



Mobile learning and professional development: Future building academic work in higher education

Ms Maxine Mitchell

Australian Digital Futures Institute (ADFI)

University of Southern Queensland

Associate Professor Shirley Reushle

Australian Digital Futures Institute (ADFI)

University of Southern Queensland

Educators use social media to enrich student learning experiences in the classroom and use personal mobile devices to extend their workplace and productivity across time and space. As learning becomes more mobile, social and informal, the divide between spaces, places and digital devices is merging. Given the disruptive effect learning mobility is having on the foundations of education, knowledge, learning and academic work, this exploratory paper investigates the possible relationship between mobile learning and professional development as potential enablers (or barriers) to academic motivation and engagement in transforming their professional practice. This paper holds the central tenet of 'educators are learners', adopts an 'as-lived' experiences approach which looks at the ways people experience, in this case, mobile learning in natural settings, and is fundamentally concerned with contributing to the body of knowledge on the changing nature of the higher education teacher's academic work in the modern academy. The principal questions guiding this exploratory paper are 'What alternatives are there to current professional development methods that support educators in ways of learning about mobile learning to transform professional practice?' and 'Why are some academics naturally motivated to engage, share and actively participate in alternatives?'

Keywords: mobile learning, professional development, motivation, engagement, academic work.

Introduction

Forces of technology, globalization and competition are transforming higher education (Summers, 2013). Cook, Pachler and Bachmair (2011, p. 184) caution that educational institutions "are certainly no longer the only site, or even the main site, where learning and knowledge can be accessed and take place". The convergence of mass communication, technological and pedagogical developments has resulted in a range of change pressures on academic work (Garrison, 2011). Educators use social media to enrich student learning experiences in the classroom and use personal mobile devices to extend their workplace and productivity across time and space. As learning becomes more mobile, informal, personalized, contextualized and social, the divide between spaces, places and digital devices is merging (Kearney, Schuck, Burden, & Aubusson, 2012; Stodd, 2013b). For educators, the boundaries are becoming more blurred between formal and informal learning, professional work life and personal life.

This exploratory paper, positioned within the early stages of a PhD study, contributes to the body of knowledge on the changing nature of the higher education teacher's academic work in the modern academy. This will be done by exploring a possible relationship between mobile learning and professional development as potential enablers (or barriers) to academic motivation and engagement in transforming their professional practice. The goal of the developing study is to provide opportunities for educators to reach their full potential and transform

professional practice in personally meaningful ways by building a robust sense of their values and beliefs to meet the need for “agile and adaptive academics to be ready for the new world that is now opening” (Debowski, 2012, p. xiv). The study holds the central tenet of ‘educators are learners’ (Cranton, 1996) and adopts an ‘as-lived’ experience approach which looks at the ways educators experience, in this case, mobile learning in a natural setting. To help inform the developing study’s analysis of the real-world problems, a small investigatory study was conducted. Preliminary data¹⁴ was collected from interviews with academics and technology enhanced learning (TEL) academic support staff at one Australian university. Findings from the investigatory study are integrated into the literature review to provide early practical evidence of educators’ as-lived experiences of mobile learning in their professional practice.

A limitation of the preliminary data is that the subjects interviewed were well placed to comment on contemporary approaches to learning and teaching, pedagogy and learning design. However, due to the emergent nature of mobile learning, often comments were elicited from a technology enhanced learning mindset rather than from a ‘purist’ mobile learning perspective.

The exploratory paper is guided by the principal questions to inform the developing PhD study: ‘What alternatives are there to current professional development methods to support educators in ways of learning about mobile learning to transform professional practice?’ and ‘Why are some academics naturally motivated to engage, share and actively participate in alternatives?’ The paper draws on three domains of knowledge in the higher education discourse – mobile learning, professional development and academic work – to investigate and inform how educators learn about their mobile learning professional practice and what they do with the learning.

Mobile Learning

Overview

Kearney et al. (2012) position mobile learning as a relatively new phenomenon where the theoretical basis is currently under development. Traxler’s (2012) view is that there is no generalizable definition of mobile learning and simply considering it as a trajectory from e-Learning to m-Learning is not reliable. Further, Traxler (2009) contends that 12 years of pilots, tests and trials suggest a tacit and pragmatic conceptualisation of mobile learning is needed. This stance is based on the attempts to define mobile learning from multiple, evolving perspectives (Kukulska-Hulme & Pettit, 2009). Some advocates define and conceptualise it in terms of devices and technologies, some in terms of the mobility of learners and the mobility of learning, while others define it in terms of the learners’ experience of learning with mobile devices (Traxler, 2009). JISC’s mobile learning infokit (n.d.) announces it is about the mobility of the learner, where mobile learning allows for contextualisation of learning. The commonality across all viewpoints is that the importance of context cannot be overstated.

When looking at mobile learning in the wider context, it is recognised that mobile, personal and wireless devices represent a paradigm shift in the nature of building knowledge in society, and therefore the nature of learning (both formal and informal). Laurillard (2007) suggests that the mobility of digital technologies creates intriguing opportunities for new forms of learning because they change the nature of the physical relations between teachers, learners, and the objects of learning, positioning learning as “just-in-time, just enough, and just-for-me” (Traxler, 2009, p. 14). At the level of academic work, there is an expectation that educators utilise the capacity of digital technologies to design flexible learning experiences to support diverse groups of learners as they learn how to learn (Oliver, Harper, Wills, Agostinho, & Hedberg, 2008; Phillips, McNaught, & Kennedy, 2011). Beetham and Sharpe (2008) remind educators that there is nothing new about technologies for learning. The networked digital computer and its more recent mobile, personal and wireless counterparts are just the latest outcomes of human ingenuity that can be leveraged to enrich the educational enterprise. Beetham and Sharpe (2008) note that “like previous innovations, they can be assimilated into pedagogical practice without altering the fundamental truths about how people learn” (p. 4). However, as mobile devices become commonplace and tools offer a range of pedagogical potential, little is known about how educators use them in their teaching, learning, work, and leisure (Kukulska-Hulme & Pettit, 2009).

Characteristics of mobile learning

¹⁴ N = 11; academics = 7 (64%); TEL academic support staff = 4 (36%); of the 11 subjects 4 (36%) were classified as holding a management and leadership role in advancing TEL in learning, teaching and research

As mobile learning can be conceived in any variation of learning contexts with its own resultant set of learning opportunities and challenges, the view held in the literature (Kearney et al., 2012; Kukulska-Hulme & Traxler, 2008; Traxler, 2009) is to offer characterisations of mobile learning. Mobile learning is essentially personal, contextual, authentic, collaborative and situated, with this unique cluster of characteristics often positioning mobile learning within informal learning (Kearney et al., 2012; Traxler, 2009). It is these unique characteristics which separate mobile learning from earlier forms of electronic learning (Stanton & Ophoff, 2013). When conceptualizing mobile learning from the perspective of the learners' experience, the emphasis is on ownership, informality, mobility and context (Traxler, 2009). Further, learning that takes place on mobile devices is transforming notions of space, community and discourse (Traxler, 2009). Finding information rather than possessing it or knowing it becomes the defining characteristic of learning generally and of mobile learning especially, and this takes learning back into the connected, networked community (Kearney et al., 2012; Traxler, 2009).

Martin, McGill and Sudweeks (2013) caution that these same characteristics which provide the conditions for learning anywhere and anytime also require the educator to be motivated, self-directed and self-regulated in their approach to professional practice. Further, Martin et al. (2013) emphasise that motivation and engagement both play a significant role in the educator's attitude, energy and drive to work in a mobile conception of society. This in turn inspires and motivates their students to engage in their learning in a climate where the relationship between educators, students, technology and society has implications for the future capacity of communities to imagine and build a world that together they want to live in (Facer, 2011).

Preliminary data collected as part of the investigatory study suggested a level of alignment between the theoretical characterisations of mobile learning - personal, contextual, collaborative, situated and informal – and those uncovered from interviews with academic and academic support staff at one Australian university. For the purposes of data analysis, the interviewees are referred to as 'subjects'.

The research subjects identified a level of mainstream use of mobile technologies in their personal and professional lives from a productivity perspective. Furthermore, interviewees had an inherent sense of personalising the device to meet their individual needs, behaviours, and work and life patterns. They experimented and played with devices in different contexts and found the right blend for their purpose, environment and outcome. There was evidence to indicate a sense of ownership and control of when and how individuals liked to learn, connect, communicate and collaborate with Subject 7 stating "If you need a holiday, turn your phone and devices off". Interviewees commented on the instant, immediate, flexible and highly personal nature of mobile learning, providing opportunities to learn as a community and feel connected across locations and spaces. Less evidence was forthcoming in the ways mobile learning was used to advance learning in their professional practice. Of exception was Subject 9, who saw mobile learning as a nature transition in her academic work, professional learning and discipline context. For her, mobile devices provide opportunities to experiment, connect and engage with students, colleagues and professional networks in a range of learning contexts. Furthermore, Subject 9 demonstrated a level of resilience to some of the unpredictable aspects of integrating technologies into teaching and approached institutional barriers as temporal. Her approach was to adopt an attitude of play, tinkering and experimenting, and to involve her students in this experiential learning environment.

Barriers to mobile learning

At the heart of this paradigm shift of knowledge building in society is the affective and cognitive states of educators. The educator's type and level of incoming pedagogical knowledge and ICT competency, and their associated emotional relationship and identity with technologies, are the critical issues in determining their levels of motivation, confidence, boredom, frustration, alienation and so on (Beetham, 2008; D'Mello & Graesser, 2012; Shute & Zapata-Rivera, 2012; Villar & Alegre, 2007). This state is compounded by the real or perceived pressures of academic-risk taking, workload and time management (Steel, 2004). Academics must feel confident, have a sense of control over their work and consider the learning activities to be meaningful and relevant to assume personal responsibility in advancing their learning mobility professional practice (Martin et al., 2013). Jarache (2013c) sums it up in his analogy that communication in a mobile, socially-networked age is like learning a new language; "it takes time and adults are usually not very good at showing their lack of fluency. They don't like to look foolish" (Jarache, 2013c).

Preliminary findings from the investigatory study indicated that the research subjects identified a number of barriers that surfaced across interviews including: ICT competency and the associated emotional states; mechanisms to showcase the value and provide incentives; support and guidance from 'experts' – technical,

pedagogical and peers, and a sense of a gap in access to a collaborative, supportive community of practitioners. Time was also considered a barrier from a number of perspectives: time to experiment and make judgments on the value in their teaching context; the time it takes to make a business case, justify the value-quality learning outcome exchange to investing in a change approach, and the resultant layers of institutional control in the decision-making process. There was also a clear sense that there needs to be a whole-of-institution approach to the mindset of mobile learning from top-down, bottom-up and a collaborative team approach.

Subject 10 raised the generational aspect to learning. He classified himself as a luddite, yet through the course of the interview demonstrated his willingness to engage and experiment in the 'right' conditions. These findings indicate the broader study will need to be inclusive of such literature as White, Connaway, Lanclos, Le Cornu and Hood's (2012) study on Digital Visitors and Digital Residents which offers a framework to reassess learners' engagement with digital technologies focusing on group and individual motivations to engage. This study is also of interest as it eliminates the assumed links between generations and technology skill which was a key premise of Prensky's (2001) much lauded and later criticized Digital Natives and Digital Immigrants (Margaryan, Littlejohn, & Vojt, 2011; White & Le Cornu, 2011).

The notion of 'resisters' was also raised. Interviewees provided a pragmatic approach to this phenomenon. The consensus was to focus energy on "those willing and it will trickle down...don't drag people kicking and screaming" (Subject 9). The belief was change agents and early adopters provide opportunities to 'inspire' their peers and discipline, and positively influence perceptions and conceptions. The belief held was to provide platforms showcasing good practice to inspire change and enable individuals to make their own judgment on the level and ways to integrate technologies into their teaching practice. Two further elements relate to this approach. Firstly, interviewees did not feel there was overall a large cohort of 'hard-core resisters'. Secondly, there did seem to be discipline disparity on this. One discipline was accepting of the evolution of technologies as it is seen as part of the core work of the discipline and academic work, whereas a second discipline held a pack mentality to resistance, 'howling down' guests demonstrating teaching innovations.

Professional Development

Overview

The imaginative use of digital technologies could be transformational for learning and teaching. However, Laurillard (2008) highlights that the problem is that transformation is more about the human and organisational aspects of learning and teaching than it is about the use of technology. Beetham (2008) believes the limiting factor is the availability of skilled educational practitioners with a sense of confidence in integrating digital technologies into their pedagogical practice. The ability of institutional-led professional development to have an impact on digitally enhanced scholarly practice is challenged by the view held by a number of researchers (e.g. Bates, 2000; Boud, 1999; Collis & Moonen, 2001; Laurillard, 2002, as cited in Steel, 2004) who have concluded that many academics are resistant to professional development initiatives (Steel, 2004). The landscape becomes increasingly complex when engagement with digital technologies for learning takes place across a range of institutional and personal contexts (White et al., 2012). For the purpose of this study, professional development refers to a process of engaging in continued learning to enhance knowledge of, skills in, capacity for, and attitudes towards learning and teaching practice, concepts and theories (Reushle, 2005).

To this point, institutional ownership of, and provision for, professional development has been controlled, often mandated, by central management and leadership structures. In many universities, central academic development units have been tasked with leading university-wide education change strategies designed to improve learning and teaching in response to quality assurance requirements and competitive learning and teaching funding (Fraser & Ryan, 2012). Boud and Brew (2012) weigh in on the challenges of professional development to meet the complex and increasing demands of the modern academy, contending that the area of academic professional development remains an under-theorised field of endeavour. Despite the challenges to the contemporary academy, Laurillard (2008), and Barber, Donnelly and Rizvi (2013) agree that the higher education enterprise possesses the ambition; the challenge is for all players to act. Laurillard (2008) believes the pathway to achieve this potential must emanate from the academic community.

Characteristics of professional development

Traditionally, professional development has focused on formal, structured learning activities and/or participation in specified events, taking academics out of their normal context of work and treating aspects of academic work as separate (Boud & Brew, 2012). Academic engagement in their professional practice in the digital age hinges

on a fundamental shift in the institution's and educators' perspective of professional development. The key characteristics surfacing in the literature suggest that context, community and dialogue are crucial in reconceptualising professional learning (Beetham, 2008; Jennings, 2013). Learning needs to be seen as a social process deliberately located within the context of practice, fostering learning-conducive work, and constructed in the act of developing communities of professional practice (Boud & Brew, 2012). Further, Jennings (2013) emphasises learning activities and social collaboration need to be integrated into the context of workflow, offering opportunities to learn, develop and collaborate as part of the educator's work. Jane Hart, a UK-based independent advisor on workplace learning and collaboration supports Boud and Brew's (2012) and Jennings' (2013) research findings. Hart's learning from the workplace crowd-sourced survey¹⁵ identified the five key characteristics of how knowledge workers like to learn at work as: socially, in-the-flow, continuously, immediately and autonomously (Hart, 2013).

Dialogue derived from communities and peers enacts the cycle of motivation. Sharing and contributing to the learning experiences brings about a shift in the locus of control where educators can shape, choose, direct, and take responsibility and ownership for their own learning (Mayes & de Freitas, 2008). In the digitally networked age of learning mobility where work has become distributed, fragmented and decentralized (Stowe, as cited in Jarcho, 2013b), Pink (2011) emphasizes that three elements of motivation – autonomy, mastery and purpose – lead to engagement in professional practice. At the heart of high performance professional practice is the individual's true sense of meaning making and identity (Pink, 2011).

Preliminary findings from the investigatory study indicated that the interviewees identified a number of characteristics that served as factors to motivate and engage people in professional development which also surfaced as engagement factors in mobile learning. This supports the authors' belief of learning continuities between mobile learning and professional development. Of significance is that these factors align with current literature and theoretical findings that context, community and dialogue are crucial elements underpinning the characteristics of professional development. Interviewees indicated that motivation and engagement was contingent on collaborative, energetic, communities of learners. The social and informal aspects added to a trusting, connected, sense of belonging and ownership. Furthermore, interviewees stated that activities needed to be contextualized to their own professional (and personal) needs, easily accessible and provide visible, meaningful pathways to desired changing practices in academic work. Interviewees emphasized that professional development is not a 'one-size-fits-all' approach but rather context dependent, community-based and designed for a range of ways to engage staff that offer formal and informal learning opportunities, accessible 'just-for-me' and just-in-time'.

Barriers to professional development

Steel (2004) concluded that many academic staff experience barriers that negate a sense of academic identity and support to integrate technological innovations into teaching practice. The barriers include time constraints, lack of resources, lack of understanding of educational theory and concepts, lack of knowledge of what is technologically possible, and lack of valuing teaching and learning (Steel, 2004).

Further, Steel's (2004) research identified some of the inherent problems in the traditions of professional development as:

the voluntary nature of these courses means that most academics do not have the incentive or time to attend; courses are targeted at groups so individual needs often go unmet; as different academics are at different points in the change process they are too complex or technical for some and too elementary for others; some staff are uncomfortable exposing their skill levels and participants often focus more on the handling of technology than on the educational aspects; and the skills and knowledge gained in short courses are often soon forgotten because they are not directly incorporated into the individual's practice (Steel, 2004, p. 866).

Preliminary data collected aligns with evidence in the literature relating to the barriers to professional development. Interviewees identified time as a key barrier, where Subject 1 stated "Professional development is the key but in the current climate there are too many pressures to engage in professional development". Interviewees also indicated a sense of limited accessibility and flexibility to resources and support stemming

¹⁵ N= 600; 46 countries; 42% edu-related, 58% non-edu related; organisation size: 61% from organisation with more than 250 people; function: 45% HR /L&D; 65% all other functions; job type: Non-managerial/other: 53%, line managers: 9%; middle: 20%, senior 18%; Age: <30 : 6%, 31-40 : 28%, 41-50 36%, 51-60 : 24%; 60+ : 7%; Sex: Male: 42%; Female : 58% - <http://www.c4ipt.co.uk/blog/2013/04/22/company-training-of-little-value/>

from the 'fixed' nature of professional development events. Mention was also made of the need for events to make explicit the personal value to staff, acting as an incentive to encourage people to engage in professional development. In contrast was Subject 9 who reported an inherent professional curiosity in her academic work and seeks out formal and informal opportunities to learn and engage. This supports Jarcho's (2013c) belief that engagement is not a question of motivating people, but rather understanding why people are naturally motivated to engage and actively participate in a learning community.

Commonality: Mobile learning and professional development

Mobile learning and professional development share common ground in that mobile learning (Traxler, 2009) and professional development (Boud & Brew, 2012) are under-theorised and require a pragmatic (re)conceptualisation. It is this conceptual base and the recognition of characteristics shared across the two domains that impact on academic work which serves as the foundation for this study. The characteristics of context, community and dialogue surface in both mobile learning and professional development as the tipping point to motivation and engagement in ways educators learn how to learn about mobile learning in professional practice and act on their own purposes, values, feelings and meaning-making schemes to gain control over their lives (Mezirow, 2000).

In advancing this study, evidence grounded in the literature signals a reconceptualising of the nomenclature of 'professional development'. Boud and Brew (2012) emphasise a pragmatic approach where learning is viewed as a social process occurring within the context of practice which, in turn, leads to a fundamental shift in the perspective of academic work as 'professional learning'.

A potential gap in the research is then how the domains of mobile learning and professional learning can work in union to enable the educator to work, learn, live and achieve their full potential within the changing nature of academic work.

Future building academic work

Debowski (2012) captures the essence of higher education academic work as "one of the most rewarding yet frustrating and challenging roles anyone could undertake. It is complex, dynamic and rapidly evolving to accommodate the expectations of its many stakeholders" (p. 3). When postulating on the many reasons people choose to be academics, Debowski (2012) emphasizes "the most critical is a fundamental love of learning and a desire to share that with others. This is a key driver that attracts us to this rapidly evolving sector" (p. 3).

The pervasive nature of mobile technologies means it is easy for educators to feel overwhelmed by emerging technologies. Kearney et al.'s (2012) research indicates that despite the ubiquity and flexibility of mobile devices and the many opportunities and challenges mobile learning offers education, there has been minimal use of mobile learning approaches. Developments have tended to be more about the design of the tools than of the ensuing learning and teaching (Kearney et al., 2012). Anecdotal evidence collected in the investigatory study support this claim.

Academic work needs to be conceptualised as workplace learning (Boud & Brew, 2012). Jarcho (2013e) believes the future of workplace learning is social, informal, cooperative and especially mobile. A distinction is made between cooperation and collaboration. Cooperation is sharing freely without any expectation of direct reciprocation (Jarcho, 2013d). As work gets more complex and informal learning takes shape as an essential part of work (Jarcho, 2013a), cooperation across previous boundaries of time and space will change the nature of work, from place, to the activity of learning. Workers want to stay connected while on-the-move, maintain social networks, access what they need, wherever they are and believe mobile connections enable productivity. These, Jarcho (2013d) claims, are indicators that mobile work is increasing. However, it takes more than mobile technology and social networking tools to support the emerging workforce. Hinchliffe (as cited in Jarcho, 2013e) warns that any use of enabling technology without taking into account how people actually conduct their work, and their preferences for sharing information and interacting with each other, is likely to disappoint. Asking workers how they vision mobile learning will empower them to act cooperatively to change behaviours and work practices.

In addition, social, informal learning has become an important driver for professional practice and workplace learning as it offers new types of professional development opportunities (de Laat & Schreurs, 2013). As workplaces shift from hierarchies to networks and learning agility comes to the forefront, Jarcho (2012) advises that organisations can no longer leave learning to their professional development department.

Adopting a wider approach to professional development will optimize the potential for personal and organizational learning (Senge, 1990, as cited in de Laat & Schreurs, 2013). The challenge then for current models of professional development is that however powerful informal learning may be, there is a difficulty in utilising it as mainstream workplace learning. Informal learning activities are mostly implicit, ad hoc, spontaneous, and invisible to others (de Laat & Schreurs, 2013).

Next stage of research

The significance of this study is in its investigation of the phenomena of higher education practitioners teaching and working in an ‘always-on’ digital learning environment. Fundamentally the authors will take an ‘as-lived’ experiences approach by asking *how* educators experience mobile learning and the *role* professional development plays now and in the future to support teachers in their academic work.

This paper represents preliminary findings to support a pragmatic reconceptualization of professional learning in a learning mobility environment and suggests potential gains to be leveraged from this union for the future building of academic work. In the next stage the authors will investigate the educators’ mindset for mobile learning, that is ‘how educators come to the learning?’, ‘how educators learn?’, and ‘what educators do with the learning?’ (Stodd, 2013c). As digital technologies extend the workplace across time and space, changing work practices result in educators coming to the learning through curiosity, need, by planning or by accident (Stodd, 2013c). Each pathway to how educators come to the learning has its own patterns, motivations and potential barriers. How educators learn about mobile learning can be formal, informal or social providing opportunities for educators to design their own learning (Stodd, 2013c). What educators do with the learning is dependent on their needs. Stodd’s (2013c) view is learners apply it straight away, bank it, or use it as a foundation for future learning. This investigative approach supports the literature (Beetham, 2008; Facer, 2011; Stodd, 2013a) and the findings from the preliminary data collection that there cannot be a ‘one-size-fits-all’ solution to how educators learn, adapt and respond to emerging technologies across the convergence of their professional and personal lives (Facer, 2011; Johnson, Adams Becker, Cummins, Freeman, Ifenthaler & Vardaxis, 2013; Moretti, 2013). This, in itself, is a reflection of the need for flexibility, creativity and continuity when scaling ways of integrating mobile learning into professional practice. Adopting a wider approach to professional learning may optimize the potential for professional practice as academic work in higher education (Boud & Brew, 2012; de Laat & Schreurs, 2013). Mobile learning supports the design for professional learning that is personalised, situated and authentic (Kukulska-Hulme & Traxler, 2008) suggesting opportunities for new conceptual models to be theorised.

References

- Barber, M., Donnelly, K., & Rizvi, S. (2013). *An avalanche is coming: Higher education and the revolution ahead* (p. 68). London, United Kingdom: Institute for Public Policy Research. Retrieved from <http://www.ippr.org/publication/55/10432/an-avalanche-is-coming-higher-education-and-the-revolution-ahead>
- Beetham, H. (2008). An approach to learning activity design. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 26–40). Oxon, UK: Routledge.
- Beetham, H., & Sharpe, R. (2008). An introduction to rethinking pedagogy for a digital age. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 1–10). Oxon, UK: Routledge.
- Boud, D., & Brew, A. (2012). Reconceptualising academic work as professional practice: Implications for academic development. *International Journal for Academic Development, iFirst article*, 1–14. doi:10.1080/1360144X.2012.671771
- Cook, J., Pachler, N., & Bachmair, B. (2011). Ubiquitous Mobility with Mobile Phones: a cultural ecology for mobile learning. *E-Learning and Digital Media*, 8(3), 181–196. doi:10.2304/elea.2011.8.3.181
- Cranton, P. (1996). *Professional development as transformative learning: New Perspectives for teachers of adults*. San Francisco, USA: Jossey-Bass Publishers.
- D’Mello, S., & Graesser, A. (2012). Emotions during learning with AutoTutor. In P. J. Durlach & A. M. Lesgold (Eds.), *Adaptive technologies for training and education* (pp. 117–139). New York, USA: Cambridge University Press.
- De Laat, M., & Schreurs, B. (2013). Visualising informal professional development networks: Building a case for learning analytics in the workplace. *American Behavioral Scientist, online first version*, 1–18. doi:10.1177/0002764213479364

- Debowski, S. (2012). *The new academic: A strategic handbook*. Berkshire, UK: McGraw Hill Open University Press.
- Facer, K. (2011). *Learning futures*. New York, USA: Taylor & Francis.
- Fraser, K., & Ryan, Y. (2012). Director turnover: an Australian academic development study. *International Journal for Academic Development*, 17(2), 135–147. doi:10.1080/1360144X.2011.629048
- Garrison, D. R. (2011). *E-Learning in the 21st century: A framework for research and practice* (2nd ed.). New York, USA: Routledge.
- Hart, J. (2013, April 25). 5 Characteristics of how knowledge workers like to learn at work. *Learning in the Social Workplace*. Retrieved from <http://www.c4lpt.co.uk/blog/2013/04/25/5-characteristics/>
- Jarche, H. (2012, June 17). Work is learning and learning is the work. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2012/06/work-is-learning-and-learning-is-the-work/>
- Jarche, H. (2013a, May 16). Shifting work. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2013/05/shifting-work/>
- Jarche, H. (2013b, May 21). Networked individuals trump organizations. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2013/05/networked-individuals-trump-organizations/>
- Jarche, H. (2013c, May 28). Social networks require ownership. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2013/05/social-networks-require-ownership/>
- Jarche, H. (2013d, June 26). Social, cooperative, mobile. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2013/06/social-cooperative-mobile/>
- Jarche, H. (2013e, August 7). A mobile workforce needs better on-site conversations. *Sense-making for the connected workplace*. Retrieved from <http://www.jarche.com/2013/08/a-mobile-workforce-needs-better-on-site-conversations/>
- Jennings, C. (2013, February 14). Re-thinking Workplace Learning: extracting rather than adding. *Improving performance through learning innovation*. Retrieved from <http://charles-jennings.blogspot.ca/2013/02/re-thinking-workplace-learning.html>
- JISC. (n.d.). Mobile Learning infoKit. *JISC infoNet*. Retrieved April 21, 2013, from <https://mobilelearninginfokit.pbworks.com/w/page/41122430/Home>
- Johnson, L., Adams Becker, S., Cummins, M., Freeman, A., Ifenthaler, D., & Vardaxis, N. (2013). *Technology outlook: Australian tertiary education 2013-2018. An NMC Horizon project regional analysis*. Austin, Texas: The New Media Consortium.
- Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology*, 20(1). doi:OI: 10.3402/rlt.v20i0/14406
- Kukulska-Hulme, A., & Pettit, J. (2009). Practitioners as innovators: Emergent practice in personal mobile teaching, learning, work and leisure. In M. Ally (Ed.), *Mobile learning: Transforming the delivery of education and training* (e-book., pp. 135–155). Athabasca University: Au Press. Retrieved from <http://www.aupress.ca/index.php/books/120155>
- Kukulska-Hulme, A., & Traxler, J. (2008). Designing for mobile and wireless learning. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 180–192). Oxon, UK: Routledge.
- Laurillard, D. (2007). Pedagogical forms of mobile learning: Framing research questions. In N. Pachler (Ed.), *Mobile learning: Towards a research agenda* (pp. 153–176). WLE Centre: Institute of Education, London. Retrieved from http://eprints.ioe.ac.uk/627/1/Mobile_C6_Laurillard.pdf
- Laurillard, D. (2008). Foreward. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. xv–xvii). Oxon, UK: Routledge.
- Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education*, 56, 429–440.
- Martin, R., McGill, T., & Sudweeks, F. (2013). Learning anywhere, anytime: Student motivators for M-learning. *Journal of Information Technology Education: Research*, 12(11), 51–67.
- Mayes, T., & de Freitas, S. (2008). Learning and e-learning: the role of theory. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 13–25). Oxon, UK: Routledge.
- Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory. In *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco, USA: Jossey-Bass.
- Moretti, E. (2013, July 25). Mobility matters: Understanding the new geography of jobs. *The American Magazine*. Retrieved July 30, 2013, from <http://american.com/archive/2012/july/mobility-matters-understanding-the-new-geography-of-jobs>
- Oliver, R., Harper, B., Wills, S., Agostinho, S., & Hedberg, J. (2008). Describing ICT-based learning designs that promote quality learning outcomes. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 64–80). Oxon, UK: Routledge.

- Phillips, R., McNaught, C., & Kennedy, G. (2011). *Evaluating e-Learning: Guiding research and practice*. New York, USA: Routledge.
- Pink, D. (2011). *Drive: The surprising truth about what motivates us*. USA: Penguin Group. Retrieved from <http://www.danpink.com/books/drive>
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5). Retrieved from <http://www.marcprensky.com/writing/prensky%20-%20digital%20natives,%20digital%20immigrants%20-%20part1.pdf>
- Shute, V., & Zapata-Rivera, D. (2012). Adaptive educational systems. In P. J. Durlach & A. M. Lesgold (Eds.), *Adaptive Technologies for Training and Education* (pp. 7–27). New York, USA: Cambridge University Press.
- Stanton, G., & Ophoff, J. (2013). Towards a method for mobile learning design. *Issues in Informing Science and Information Technology*, 10, 501–523.
- Steel, C. (2004). Establishing a zone where technology innovation is supported. In Roger Atkinson, Clare McBeath, Diana Jonas-Dwyer and Rob Phillips, *Beyond the comfort zone ASCILITE 2004* (pp. 865–874). Perth, Western Australia.
- Stodd, J. (2013a, February 15). Curating yourself in social learning spaces: adding value. *Julian Stodd's Learning Blog*. Retrieved from <http://julianstodd.wordpress.com/2013/02/15/curating-yourself-in-social-learning-spaces-adding-value/>
- Stodd, J. (2013b, March 12). Informal technology: social learning. *Julian Stodd's Learning Blog*. Retrieved from <http://julianstodd.wordpress.com/2013/03/12/informal-technology-social-learning/>
- Stodd, J. (2013c, May 24). 9 questions to see if your organisational view of learning is broad enough. *Julian Stodd's Learning Blog*. Retrieved from <http://julianstodd.wordpress.com/2013/05/24/9-questions-to-see-if-your-organisational-view-of-learning-is-broad-enough/>
- Summers, L. (2013). Foreward. In *An avalanche is coming: Higher education and the revolution ahead* (p. 68). London, United Kingdom: Institute for Public Policy Research. Retrieved from <http://www.ippr.org/publication/55/10432/an-avalanche-is-coming-higher-education-and-the-revolution-ahead>
- Traxler, J. (2009). Current state of mobile learning. In M. Ally (Ed.), *Mobile learning: Transforming the delivery of education and training* (pp. 9–24). Athabasca University: Au Press.
- Traxler, J. (2012, September 20). Global impact mobile devices: MobiMOOC 2012. Retrieved from http://www.youtube.com/watch?v=6GP56KF2pX0&feature=youtube_gdata_player
- Villar, L., & Alegre, O. (2007). Measuring the learning of university teachers following online staff development courses: a Spanish case study. *International Journal of Training and Development*, 11(3), 200–213.
- White, D., Connaway, L. S., Lanclos, D., Le Cornu, A., & Hood, E. (2012). *Digital visitors and residents* (Progress Report) (p. 40). JISC, University of Oxford, OCLC, University of North Carolina. Retrieved from <http://www.jisc.ac.uk/media/documents/projects/visitorsandresidentsinterim%20report.pdf>
- White, D., & Le Cornu, A. (2011, September 5). Visitors and residents: A new typology for online engagement. *First Monday*. Retrieved from <http://firstmonday.org/ojs/index.php/fm/article/viewArticle/3171/3049>

Author contact details: Maxine Mitchell, mitchell@usc.edu.au

Please cite as: Mitchell, M. & Reushle, S., (2013). Mobile learning and professional development: Future building academic work in higher education. In H. Carter, M. Gosper and J. Hedberg (Eds.), *Electric Dreams. Proceedings ascilite 2013 Sydney*. (pp.588-596)

Copyright © 2013 Maxine Mitchell and Shirley Reushle.

The author(s) assign to ascilite and educational non-profit institutions, a non-exclusive licence to use this document for personal use and in courses of instruction, provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ascilite to publish this document on the ascilite web site and in other formats for the *Proceedings ascilite Sydney 2013*. Any other use is prohibited without the express permission of the author(s).