An exploration of students' lived experiences of using smartphones in diverse learning contexts using a hermeneutic phenomenological approach

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ABSTRACT

This study describes young people's experiences of using smartphones, by exploring what it means to acquire, possess, and create a purpose for these personal mobile devices within the complex and fluid contexts of formal and informal learning. Applying the principles and practices of hermeneutic phenomenology, this study's methods comprised the use of interviews and written reflective exercises. 12 youths ranging from 16 to 19 years old participated in 3 rounds of semi-structured interviews over a period of 6 months. The findings reveal that participants' smartphone appropriation is associated with self-identity and management of their image as it is perceived by salient others, including peers and teachers. Furthermore, the participants' smartphone use is dependant upon their perception of learning-value and subject to influences concerning the status of knowledge, from their peers, parents and the community at large. The findings would suggest that the significance that young people attach to this form of mobile device use and the transferability of such behaviours and uses across spaces, time and dimensions in learning contexts is critically a function of particular smartphone adoption at a cultural rather than pedagogic level. Further research including rich qualitative studies is suggested to better theorize the phenomenon of smartphone use in learning contexts through engaging with cultural and social perspectives.

1. Introduction

Over the last decade, smartphones have been adopted at an increasing rate amongst a growing demographic (Falaki et al., 2010; Soikkeli, Karikoski, & Hämmäinen, 2013). Smartphones differ from mobile phones with their comprehensive and relatively advanced features such as Wi-Fi connectivity high-resolution touch screen displays, web browsing capabilities, and sophisticated built-in applications. Furthermore, as smartphones run on mobile operating systems such as Google Android, Apple IOS, and Nokia symbian, they have the capacity to run numerous free and paid applications, transforming the once dedicated mobile phones into powerful, mobile personal computers (Ericsson, 2013; PC Magazine, 2013; Techopedia, 2014). With smartphones becoming increasingly more affordable, these devices have assumed increasing importance in people's everyday lives and their significance is seen in their use for learning, leisure activities, social interaction and identity formation (Madden, Lenhart, Duggan, Cortesi & Gasser, 2013; Pachler, Seipold & Bachmair, 2012; Stern, 2008).

In parallel with the increasingly rapid adoption of smartphones, there has been a growing emphasis on research that has both documented and explored the significance of mobile devices, including smartphones, to their use in learning contexts, and with salience to particular groups of individuals, such as youth in full time education, older generation lifelong learners, rural employees, and individuals unable to access campus-based education (see for example Cheung & Hew, 2009; Fanning, Mullen & McAuley, 2012; May & Hearn, 2005; Yen et al., 2009). But as may be expected with a phenomenon of such diverse and global interest and significance, mobile learning (m-learning) is an evolving concept, and consequently has a multiplicity of meanings, which arguably cloud a clear conceptual understanding of

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the contribution of mobiles to individuals' chosen use. For example, Paine Schofield, West, and Taylor (2011) have defined m-learning as: 'handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning' (p.2). However, other research has defined m-learning more specifically through its technical considerations, as in the work of for example El-Hussein & Cronje (2010), or in contrast, through attention to specific learner characteristics, as explored in the study of sub-cultures of mobile phone using adolescents by Walsh, White, Cox & Young (2011). Yet other research (Park, 2014) emphasises the sheer plethora of terms and contexts, simply arguing that m-learning is learning with mobile devices such as mobile phones, smartphones, Personal Digital Assistants (PDAs), iPods, PlayStations and tablets.

This lack of consensus has exposed two distinct occupations within the field, theorization of m-learning as a field of technological affordance distinct from e-learning (Traxler, 2010), and studies of m-learning's broadly defined educational relevance, diversely and sit-uatedly conceptualised, as exemplified through the most ubiquitous and personalised type of mobile device, the smartphone. However, in terms of explorations of individual smartphone use amongst young people, and the resultant appropriation of the device's cultural leverage on learning and achievement, research is still extremely limited (Erstad, 2012; Pachler, Cook & Bachmair, 2010; Selwyn, 2012; Wallace, 2011). As Wu et al. (2012) have demonstrated, not only is most mobile device-related research concerned with effectiveness and system design, it has almost been comprehensively approached through positivist methodologies, utilising interventions, surveys and experiments. In contrast, this study adopts a phenomenological approach and thus aims to broaden the scope of research in this area.

2. Smartphones: expanding learning contexts or revealing learners' lives?

2.1. Why a study on smartphones?

There are several reasons for making smartphone use the central feature of this study. First, despite the realisation within current research of the significance of individuals' appropriation of these devices as a function of specific context, there has been a focus on the physical and technical affordances of mobile devices (portability, customisation and flexibility) and exploitation of these variables in classrooms to enhance teaching and learning rather than examine learner characteristics and learner preferences of mobile device (Chan et al., 2006; Cochrane & Bateman, 2010; Sharples, Lonsdale, Meek, Rudman & Vavoula, 2007; Traxler, 2009). Resultantly, the tech-nocentric, rather than the lived experiential perspective, currently dominates the literature, an issue that this paper seeks to re-balance through its contribution to the qualitative literature. Second, few studies carried out in schools and universities distinguish the unique pedagogical characteristics of smartphones as a clear subset of mobile devices (Traxler & Dearden, 2005; Winters, 2006) except through the lens of particular activities rather than device-centred possibilities. The work of Traxler (2009) and Cochrane & Bateman (2010) are notable examples of this latter area of inquiry. For example, there are many studies exploring teachers' adoption of smartphones for problem-based learning in primary science and mathematics classrooms (Looi et al., 2011), and the field is replete with inquiries that seek to address problems of temporality, credentialism and access in higher and work-based education (Cook & Pachler, 2012; Coulby, Hennessey, Davies & Fuller, 2009). But in terms of starting with smartphone use as an issue of questioning the basic grammar of learning and teaching, studies are scarce: there is inadequate description and understanding of what individuals do with smartphones at a motivational and experiential level and as such, many pedagogical research analyses are impoverished in their cultural and social dimensions (Lee, Cho, Kim & Noh, 2014; Mothar, Hassan, Hassan & Osman, 2013).

Thirdly, whilst the exploration of mobility in social space has revealed a complex interplay of web-based and digital media applications that are associated with development of self-identities, self-images, affiliations, personal agency and creative self-expression (Boyd & Ellison, 2007; Buckingham, 2008; Stern, 2008), conceptualization of how the cultural motivations for smartphone preference affect so-cial adoption is under-theorized. Some findings show that youth are autonomous, self-directed and creative as they fashion their lifestyles based on "endless hybridization" or engage in a "remix culture", redolent of the highly contested term 'digital native' (Knobel & Lankshear, 2008; Lessig, 2008; Selwyn, 2009). Some of this literature suggests that youth are skilled in image manipulation, at both technical and philosophical levels, engaging in multiple and fluid identity projects online and using the immediacy of smartphones to continually shape their public images (Stern, 2008; Wallace, 2011). Other research findings show however, that the majority of youth are engaged in more mundane activities with regard to the online use and adoption of digital media, using various applications routinely for school-based learning and research (Crook, 2012; Eynon & Malmberg, 2011, 2012; Luckine et al., 2009). But it is in the leverage of mobile devices for social and psychological involvement, and particularly smartphones, with their multiple capabilities, that is the most complex and promising area of research (Wallace, 2011; Weber & Mitchell, 2008). As a result of these combined factors, there is a compelling need to investigate how smartphones are used by young people in diverse and everyday settings where learning is taking place.

2.2. Characterizing smartphone use in formal and informal learning contexts

The approaches that young people take in their learning are an important dimension in learning with smartphones. Marton & Säljö (1976, 2005) suggest that when presented with similar learning opportunities, learners approach their learning in different ways. To investigate how learners conceptualized their learning, Säljö (1979) asked university students this fundamental question: 'What do you actually mean by learning?' He discovered five conceptions of learning and Marton, Dall'Alba, and Beaty (1993) added a sixth conception of learning: learning brings a change to the learners themselves. The three conceptions of learning: learning as increasing of knowledge; learning as memorising; learning as applying facts and knowledge are considered by Marton et al. (1993) to be primary reproduction of information and engender surface approaches to learning. The other three conceptions: learning as involving change in a person, learning as understanding, and learning as perceiving something in a new light are believed to represent deep approaches to learning.

In the context of mobile technologies, Gee (2007, p. 172) believes that well-designed games can engender deep learning: learning that can produce "real understanding, the ability to apply one's knowledge and even to transform that knowledge for innovation." Lankshear & Knoble (2011) have argued that people's urge to engineer unique meaning and creativity for themselves has consequently extended the locus of mobile learning to settings outside the classroom: museums (Sharples, Taylor & Vavoula, 2007; Yatani, Onuma, Sugimoto & Kusunoki, 2004), field trips (Chen, Kao, Yu & Sheu, 2004; Stanton, O'Malley, Ng, Fraser & Benford, 2003), and use of educational games