Towards a Holistic Framework for Ethical Mobile Learning

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Abstract:

As more universities, colleges and schools adopt mobile learning, concerns have

been voiced regarding the emergence of unethical behaviour. This paper examines

a range of ethical issues and analyses the reasons for them. A framework for an

ethical approach to mobile learning is put forward in which harm minimization is

balanced with both the need to prepare students for living in a mobile world and

the benefits of an approach to learning which has advantages for students from

diverse backgrounds. A case is made for the adoption of an ethic of responsibility

by educators, administrators and students.

Etiquette, Parental Consent, Personal Responsibility, Positive Ethic of Responsibility, Privacy, Professional Ethical Development, Responsible Use Policy, Stakeholder Involvement, Unauthorized Use of Images, Unethical Behavior

Towards a Holistic Framework for Ethical Mobile Learning

New technologies can be positive forces for stimulating change as well as bringing with them new ethical challenges, and mobile technology is no exception. Ling and Donner (2009) note that the explosion of mobile devices in recent years has created a clash with accepted standards of behavior. One of the problems is the lag between the rapid development of the technology and the more gradual evolution of rules governing its use (Castells, Fernández-Ardèvol, Qiu & Sey, 2007).

The wide diversity of contexts in which mobile learning (m-learning) can occur further complicates this issue (Farrow, 2011). As more universities, colleges and schools adopt mobile learning, concerns have emerged related to managing ethical risk. Certain ethical issues have arisen with the introduction of m-learning into pedagogic practice: these include knowledge related issues as well as moral and legal ones. Other concerns represent teachers' and educational institutions fears of what *might* happen if they were to embrace m-learning. Teachers often have a naïve or limited view of m-learning (Pachler, Bachmair, & Cook, 2011), with little recognition of its transformative potential in changing teaching practice, or of its role in the transition to a more mobile society (Traxler, 2009). In part, their worries stem from reports of the misuse of mobile technology in society more generally, in particular, incidents recounted in the media in sometimes

sensational ways (Hartnell-Young, 2008). Indeed, some of their fears may be well founded, given that mobile technologies lend themselves to learning across multiple contexts, including outdoors and in the workplace: control over social interaction or content acquisition in these conditions becomes greatly diminished compared to the more carefully supervised environment of the classroom and may lead to potentially inappropriate activities or data capture.

To dismiss such ethical concerns out of hand would be foolish, but it would be equally wrong to let these fears deter educators from adopting a form of learning which has enormous potential for both those students well served by the current education system as well as for addressing the needs of disenfranchised groups of learners. A growing body of studies shows that m-learning has the power to support students from developing countries, indigenous learners, and people from socio-economically disadvantaged backgrounds (Kim, 2009; Ragus et al., 2005; Wallace, 2009). Furthermore, the use of m-learning presents opportunities to engage with a range of knowledge sets, constructs and contexts beyond those found in many formal educational settings. This might include multimedia-based representations of diverse lives and beliefs systems, or representations of knowledge as constructed by different social and cultural orientations, which can be potentially beneficial for learning. Thus any consideration of the ethics of m-learning must acknowledge the need for a positive ethic of inclusion and personal responsibility, not just harm minimization.

It must address the problems, but not limit the diffusion of this unique approach to learning.

This chapter discusses some of the ethical issues and concerns that can arise as a consequence of adopting m-learning, such as problems of privacy, data security and the unauthorized use of images. It examines ethical considerations which might arise when students bring their own devices into the educational environment, such as distractions to learning, cyberbullying and cheating, and puts forward theories of why these issues have arisen. It also examines ways in which stakeholders might respond negatively to the use of mobile devices for teaching and learning and the possible impact on the successful adoption of mobile learning. The authors then outline the need for, and key elements of, a framework for assessing and addressing ethical issues – both positive and negative – in integrating m-learning into educational contexts. The framework includes guidance for teachers and administrators in adopting m-learning into their pedagogic practice as well as for educational institutions in formulating m-learning policies. A strong case is made for the professional development of educators and other stakeholders to assist them in avoiding ethical problems when implementing m-learning. The conclusions discuss ethical behaviors in relation to the use of m-learning and the need for ethics to be considered from different perspectives.

ETHICAL ISSUES WITH M-LEARNING

In a study of educators' attitudes to m-learning, Aubusson, Schuck and Burden (2009) recorded five ethical concerns about introducing m-learning into the classroom:

- cyberbullying;

- the potential for public dissemination of information originally intended for a limited audience;

- the ease and speed with which digital materials can be shared compared to older non-digital artefacts;

- the risk of unethical use of archived materials; and

- levels of parental and student consent to recording classroom activity.

Because m-learning lends itself readily to learning outside the classroom, many new ethical situations are likely to arise enabled by the capabilities of the mobile devices. These are exacerbated by the lack of control over student behavior that occurs if the teacher is absent, for example, where students conduct unsupervised m-learning projects by themselves in the field or workplace. Gayeski (2002) points to the potential loss of privacy when mobile devices are equipped with GPS capability and the learner's location can be tracked. She also highlights the possibility of data interception when learners transmit information via wireless networks. Londsdale, Baber, Sharples and Arvanitis (2003) note that the gathering of contextual data in fieldwork, workplace training and informal

learning results in information which is often personal and private to the learners.

This gives rise to considerations of informed consent and potential misuse of

stored data by third parties. The area of clinical and practice-based education, in

particular, raises many issues in relation to the ethical use of mobile learning

which, while offering great benefits, including opportunities for reflective practice

and just-in-time learning (Andrews, Davidson, Hill, Sloane, & Woodhouse,

2011), also creates considerable challenges in preserving individual privacy and

ensuring any material is appropriately managed from a learning perspective.

The convergence of multiple functions in smart phones and other mobile

devices has provided an affordance for the taking of photographs and multimedia

recording which has an enormous potential for infringements of privacy and

misuse of data, both in classroom learning as well as in fieldwork and workplace

training. For example, there is a very real possibility of photos, videos or sound

recordings of students in class or people in the field being taken without their

permission and then used in an unauthorized manner, for instance being uploaded

to social media sites such as YouTube or Flickr. This is what Hartnell-Young and

Heym (2008, p. 17) describe as the "YouTube experience". They give an example

where a video recording of an unruly class was posted to YouTube, who, when

requested to take it down by the school, refused on the grounds that it was not

illegal. These concerns are frequently associated with the use of photographs and

video:

There are particular concerns about how images are used, the ease of their

capture and uploading to an online store and their usefulness in supporting

learning and revision visually has meant that learner captured multimedia is

part and parcel of nearly all the scenarios envisioned (Wishart & Green, 2010,

p. 27).

Aubusson et al. (2009, p. 243) highlight the much smaller size of mobile devices

compared to traditional cameras and video cameras. This makes them "infinitely

more portable and unobtrusive" allowing students to make surreptitious

recordings much more easily than was possible with the older technology.

Ethical issues in relation to m-learning are not only associated with student

behavior but can arise through the actions and beliefs of other stakeholders. ICT

(Information and Communications Technology) departments can take very

conservative views in relation to the use of mobile technologies and, in attempting

to ensure security of data and information, can severely restrict educational

activities. These restrictions can have a negative impact on the use of m-learning

and the associated educational benefits. Individual educators, perplexed by the

possible issues relating to the use of mobile learning, can make a decision to ban

such devices in the classroom, during work-based practicums or at students'

research sites, a questionable approach in a world where mobility is increasingly

influencing all aspects of work and life (Traxler, 2009). The banning of devices

that might support mobile learning can also impact negatively on disadvantaged

groups, who may gain considerable advantages from m-learning not necessarily available to them through more traditional teaching and learning approaches (Dyson & Litchfield, 2011)

Furthermore, cultural differences can play a role as different cultural groups have quite different understandings of what constitutes ethics (Traxler, 2012). Consequently the use of mobile learning for a whole range of teaching and learning activities in developing countries can easily and inadvertently contravene locally accepted norms (Traxler, 2012). Equally, cultural differences can be an issue with visiting academics who might take and publish photos of students engaged in m-learning and so inadvertently contravene the students' privacy norms. Indigenous students, too, will be bound by protocols of ownership of intellectual property which might restrict the ways in which traditional knowledge can be captured using mobile devices or promulgated beyond their community using the Internet or Bluetooth.

On a completely different note, Engel and Green (2011) point to the ethical issue of accessibility when m-learning is introduced. If students lack a mobile device or have a disability which makes it difficult for them to use one, the educational institution must provide devices to these students, or put in place protocols to allow them to complete their tasks successfully without them and in ways which enable such students to be regarded as equally successful.

ETHICAL ISSUES WITH MOBILE DEVICES IN THE EDUCATIONAL SETTING

Equipping students with mobile technology or encouraging them to use their own devices to undertake m-learning activities obviously opens the way to various ethical abuses in educational settings across different contexts and educational levels. Moreover, there is a marked disparity between students' expectations arising from their use of mobile technologies in their private lives and academic expectations based on the traditional teacher-centered paradigm of the educational institution.

The smallness and portability of mobile devices, means that theft and loss can be quite common, compromising security of data and information. (Wishart, 2009) Along with this, as Wishart (2009, p. 78) points out, technical systems relating to m-learning can be complex and "leaky" making it difficult to ensure privacy and confidentiality.

Remarking on disturbances to learning involving mobile devices, Burns and Lohenry (2010) found that more than 40% of students in a study used their mobile phones in class to either send text messages or check incoming phone messages, while over 70% had their phones ring during class. Campbell (2006) described students' practice of playing video games in class on their mobiles or laptops for diversion from their studies. Furthermore, he surveyed students and academics and found that phones ringing in the classroom severely annoyed and

distracted both groups, particularly older people. Looking at why mobile phone's ringing in the classroom are so frowned upon, when their use in other public spaces might well be tolerated, Campbell (2006) suggested that classroom behaviors are very strongly governed by accepted social norms: the classroom represents a public forum with an important focus on learning. In addition, he notes the lack of competing background noises, which make a ringtone in class much more distracting than it might be on a bus or in a restaurant.

Ling and Donner (2009) explored cyberbullying and explained the ways bullies can hide behind the anonymity of mobile phones and send offensive messages without the supervision normally provided by teachers or parents when students are using computers. Cyberbullies can reach their victims at any time and in any place.

One of the greatest ethical concerns with mobile devices in the educational context has been their use in cheating and collusion. Ling (2000) noted the well established use of text messaging by school students as a replacement for passing notes in class. Additionally, SMS has been used to ask peers questions in the middle of exams, and mobile phone memory can store "cheat sheets" to be consulted during exams (Ling, 2000). Taking photos of exam papers for distribution to friends also occurs (Campbell, 2006). Ling and Donner (2009) quote a famous case where a University of Maryland professor posted bogus answers to an exam while it was in progress and caught a dozen students who had

received the false answers via SMS from friends who were not sitting the exam at the time. Some authors have gone so far as to claim an "epidemic of cheating", facilitated by computer, online and mobile technologies (Heyman et al., 2005). Ling (2000) suggests that such practice puts into question the whole concept of the educational institution as a place of control. Students engaged in cheating using mobile devices are subverting their teachers' role as judges of whether students have attained sufficient knowledge against some abstract standard determined by the teacher or other figure of authority (criterion-based assessment), or have succeeded in comparison with their peers (norm referencing). While cheating is not new, mobile devices are viewed as acerbating the problem. Avoiding cheating in assessment practices, in particular, has long been a challenge, and the use of mobile devices is facilitating new opportunities for students in this regard and thus creating new challenges for educators to productively control this issue. However, it should be noted that technology is equally providing the means to deter students as there are now wireless devices which enable invigilators to detect when unauthorized devices are in use.

WHY ETHICAL ISSUES ARISE IN M-LEARNING

The affordances of mobile technology for particular types of activity and interactivity are a significant contributing factor to the potential increase of ethical issues related to the use of m-learning. The capture of digitized data about people

without their permission – or the taking of embarrassing pictures, or violations of intellectual property, even without students being aware that they are doing so – followed by the rapid sharing of this material via the Internet, Bluetooth or video calls can create enormous ethical challenges at all levels of education. It is to a large extent the convergence of multimedia functionality combined with the "always on" nature of students' smart phones, laptops or tablet PCs which have created the technical means to transgress acceptable standards of behavior. In addition, the high levels of ownership of smart phones amongst young people, their portability and pocket size, and the lack of security of wireless transmission are all important contributory aspects.

Building on the earlier work of Johnson (1997) on Internet ethics, one can propose the notion that mobile technology has certain unique characteristics which contribute to ethical issues which are "new species of generic moral problems" (Johnson, 1997, p. 61). For example, infringements of privacy are not novel but m-learning in the field and workplace allows threats to privacy of a different nature and on a scale different from that seen before when students were equipped solely with a clipboard and pen and paper. Speaking of mobile technology generally, Castells et al. (2007) note that technology does not eliminate social problems, but instead tends to amplify them unless dealt with at their source.

From a human perspective, ethics can be a "slippery" concept and for many students the notion of what is ethical in relation to the use of mobile devices in teaching and learning environments can be ill-understood (Farrow, 2011). Consequently, as Farrow (2011, p.3) points out, "it's natural to lapse into … a kind of lazy ethical relativism ('follow your own path')". The general lack of training for students in how to ethically manage the use of their devices during their education allows the problem to continue.

Educators and institutions, too, when faced with ethical issues relating to the use of mobile devices, can take the path of least resistance and opt to ban or severely limit their use, as pointed out previously, rather than find a way to productively integrate them into teaching and learning practices. Further to this, Farrow (2011) suggests that making ethical judgments in relation to mobile learning is complicated by both the diversity of the devices available and the contexts on which their mobility enables use. While there are numerous Acceptable Use Policies (AUPs) relating to the use of technology in educational settings available in most institutions (e.g., CoSN, 2011) these do not necessarily address the needs of mobile learning and are often not enforced (Nagel, 2011). In many cases, individual educators may be unaware of their existence. In others, existing AUPs may be irrelevant or inappropriate to the contexts in which they teach.

PROFESSIONAL ETHICAL DEVELOPMENT

The need to research how systemic, attitudinal and ethical issues may inhibit use of mobile technologies by teachers was raised by Aubusson et al. (2009) when they discussed the potential for mobile learning as a tool for teachers' professional learning. In their view, mobile technologies are ideally suited to reflection-in-action and capturing learning moments particularly where this is part of collaborative practice enabling "sharing, analysis and synthesis of classroom experiences by teachers and students" (2009, p. 233). Such sentiments align also with the movement towards using e-portfolios as more authentic means of providing evidence of learning (Abrami, et al., 2008; Pink, Cadbury, & Stanton, 2008; Sargent, Holland, & Frith, 2008; Savin-Baden, 2007).

Thus, the impetus for professional development comes from both technological and pedagogical innovation. The speed with which these movements are progressing raise the bar for rapid opening up of the debate about ethical use and, unfortunately, abuse. Developing appropriate frameworks and guidelines to assist teachers to manage m-learning commences this process. In medical education, as in other forms of professional development, the need for professional bodies to guide staff and student use of mobile devices in workplaces is emerging rapidly. For example, the Australian and New Zealand Medical Associations and their student affiliates have recently released a guide to online professionalism which intends "to assist doctors and students to continue to enjoy

the online world, while maintaining professional standards" (AMA, NZMA, NZMSA, & AMSA, 2011, p. 2).

Additionally, there is a need for professional development programs to raise awareness of the benefits of mobile learning, which can minimize or eliminate the fear that can be associated with m-learning. Some studies demonstrate the potential for positive changes in teachers' attitudes once they have had success with m-learning. Actual experience overcomes the negative reports in the media of mobile phones as disruptive technologies (Hartnell-Young, 2008). Dyson, Litchfield, Raban and Tyler (2009) quote an academic who stopped worrying about students being distracted through wireless access once he discovered he could use a web-based classroom response system operating from students' mobile devices to improve his students' learning:

> *Wireless access in lectures is a controversial issue. Up to this point I have been concerned if access was available students would spend the lectures surfing the net (and I know some do this already). Now of course I would like to open it up (Dyson et al., 2009).*

A FRAMEWORK FOR AN ETHICAL APPROACH TO M-LEARNING

Much of the literature presented above focuses on harm minimization. It sees the potential dangers of implementing m-learning – or the dangers of allowing mobile devices to be used for personal reasons in educational institutions

– and seeks to prevent the harm to students that might occur. Most AUPs also have this focus, protecting students from unethical uses of mobile devices or discouraging students' own unethical behavior with the technology.

However, for professionals working in the education arena this is a simplistic approach and overlooks larger concerns. There are moral obligations additional to student protection at issue in the adoption of mobile learning. One example for teachers, the "Code of Ethics for Educators" of the Association of American Educators (n.d.), notes the need "to create a learning environment that nurtures to fulfillment the potential of all students." For ICT professionals employed in educational institutions there is similarly a higher level of ethical responsibility (Gotterbarn, 2001, p, 229):

> *The concern to maximize the positive effects for those affected by computing artifacts goes beyond mere "duty care", mere avoidance of direct harm. ...It incorporates moral responsibility and the ethically commendable.*

The policies which ban mobile devices from educational premises and lead to the neglect of m-learning have a moral dimension which is hardly commendable. Such bans are unethical in that they prevent students from benefitting from m-learning, benefits which have been well documented in the literature for both disadvantaged and other learners. They further discourage students' critical reflection on the advantages and risks associated with their mobile technology use in private life, or their learning how to analyze the rates charged for phone

services in relation to their own usage patterns, both activities which can be

enabled as part of an m-learning strategy (see examples in Pachler, Bachmair, &

Cook, 2010, p. 150). They thus overlook the role of m-learning in a mobile world,

where mobile activities of all kinds are becoming increasingly commonplace.

Thus any ethical framework must include a positive ethic of responsibility

on the part of the teachers, administrators and ICT personnel in our institutions

who make decisions over the availability of mobile technology and mobile

learning. It must address the problems but not limit the implementation of this

unique learning approach. It must recognize that our students now live in a mobile

world and their working lives will be part of that world: no better place to start

equipping them to deal with the mobile technology challenges that they will

encounter through life than to acknowledge that our educational institutions

belong to that world too. An overview of the framework is summarized in Figure

1.

[INSERT FIGURE 1 HERE]

Formulating a Responsible Mobile Use Policy

Adopting an ethical approach to m-learning might well begin with the formulation

of an AUP for the educational institution, or what the authors of this chapter

prefer to call a Responsible Mobile Use Policy (RMUP). This term makes it clear

that the policy deals with mobile technology use rather than desktop computers,

and further emphasizes the essential role of both an ethic of positive responsibility on the part of educators, administrators and ICT personnel, and the desirability of fostering an ethic of personal responsibility on the part of students.

There are many AUPs and advice available online which provide some guidance on developing a policy suitable for mobile technology use. It should be noted, however, that many existing AUPs are unnecessarily restrictive, with little or only passing recognition of the value of m-learning. Some of the more comprehensive documents include:

- The Australian Mobile Telecommunications Association (AMTA, n.d.) offers a template for developing an AUP for school use focusing on mobile technology, which could be adapted to other levels of education. It proposes the AUP should have sections on purpose, rationale, responsibility, acceptable uses, unacceptable uses, theft or damage, inappropriate conduct, and sanctions, as well as giving a parent permission form.

- The Consortium of School Networking (CoSN, 2011) has published a guide for school districts on AUPs for Web 2.0 and mobile technology use. It contains detailed information about US federal and state laws relating to cybersafety, links to exemplary school AUPs and other resources.

- Becta (2009) has compiled a comprehensive guide to developing an AUP for Internet use in UK schools, which provides guidelines which could be adapted to developing an AUP for mobile technology use. Most useful is a detailed list of what should be included in the AUP, the style in which it should be written and who should be involved in developing it. They also include notes on different levels of education and how ethical breaches should be dealt with.

Some of the more important principles for devising a Responsible Mobile Use Policy are set out here:

1. **Enhanced Learner Agency**: the policy should recognize the key role that mobile technology can play in supporting all learners, whatever their background, and whether they are enrolled in the formal education system, engaged in workplace training, or as they continue learning through their lives. Furthermore, it should acknowledge the value of m-learning in supporting greater agency on the part of learners in participating actively in meaning-making rather than being passive consumers of information (Pachler et al., 2010).

2. **Responsibility**: if we as professionals believe in a positive ethic of responsibility to do good rather than merely avoid harm, then the policy should likewise encourage an ethic of personal responsibility in our

students. For example, it should involve strategies for students to assist others who are victims of unethical practices such as cyberbullying.

3. **Involvement of All Stakeholders**: those who will be effected by the policy as well as those who will enforce it should be involved in creating the RMUP (students, teachers, administrators, ICT personnel and, if appropriate, parents), including the devising of sanctions. This will encourage ownership at all levels.

4. **Focus on Ethical Behavior**: in moving towards a more ethical approach to m-learning, Hartnell-Young and Heym (2008) note that we need to shift our focus away from the mobile device, away from the technology, and instead focus on the matter of real concern which is how it is being used in learning. So, instead of banning devices, the policy should introduce steps to limit bad behavior and to equip students with effective tactics to deal with the inappropriate behavior of others.

Aspects of phone etiquette should be included, such as avoiding making calls and texting in the classroom unless it is related to the learning activity, and using soundless features in school grounds such as sending text messages rather than making calls, setting the vibrate function as default and letting calls go to voicemail.

Practical advice on responses for students to make when the targets of inappropriate behavior can also be included. Becta (2007) provides a

good list of appropriate behaviors covering a number of situations, for example, protecting against theft; not responding to unwanted messages; the importance of seeking adult help; and noting the times, dates, caller I.D. and contents of abusive messages to facilitate tracing.

Strategies for the Successful Implementation of a Responsible Mobile Use Policy

In order to implement a policy successfully, various strategies are suggested in the literature:

1. **Education of Stakeholders**: all the key stakeholders need to be aware of and understand the policy (Luscre quoted in Nagel, 2011). In particular,

   - Teachers are often unaware of policies governing technology use and need to be given a copy of the RMUP and be allowed to discuss how it is being applied as part of their orientation when they begin teaching at an institution. In addition, professional development should focus on their acquisition of an attitude of professional responsibility with relation to m-learning, a recognition of the enhanced learner agency that m-learning can bring, and the building of competencies in implementing m-learning in their courses so that all students gain from this learning approach.

- Students need to be made aware of the contents of the RMUP as part of their induction into classroom rules at the beginning of the school year or, in higher education, at the start of their university studies. Aubusson et al. (2009) note that it is the responsibility of any teacher who implements m-learning into the classroom to educate students about the ethical behaviors expected of them. Luscre (quoted in Nagel, 2011) suggests translating the policy into sets of rules posted around the institution and written in a simple and concise manner. This provides visibility, allows for flexibility in that the rules can be updated easily, and puts them in a language the students can understand, rather than the more formal language of the policy.

  One can go further and state that teachers should introduce their students to strategies for responding appropriately to irresponsible behavior, should they become victims themselves. Students also need to be introduced to the benefits of m-learning that can be realized if they take personal responsibility for their use of mobile devices.

- If school children are involved, parents need to read the policy and sign a RMUP acceptance form. Luscre (quoted in Nagel, 2011) recommends creating a dialogue with parents by holding public meetings in which local experts, such as police or lawyers, come to educate parents about issues such as cyberbullying. He further

suggests holding joint classes for parents and students to get parents involved in the policy formulation process while providing some valuable experiences for them. These classes could include understanding the affordances of mobile devices or editing multimedia content taken using a mobile device.

2. **Regular Updating of the RMUP**: given the rapid evolution of mobile technologies, the policy will need updating. Luscre (quoted in Nagel, 2011) notes that this provides a good opportunity to renew commitment from the various stakeholders by getting them involved in the updates.

CONCLUSIONS

This chapter has highlighted the need to develop a systematic approach to addressing the ethical use of mobile technologies to support learning for a range of learners and learning contexts. Apart from the disruptive potential of mobile device misuse in the educational setting, perhaps the greatest ethical issue is fear of the technology. Fear has resulted in the underutilization of an approach to learning which has great potential both for students currently well-served by educational institutions and for people from backgrounds whose formal education has historically been neglected.

The authors propose an ethical framework as a necessary step to more effective management of m-learning. The framework advances the integration of

m-learning into teaching and learning practices as a norm in which established protocols and behaviors are understood and adhered to. This is seen as vastly preferential to the banning of such devices as proposed by Huss (2009) and practised by some institutions. The framework is based on an ethic of responsible mobile technology use that can contribute to informed decision making by all stakeholders and promote a feeling that educators are able to manage the learning environment in a way that fits with their professional beliefs. This offers an approach which minimizes ethical issues around mobile learning while maximizing the potential educational benefits. As such it takes a wider responsibility for education across society which is generally lacking in the existing m-learning ethics literature.

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Enhance Learner Agency
- Advantaged learners
- Disadvantaged learners
- Learners in developing countries
- Indigenous learners

Responsible Mobile Use Policies
- Encouraging ownership thru co-development with students & other stakeholders
- Institution-wide dissemination, training & implementation
- Regular updates

M-learning in the classroom
- Primary
- Secondary
- University and College

Mobile learning in a mobile world:
Ethical Considerations
- M-learning as everyday practice
- Positive ethic of responsibility for educators, admin & ICT personnel
- Personal responsibility for students
- Agreed protocols
- Culturally appropriate practice
- Mobile etiquette
- Appropriate response training to unethical behaviour for all stakeholders

Informal M-learning

M-learning in the field

Life-wide and life-long M-Learning

Professional development for educators & administrators
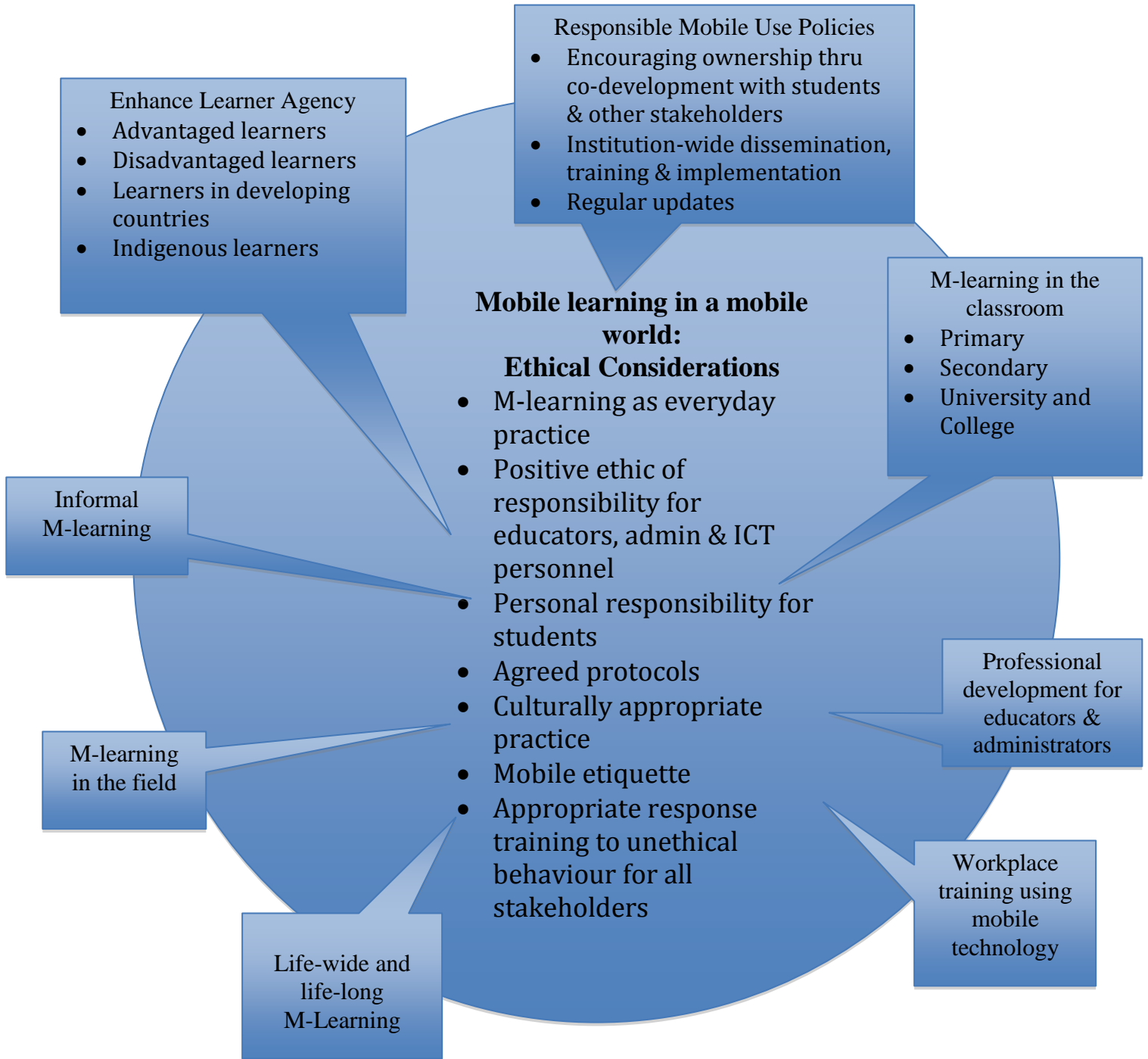
Workplace training using mobile technology

Figure 1: Considerations for a holistic framework for ethical mobile learning