues, mobile learning, scenarios, ethics professional development

INTRODUCTION

Concerns over the inappropriate use of mobile technology across all levels of the educational system have existed for some time (Andrews, Dyson, Smyth, & Wallace, 2011). These encompass both students' potential misuse of the devices they bring to class, the technologies they may access using these devices, as well as ethical concerns that may arise when teachers introduce mobile learning activities into the curriculum.

The design of mobile devices is an obvious contributor. Highly portable, they are the ideal tool to support learning outside the classroom, including fieldwork, study undertaken at home, workplace training and informal learning: in these situations there are considerable challenges in terms of possible loss of privacy, data interception and lowered control over student behaviour (Gayeski, 2002; Lonsdale, Baber, Sharples, & Arvanitis, 2003). The multifunctionality of mobile phones and tablet-PCs, particularly their use for taking photographs and videos, and the ease with which these images can be uploaded to file-sharing websites, creates huge risks of privacy infringements (Wishart & Green, 2010). Furthermore, the much smaller size of mobile devices compared to traditional cameras and video cameras makes them "infinitely more portable and unobtrusive", allowing surreptitious recording much more likely than was possible with the older technology (Aubusson, Schuck, & Burden, 2009, p. 243). Again, because of their size, theft and loss of mobile phones are quite common, compromising data security (Wishart, 2009).

These ethical considerations, both real and perceived, have impeded the adoption of mobile learning as quickly or as broadly as might have been expected (Andrews et al., 2011). Teachers may be deterred from adopting mobile learning through media reports of incidents of misuse of mobile technology more generally (Hartnell-Young, 2008), while educational institutions often take a conservative line, restricting the presence of devices in the classroom or during work-based practicums. At its most extreme this takes the form of the complete banning of mobile phones in many schools in the UK, USA, Australia and elsewhere (Garrett, 2010; Hartnell-Young, 2008). The emphasis is usually on harm minimization at the risk of neglecting the professional responsibility of educators to promote learning approaches which have been shown to benefit a wide range of learners, including students from disadvantaged backgrounds and developing countries, as well as indigenous learners (Balasubramanian, K., Thamizoli, P., Umar, A., & Kanwar, A., 2010; Kim, 2009; Ragus et al., 2005; Valk, Rashid, & Elder, 2010; Wallace, 2011). In many ways, mobile learning has been forced to conform to existing educational practices rather than fully explore its affordance to foster better learning and to question outmoded pedagogical traditions (Lally, Sharples, Tracy, Bertram, & Masters, 2012).

Our concern is therefore to ensure that academics new to teaching and student teachers in training are given the opportunity to debate a range of different approaches to managing mobile device use in universities, colleges and schools in order to prepare them for issues that may arise on placement or in their future careers. The purpose of this paper is to present a way forward, that has been found to be effective internationally, that of working through the technique of scenario development and engaging students in thought experiment about possible future situations and their consequences. This is an established technique often used in teaching ethical issues. Scenarios, or simulated case studies, are a means of articulating issues from real-world experiences and of providing a vision or way forward for the future (Kamtsiou, Koskien, Naeve, Pappa & Stergioulas, 2006). Such an approach supports contextualisation of issues, exploration of multiple perspectives, reflection, and opportunities to develop collaborative solutions (Herrington, Oliver & Reeves, 2003). Ethical scenarios are usually complex and not clear cut, presenting the varied viewpoints and conflicting priorities of the stakeholders, thus avoiding glib solutions (Spinello, 2003). They represent a participant-centred learning process since the academics and student teachers working through them are actively engaged in finding a solution. Scenarios have the advantage of making ethical issues concrete, moving ‘from abstractions to realities’ (Costanzo & Handelsman, 1998). Their embedding within a specific context assists practitioners prepare for the ethical challenges they will face in their own mobile learning practice.

However, in order to provide a foundation for such ethical development we must first consider the framework on which to base the discussion and analysis of scenarios. Traditionally a teacher’s approach to ethics is governed by their experience of their relevant educational association’s codes of conduct; examples include the British or American Educational Research Associations’ guidelines together with their ‘Duty of Care’ statements as outlined in national standards for teachers. Though, this leads to a multiplicity of rules that can be overtaken by the ever changing contexts in educational institutions as students bring new devices in to support learning whose capabilities not even they are aware of (Wishart, 2009).

A simpler way forward is to revert to the approach introduced thousands of years ago by the Greek philosophers and accepted in medical practice (Beauchamp and Childress, 1983) with its four accepted ethical principles: do good, avoid harm, autonomy and justice. The principle of autonomy requires that people have the right to be treated as autonomous agents, with their own self-directed goals and rights to choice, self-determination, privacy and control over personal information. Persons with diminished autonomy, for example, minors, must have their autonomy protected by responsible others (Howard, Lothen-Kline, & Boekeloo, 2004). We can consider the principle of justice as implying equity of access to mobile learning and to the mobile devices as tools to support learning. However, teachers also need to make their students aware that, with these kinds of rights, come responsibilities such as cyber awareness and e-safety practice.

AN ETHICS FRAMEWORK FOR SCENARIO ANALYSIS

The framework used in this paper originated at a discussion workshop held in the UK where experts in mobile learning and educators debated the ethical concerns that had then arisen in their practice (Wishart, 2009) and was later revised at a second international workshop (Wishart, 2010). The matrix in Table 1 arises from the combination of the four accepted principles with what were deemed, at the discussion workshops, to be the key, most pressing ethical concerns that teachers and other educators come across in their everyday work. Each cell in the table, where a key ethical concern intersects with an underpinning ethical principle, becomes an opportunity for reflection as to what is current practice and what is good practice. Not all intersections will give rise to relevant concerns, depending on the situation under consideration, and in some instances it will be hard to balance principles. For example with using mobile devices to capture and share images ‘avoid harm’ may conflict with ‘respect user choice’; however, the act of considering the ethical concerns involved will alert the educator to the need to come to an agreement with their students and colleagues with respect to that key concern. The framework should be used as a starter to generate initial discussion about ethical issues and then form the base for analysis of scenarios to practice debate and generate the skills of ethical analysis. It can then be employed by practitioners in analysing the specific challenges of the situations that arise in their own implementation of mobile learning. The following sections describe how ethical discussions took place at two international workshops and share some of the scenarios produced.

METHODS

We therefore aim, by means of exemplar scenarios, to support teachers, researchers and educational decision makers in addressing the ethical challenges of their mobile learning practice. The scenarios presented here are based on those which were initially developed by participants at two workshops dealing with ethics and mobile learning, one held at the *mLearn 2012* conference in Helsinki, which attracted practitioners and researchers from around the world, and the other which took place in Sydney the same year and was attended by mobile learning researchers and practitioners from Australia and New Zealand. The scenarios grew out of key ethical concerns raised by participants at the two events. The scenarios provide tools to support the professional development of practitioners: through focusing discussion on ethical issues, realistic scenarios can assist practitioners to work through issues and develop strategies to deal with and, if possible, avoid ethical breaches before they happen. This has a dual purpose, both of empowering existing practitioners in their mobile learning practice and in encouraging those who have shied away from this form of learning because of ethical concerns to feel more confident about introducing mobile learning to their students.

	Do good	Avoid harm	Autonomy	Justice / Equal access
Personal information				
Images				
Informed consent				
Ownership				
Data storage and protection				
User-generated content				

Table 1. Ethics framework for mobile learning practice.

Each workshop began by looking at the principles and frameworks that inform the codes of conduct and policies which guide technology use in educational institutions. We noted the limitations of classic rules-based approaches and the need for a more flexible method of dealing with ethical issues in the shifting contexts that characterize mobile learning. Then in open discussion participants brainstormed their own concerns about teaching incorporating mobile learning opportunities and from this list the issues felt to be most important were prioritized for scenario development. In the *mLearn 2012* workshop the key concerns to be put forward for associated scenario development were:

- Boundaries between formal-informal, public-private, home-school, real-virtual, etc.
- Anonymity versus respecting the desire to self-publish.
- Accessibility - people who are differently abled / less educated /come from different cultures, etc. and what this means regarding costs, e.g., for devices, to access the internet.
- Ownership - whose data is on the mobile or on the server, who owns it, what about images? Is the owner the person taking the picture or is it the person in the picture?
- Participants' awareness of device capabilities, what data is being logged, etc.
- Risk analysis - the unexpected consequences of complexity.

At the Mobile Learning Research Workshop in Sydney, there were also concerns over ownership and access. The other key concerns were expressed as:

- Ethics approval for the teacher as researcher – barriers against using one's own students; issues with ethics committees; not wasting participants' time, etc.
- Privacy – affordances of mobile devices to infringe privacy; managing the risks; differing cultural perspectives on privacy; permissions by third parties, for example, on work placements, and accidental inclusion of outsiders in student generated content.
- m-Etiquette – the distraction of mobile devices versus the need for attentive learning; assumptions regarding what students are doing with their mobiles versus their valid use to look up information, etc.
- Lecture podcasting – consent of the lecturer when podcasting becomes obligatory; consent of guest lecturers; permission by students whose voices are recorded during an interactive lecture; conflict between requirements of recording and normal spoken delivery.

Four exemplar scenarios will now be presented, selected from the wider range of scenarios developed at the two workshops, and their use in the professional development of mobile learning practitioners will be demonstrated.

EXEMPLAR SCENARIOS OF ETHICAL ISSUES IN MOBILE LEARNING

The four scenarios outlined below were selected as these are issues that can be applied to a wide variety of education contexts. They highlight the following ethical concerns:

- Issues associated with the teacher as researcher
- Boundaries between different learning contexts and environments

- Risks associated with collecting/using personal data
- Privacy and informed consent.

Scenario 1: What Permission do I Need?

Key Issue:

Ethical challenges with conducting research on one's own students in a mobile learning environment.

Research Question:

How can ethics committees and researchers work together more effectively to support research into the practitioner's own teaching and learning with their students?

Description:

Two journalism lecturers, Mina and Sojen, are interested in researching interactive learning activities that their students are engaged in using their own Internet-enabled mobile phones. The researchers wish to gain a better understanding of the learning processes that are taking place and student perceptions of the activity, as well as improving the pedagogical approach to its implementation. In order to do this, they will survey students and run focus groups. They intend to publish their research findings in a peer-reviewed journalism education journal. They have adopted the Bring Your Own Device (BYOD) approach as they believe that most students will own a Smartphone and their faculty does not have the money to buy devices or to pay for the ongoing usage costs. They approach the ethics committee at their university seeking approval for the research.

Questions to be Considered

- Is students' identity protected during the research?

How can the data collected from students be successfully anonymised or what other safeguards can be put in place?

- Who will benefit from the research?

Will current or future students benefit by the embedding of a successful activity into the curriculum or by improvements made to the activity as a result of the research? Will students be compensated for their time in taking part in the data-gathering procedures?

- Are all students included in the BYOD activity on which the research is based?

If some students do not own a Smartphone or cannot afford to pay for the web-based interactions required, is their learning enhanced by the activity in any way? How can disadvantaged students be taken into account? Will the proposed research throw light on these equity issues?

- Are there any other pros and cons of researching your own students' practice?

Other Issues that may Arise

Students engaging in off-task activities using their own mobile devices.

Other Similar Situations

Any research into the use of mobile learning related to a teacher's own practice. Any research into BYOD approaches.

Scenario 2: Where do You Stop?

Key Issue:

Boundaries between formal-informal, public-private, home-school, real-virtual etc.

Research Question:

What use can undergraduate university students make of social networks to support their formal learning?

Description:

This is a project funded by a National Teaching Innovation Grant and run by Sean, a university statistics lecturer, who is concerned that his topic is perceived by students to be a particularly 'dry' one. He is interested in developing his teaching to make more use of collaborative learning opportunities enabled by students using mobile phones to access social networking sites at a time and place convenient to them. He has set a task to be completed online through, say, Facebook, where students work with each other on the task.

Questions to be Considered:

- Who should be asked for consent and how should they be informed?

The research participants and their 'friends' who will see the activity online or just the participants? What about friends of friends? How to raise awareness of the research amongst the participants' friends?

- When is a discussion ‘on task’ and thereby included and when is it ‘off-task’?

Even a discussion centred on a set task may contain personal information and references to outside events or people. However, is that not so much a contamination of the data but important data in itself?

- Becoming a member of the community?

What are the pros and cons of having Sean as a ‘friend’? What is he to do on coming across unexpectedly personal information?

- How to anonymise the data?

Other Issues that may Arise:

Use of pseudonyms online – identifying the actors in this situation.

Other Similar Situations:

Any research involving a mobile device that is used in personal as well as work contexts is likely to lead to access, wittingly or unwittingly, of personal information unrelated to the project. A participant may be unaware when giving consent to the research of the extent of the personal data stored on the phone.

Scenario: Whoops-a-daisy!

Key Issue:

Risk analysis – the unexpected consequences of complexity and the need to proceed iteratively and flexibly.

Research Question:

How best to deploy a teaching app in nurse education that has been designed to train student nurses in how to take various physiological measurements using the same mobile device as the teaching app runs on?

Description:

Nurse trainees are testing an app that runs on a Smartphone. It prompts them on the procedure for physiological testing of, say, hearing, heart rate, body temperature, eyesight or sensory perception. They will also use the Smartphone to run the tests on themselves and their peers before using it with patients. They are expected to demonstrate their learning through presenting back on the procedure and their results: their presentation must be in a multimedia format.

Questions to be Considered:

- What happens if the physiological measure is found to be out of the ordinary?

Will this differ if the measure is more or less vital, e.g., heart rate versus temperature?

- How to include consideration of such possible outcomes in an informed consent procedure?

Will the informed consent procedure need to be different for nurse trainees versus patients?

- How to capture images (or even video) for feedback that show the problem yet do not identify or distress the participant?

Is the ethical issue different if self, peers or patients are captured?

Other Issues that may Arise:

If the app is used with real patients they may not recognise the Smartphone as being an official recording device and resent the trainees apparently playing with a phone whilst on duty.

Other Similar Situations:

Wherever a researcher finds themselves in the possession of information that they hadn’t planned for and can foresee possible detriment to the participants, their work or study, or the institution where the research is taking place if this information is not acted on.

A Final Thought:

This scenario could be used as a teaching tool where the goal is development of responsible ethical practice through having the students engage in risk analysis which should include the possibility of unintended consequences.

Scenario 4: Whose Content is it?

Key issues:

Intellectual property, how material might be used outside of lecture environments, informed consent, privacy.

Research Question:

How might sensitive information and student comments be appropriately managed in lecture recording environments?

Description:

Alison is a Senior Lecturer in marketing for the University Business School. Two weeks before semester starts she receives a broadcast email informing her that all lectures will be video recorded from day 1 onwards, with recordings embedded into the Learning Management System for streaming to students. The Business School has adopted an “opt out” approach, in which recordings will take place as a matter of course unless academics have specifically requested their lectures *not* to be recorded. As a consequence of staff concerns, a complaint was made by discipline heads to the Dean. Of particular concern was the issue of recording visiting experts from industry, many of whom would not have given consent to be recorded and may be discussing sensitive corporate information. In addition, there is the issue of recording student comments without consent. Despite staff concerns, lecture recording was to go ahead. With only a few days to go before her first lecture Alison considers whether to cancel her guest lectures for the entire semester. If she does so, Alison will now need to prepare additional material to fill in gaps left by guest lectures. Moreover, she is anxious about teaching in front of a camera, especially as she is a soft speaker and no voice or acting training has been provided by the Business School. Alternatively, should she “opt out” and perhaps be branded by management as inflexible and resisting change?

Questions to be Considered:

- How can we effectively and safely address issues of intellectual property, sensitive material and privacy in an environment where lecture recording has become the norm?
- How can we obtain/ensure informed consent for guest lecturers when they may be uncertain how such material will be displayed and distributed?

Will this discourage industry experts from giving guest lectures at the university? If so, how will Alison maintain the currency of the lecture content and provide cutting edge information to her students? Will this impact on possible links with industry for student work-experience placements and for her own research?

- How can we obtain informed consent from students when it is uncertain how such material may be displayed and distributed?

By providing a service that some students will value (podcasts of lectures), is the Business School disadvantaging other students who may be more reluctant to ask questions or volunteer answers if they know they are being recorded? What impact will this have on the quality of the lectures and learning?

- How can Alison’s concerns over the quality of the recordings be mitigated?

Should the university or the Business School provide training? How will Alison’s teaching be evaluated if the recordings are of poor quality?

Other Issues that may Arise:

- Covert recording of sensitive materials by students using mobile devices.

Other Similar Situations:

- Wherever a lecturer/ researcher finds themselves in the situation where sensitive material or students may be recorded with or without informed consent and these recordings distributed in ways in which teacher’s/researchers have no control over.

USE OF THE SCENARIOS FOR DEVELOPING PRACTITIONER SKILLS IN DEALING WITH ETHICAL ISSUES

The approach to the development of ethical reasoning using scenarios or case studies is fairly well established, although some variation will be required depending on the exact context in which they are deployed. For example, for student teachers in training the scenarios can be incorporated into a program of ethics education in their university studies, while for academics new to teaching or new to mobile learning research the scenarios might most conveniently form the basis of a professional development workshop on the ethical issues in mobile learning. Here a procedure for their use is given, adapted from the advice of Howard, Lothen-Kline and Boekeloo (2004).

In general, the students or workshop participants need to be presented with three elements:

1. The scenario.
2. An ethics framework, set of ethical principles or ethical decision-making strategy in the context of which the scenario is to be considered. The framework, principles or strategy form a tool for assisting participants to consider the ethical dimensions of the scenario.
3. A set of questions to stimulate ethical discussion of the scenario.

Before the scenario is examined the ethical principles need to be discussed and understood. Here we recommend the ethics framework presented earlier in this paper since it includes four commonly accepted ethical principles and the most important ethical concerns that were identified by mobile learning experts and educators. Participants should be led by the facilitator to arrive at an understanding of the four ethical principles. Having participants volunteer examples is a

good way of approaching this, for example, by suggesting examples of how each principle might be applied to the ethical concerns surrounding personal information, the use of images, informed consent, ownership, data storage and protection, and user-generated content. Completion of the ethics framework matrix on a whiteboard forms a focus for participant involvement in the process and the first stage in the development of their thinking.

Presentation and consideration of the scenario follows. This can be handled as one large group or the participants can be divided into smaller groups, with each given the responsibility of applying a different ethical principle to the scenario, or with multiple groups looking at the application of all the principles. The latter has the advantage that multiple perspectives are generated, but is less time efficient than subdividing the work. A set of questions challenges the participants to think more deeply and consider the scenario from a number of angles. The facilitator's job is to maximise the collective pooling of the ideas generated, to 'encourage participation, thoughtful examination of multiple issues, and different perspectives ... assist students in identifying the pertinent issues and/or dilemmas as well as possible solutions and consequences of different actions' (Howard, Lothen-Kline & Boekeloo, 2004, p. 156). A successful facilitator does not come armed with answers but rather with questions to stimulate participants to think and develop their powers of ethical reasoning.

A further stage in the development of ethical reasoning using scenarios, if time permits, is to encourage participants finally to generate scenarios based on their own experience (Sternberg, 2010). They then apply the ethics framework to these individual problems in mobile learning, either working collaboratively or individually.

CONCLUSIONS

The scenarios selected and presented here provide insights into the range and complexity of ethical issues that concern teachers and mobile learning practitioners in their everyday work. The scenarios offer a means for describing these issues and the opportunity to explore possible solutions to addressing them in a productive way to support effective integration of mobile learning into a range of teaching and research activities. These scenarios and others developed in the two workshops discussed previously provide a resource that educators and practitioners can work through to explore the issues of concern to them and possible solutions to resolve these issues. These scenarios can also be used to promote conversations with senior educators, managers and administrators around the ethical issues that are of concern to teachers and researchers and support the discussion and development of appropriate policy and practical responses.

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