

LEARNING WITH SMARTPHONES: STUDENTS' LIVED EXPERIENCE OF USING SMARTPHONES

Nee Nee Chan, Alan Walker-Gleaves and Richard Remedios
Durham University

ABSTRACT

With its wide-ranging applications and multiple features, the smartphone is propelling a new way of learning “on the fly”. Mobile learning is more than simply learning with certain types of digital technologies: through everyday practices of using the smartphone, learning can take place in formal and informal settings and in the boundary spaces in between. In this study, an interpretive research design is used to understand how young people in Malaysia use their smartphones for learning and to uncover the meaning of their lived experience. Applying the principles and practices of hermeneutic phenomenology, this study aims to gain access to a phenomenon that is often subconscious and to interpret the participants’ learning experiences. Twelve youths participated in three rounds of semi-structured interviews over a period of four months. Preliminary findings suggest that learning with smartphones is occurring more deeply and widely than perceived with participants having a nuanced view to the value of this learning.

KEYWORDS

Formal and Informal settings, Social-cultural contexts, Smartphone learning, hermeneutic phenomenology

1. INTRODUCTION

Smartphones are the more expensive versions of mobile phones and generally have multiple functions, serving as video recorders, camera phones and portable media players with high-resolution touchscreens. They run on mobile operating systems such as the Apple iOS, Google Android, and Nokia Symbian that can log on and accurately present standard web pages as opposed to only mobile-optimized sites. With its multiple applications and diverse features, the smartphone is propelling a new way of learning “on the fly”. The nature of the present mobile learning environment however, is fragmented with many definitions of mobile learning. Generally, most definitions agree upon the importance of access, context and conversation (Sharples et al., 2007, Kukulska-Hulme, 2010, Hwang and Tsai, 2011).

The aim of this study is to discover from the learners’ perspectives how they use mobile technologies to learn in their daily lives in relation to their historical and cultural contexts, and to uncover the meaning of this learning. A study of the lived learning experiences of the student participants in Malaysia with smartphones would be able to add to new knowledge as there appears to be a paucity of interpretive research in this area and the findings and conclusions could yield new understanding that may prove useful especially in its implications for formal and informal learning.

2. RESEARCH PHENOMENON AND RESEARCH QUESTIONS

Learning is a complex phenomenon and theories and conceptions of learning abound. The complexity is related to learners’ cognitive processes and their interactions with society and culture (Gee, 2008). Learning is thus, multifaceted and context-dependent and at times, subconscious, automatic and unobservable (Pachler et al., 2010, Gee, 2008). In investigating the learning phenomenon, the main question in this study is ‘What does it mean to learn with smartphones?’ As this question includes numerous embedded and overlapping phenomena, which required further exploration, the following sub-questions were investigated:

- What is this experience of learning with smartphones like?
- How do the student participants perceive the nature of their learning with smartphones?
- Are they learning in different ways as compared with previous generations?

3. MOBILE LEARNING AND THEORIES OF LEARNING

The nature of the current mobile learning environment is divided with many definitions of mobile learning (m-learning) as the mobile learning community includes theorists and researchers with philosophical associations ranging from empiricists to post-structuralists. Naismith et al. (2004) use an activity-centred perspective to review mobile learning projects against the existing learning theories: behaviourism, constructivism, situated learning and collaborative learning. Cochrane (2008, p.1) notes that the use of mobile technologies for learning is underpinned by “newer learning theories that find their roots in social constructivism such as: authentic learning, communities of practice, distributed intelligence, distributed cognition, connectivism, and activity theory”. The growing body of m-learning research is evidence of the increasing importance of this field with most studies concentrating on mobile system design, and effectiveness of m-learning (Traxler, 2010, Wu et al., 2012, Hwang and Tsai, 2011).

From the perspective of learning as knowledge creation, Sharples et al. (2007, p. 225) defines m-learning as “the processes of coming to know through conversations across multiple contexts”. Pachler et al. (2010, p. 6) builds on this conception of m-learning by suggesting that learning occurs as “a process of meaning making through acts of conversation on the basis of a pre-given, objectified cultural world”. This socio-cultural ecology of m-learning has the core constituents of agency, structures and cultural practices (Pachler et al., 2010). ‘Structures’ are the structures of technology and mass communication in everyday life such as schools, the Internet and leisure, and learners navigate within and between these structures and produce new structures through their mobile use. ‘Agency’ refers to the individual learner’s ability to appropriate these structures for learning that is subjectively meaningful. ‘Cultural practices’ are the everyday practices and routines located in a society and culture that engender learning that is situated, reflexive and collaborative in knowledge building (Pachler et al., 2010). Learning thus, occurs as knowledge is co-created and skills and competencies are developed in these contexts (Lave and Wenger, 1991, Scardamalia and Bereiter, 2006, Pachler et al., 2010).

4. RESEARCH METHODOLOGY AND METHOD

A hermeneutic phenomenological approach was utilized as it is the most suitable to investigate the research questions and to explore the lived experience of learning with smartphones. Hermeneutic phenomenology explores the uniqueness of individuals’ experiences with an emphasis on the individuals’ historicity or background (Heidegger, 1962, Gadamer, 1997). It is the study of experience with its meanings. Hermeneutics enhances the interpretive element to illuminate assumptions and meanings in the text that participants themselves may have trouble expressing, hence providing a rich and dense description of the phenomenon under investigation (van Manen, 1997, Crotty, 1998).

As consistent with the interpretive research paradigm, participants were chosen using purposive sampling strategies to provide information rich studies for detailed analysis (Denzin and Lincoln, 2000). The 12 students chosen were 16-19 years and currently in secondary schools and private tertiary colleges. There is a deliberate mix of students from different educational backgrounds as Malaysian secondary schools presently bans the bringing of smartphones to schools, while private tertiary colleges allows their use in classrooms. There would be thus, a diversity of learning experiences in formal and informal settings. The other criteria for the sampling were based on race, gender (7 males, 5 females) and at least one year of experience with using smartphones.

The most extensively acknowledged method derived from hermeneutic phenomenological methodology is the qualitative interview (van Manen, 1997). It enables a deep investigation of the phenomenon: there is the exploration and collection of participants’ stories told in their own words, and the development of a conversational relationship between the researcher and the participants regarding their lived experience (Ajjawi and Higgs, 2007). The choice of semi-structured interviews was to offer better scope or richness in

data compared with structured interviews, and enable participants choice to reply to questions and probes, and to narrate their experiences without being constrained to specific answers (Ajjawi and Higgs, 2007). Another benefit over unstructured interviews is the comparison of some standard questions across interviews.

In this study, it was determined that structured in-depth interviews with 12 individuals would meet the aim of an in-depth investigation. There were 3 rounds of interviews over a period of 4 months conducted until the point of saturation where no new ideas were surfacing. Each interview lasted from 1 to 1 hour 30 minutes and was recorded and transcribed verbatim. Permission for the interviews and recordings was sought from the participants and their parents, and transcripts and interpretations were made available to them to comment. This ensures accuracy of data analysis and interpretation to achieve better methodological rigour. The researcher was careful to maintain “hermeneutic alertness” (van Manen, 1997), which is the reflexivity required to reflect on situations and stories rather than accepting them at face value or imbuing them with pre-conceived suppositions. Field notes that were written down after the interviews were instrumental in recording the researcher’s insights and reflections and a critical examination of the emerging issues.

5. ANALYSIS AND INTERPRETATION

As this is an interpretive hermeneutic phenomenological study, the analysis and interpretation of the interviews were guided by van Manen’s (1997) methodical procedures. First, interview transcripts were read carefully and repeatedly for emerging themes: detailed reading at sentence or cluster level, then using the selective or highlighting approach and finally reading holistically. Second, as the researcher dialogued with the texts, themes and sub-themes emerged, and a coding frame was developed from the key words and concepts (van Manen, 1997). Third, interpretation of the themes and sub-themes was achieved through Gadamer’s (1997) hermeneutic circle and the fusion of horizons. The hermeneutic circle refers to the interpretive process that moves from components of experience to the whole experience and back again and is repeated to enhance the depth of understanding and engagement with texts. The researcher’s prejudice and presuppositions are acknowledged and considered as valuable in hermeneutic phenomenological research. In Gadamer’s conceptualization, one horizon is the researcher’s prejudice and the other is the subject on hand. The aim is for a fusion of horizons as the researcher dialogues with the texts to bring about understanding of the research phenomenon under inquiry (Gadamer, 1997). In this study, the researcher examined her prejudices in the field notes and continued with the examination in the analysis stage.

6. THEME 1–PARADOX OF INCREASING AND DIMINISHING VALUE

Several themes and sub-themes emerged and in this paper, 2 themes are discussed. Most research literature reveals positive outcomes and positive attitudes to m-learning (Wu et al., 2012). In this study, some of the student participants display a more nuanced view to their learning: it empowers and satisfies but it can be a “double edged” sword.

“I value the ability to know..like have..to have the Internet wherever I am, to learn anything every time I want, you know, so that curiosity, normally always satisfying...It allows me like before debates, if I’m nervous, if I don’t know enough, I have the ability to read, the ability to browse through ten articles or something, so I like this idea of being able to know anything I want to know at any time, ya.”

Ben, 17 yrs old, Form 5 student

“At times, learning on the go, sometimes you want answers to certain questions, it just is like wanting to know the answers for the sake of knowing the answers and nothing else... So certain things ..you tend to forget the answers and you’ve solved whatever you want to solve.....”.

“...when you look at it, it actually..everyone is self learning and all that, but the general knowledge of certain youngsters today is very, very low and I feel maybe, it’s because of this. Because they are being spoon fed with everything on the Internet. And they’re not street smart. Their general knowledge is quite low, which is a very bad thing”.

Deeptzer, 19 years old, private college student

Learning with smartphones has value because it enriches their lives and is highly prized as seen in Ben’s quote. In comparison with their peers who do not have smartphones, being able to search for information and

learn new skills and knowledge gives them a head start in their lives. Yet this easy convenience and accessibility to learning anytime, anywhere can have diminishing value to learners. As Deeptzer suggests, when something becomes too easy, too available, its value diminishes as learning becomes eminently forgettable, and disposable like some of their lifestyle items. By the term, ‘spoon fed’, she thinks that with the easily available information at their finger tips, there could be the possibility of not sieving through the information and accepting information without questioning their sources. As a result, there are self satisfied learners who do very little critical thinking. Chuck, another participant is an avid reader of e-books on his smartphone and he spends up to 3-4 hours a day reading and searching for information. He is conscious of excessive use of his media and smartphones, calling it “double-edged” as “it’s really useful for information, communicating back but if you harp on it too much, it can take over your entire life”.

7. THEME 2- THE SUM IS MORE THAN ITS PARTS

From the everyday practices of the participants, the lived experience of learning appears to be situated, reflexive and collaborative in building knowledge (Lave and Wenger, 1991, Pachler et al., 2010). The learning experience was continual and cumulative with the participants reporting that they searched for information and read from between 30 minutes to 4 hours per day. Learning was not comprised of only searching for information, and reading or writing practices with the smartphones. Participants reported everyday practices of learning such as recording lectures, taking and editing photographs, social networking, learning languages, playing games and creating videos, music and ringtones. The misconceptions of their parents, some teachers and adults who perceived them as playing and wasting their time with their smartphones instead of reading and learning were refuted. Stevie, for example, gives her response to the continual and sub-conscious learning:

“We do read. Older generations tend to think if we’re holding our phones, it means we’re texting, we’re not reading. What they don’t know is that we might be reading through our smartphones. Just because you don’t see it, doesn’t mean that we don’t (laughs)....(Reading estimate) I think it’s a lot! I don’t do it all at once but it accumulates. Per day...3-4 hours. Ya, ya! Cause we’re unaware, we just take it, put it back, take it up again.

The participants may be learning more widely and deeply but the fundamental question is whether they are learning more effectively. Selwyn (2009, p. 368) argues that there are concerns with the “intellectual and academic “dumbing-down” associated with young people’s digitally redefined relationships with information and knowledge” as they appear incapable of gathering information from the Internet in a discriminating mode. Keen (2007, p. 93) suggests that there is now a “younger generation of intellectual kleptomaniacs, who think their ability to cut and paste a well-phrased thought or opinion, makes it their own”. These findings have implications as it suggests that young people may not be able to discriminate and construct knowledge critically in informal learning environments. However, from the participants’ experiences, there were accounts of ‘cutting and pasting’, but they were all aware of the issue of plagiarism and most demonstrated sophisticated methods of gathering and synthesizing information. They deemed their learning to be effective as they perceived themselves as better learners as the learning with the smartphones helped them in their school subjects and enabled them to gain more general knowledge and skills.

8. CONCLUSION

As this research study is still in progress, the findings and conclusions are preliminary in nature. The everyday practices with smartphones that have been taken for granted by the participants reveal that situated, reflexive and collaborative learning is driven by the purpose and need of the learners. However, learning is oftentimes unconscious as the learners were more aware of their media use than of deriving learning from their everyday practices. Learning was continual, constant and cumulative as they built on their knowledge through their everyday practices with smartphones. However, while they are learning more deeply and widely, the question remains as to the effectiveness of this learning.

REFERENCES

- Ajjawi, R. & Higgs, J., 2007. Using Hermeneutic Phenomenology to Investigate How Experienced Practitioners Learn to Communicate Clinical Reasoning. *The Qualitative Report*, 12(4), pp.612–638. Available at: <http://www.nova.edu/ssss/QR/QR12-4/ajjawi.pdf>.
- Cochrane, T., 2008. *Using Mobile Web 2.0 to Transform Pedagogy and Engage Learners*, AKO AOTEROA National Centre for Tertiary Teaching Excellence.
- Crotty, M., 1998. *The Foundations of Social Research: Meaning and Perspective in the Research Process*, Sydney, NSW: Allen & Unwin.
- Denzin, N.K. & Lincoln, Y.S., (eds), 2000. *Handbook of Qualitative Research* 2nd ed., Thousand Oaks, CA: Sage Publications.
- Gadamer, H.G., 1997. *Truth and Method*, (2nd rev. ed.) (J. Weinsheimer and D. G. Marshall, trans. rev.) New York: Continuum. (Original work published 1960).
- Gee, J.P., 2008. Learning and Games. In K. Salen, ed. *The Ecology of Games: Connecting Youth, Games, and Learning. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning*. Cambridge, MA: MIT Press., pp. 21–40.
- Heidegger, M., 1962. *Being and Time*, New York: Harper and Row (Original work published 1927).
- Hwang, G.-J. & Tsai, C.-C., 2011. Research Trends in Mobile and Ubiquitous Learning: A Review of Publications in Selected Journals from 2001 to 2010. *British Journal of Educational Technology*, 42(4), pp.E65–E70. Available at: <http://doi.wiley.com/10.1111/j.1467-8535.2011.01183.x> [Accessed November 25, 2012].
- Keen, A., 2007. *The Cult of the Amateur*, London: Nicholas Brealey.
- Kukulka-Hulme, A., 2010. Mobile Learning as a Catalyst for Change. *Open Learning: The Journal of Open and Distance Learning*, 25(3), pp.181–185. Available at: <http://www.tandfonline.com/doi/abs/10.1080/02680513.2010.511945> [Accessed October 7, 2012].
- Lave, J. and Wenger, E., 1991. *Situated Learning. Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.
- Naismith, L., Lonsdale, P., Vavoula, G. & Sharples, M., 2004. *Literature Review in Mobile Technologies and Learning: NESTA Futurelab Report 11*, Bristol. Available at: http://www2.futurelab.org.uk/resources/documents/lit_reviews/Mobile_Review.pdf.
- Pachler, N., Cook, J. & Bachmair, B., 2010. Appropriation of Mobile Cultural Resources for Learning. *International Journal of Mobile and Blended Learning*, 2(1), pp.1–21. Available at: <http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/jmbl.2010010101> [Accessed November 10, 2012].
- Scardamalia, M., & Bereiter, C., 2006. Knowledge Building: Theory, Pedagogy, and Technology. In K. Sawyer, ed. *Cambridge Handbook of Learning Sciences*. New York: Cambridge University Press, pp. 97–118.
- Selwyn, N., 2009. The Digital Native – Myth and Reality. *Aslib Proceedings: New Information Perspectives*, 61(4), pp.364–379. Available at: <http://www.emeraldinsight.com/10.1108/00012530910973776> [Accessed July 19, 2011].
- Sharples, M., Taylor, J., & Vavoula, G., 2007. A Theory of Learning for the Mobile Age. In K. Littleton & P. Light, eds. *The Sage Handbook of E-learning Research*. Sage, London.
- Traxler, J., 2010. Current State of Mobile Learning. In M. Ally, ed. *Mobile Learning: Transforming the Delivery of Education and Training*. pp. 10–24. Available at: http://www.aupress.ca/books/120155/ebook/99Z_Mohamed_Ally_2009-MobileLearning.pdf.
- van Manen, M., 1997. *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*, 2nd ed., London, Ontario: Althouse Press.
- Wu, W.-H., Wu, W.-C., Chen, C.-Y., Kao, H.-Y., Lin, C.-H., Huang, S.-H., 2012. Review of Trends from Mobile Learning Studies: A Meta-analysis. *Computers & Education*, 59(2), pp.817–827. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0360131512000735>.