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Mobile, wearable, companionable: emerging technological challenges and incentives for learning

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Mobile, Wearable, Companionable: Emerging technological challenges and incentives for learning

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Introduction

In recent years, mobile learning has undergone a significant transformation due to rapidly growing ownership of smartphones and tablets, accompanied by the proliferation of apps, social networks and mobile-friendly open access resources. Such technological developments are important drivers for innovation in teaching and learning, even though it has been argued that they are sometimes at odds with educational values and requirements (Selwyn, 2010). The act of considering their impact may lead to new insights and improved reasoning about the role of technology in education.

As the latest generation of technology becomes increasingly personal and contextual, the discourse of 'embedding' it within formal learning (e.g. Gallagher, Thompson and Hughes, 2013; Steventon, Panesar and Wood, 2014) needs to start shifting towards a discourse of continuous inquiry into how portable and wearable technologies change fundamental relationships between learners and diverse spheres of knowledge and experience. Already ten years ago, Jones and Jo (2004) expressed the view that ubiquitous technology and u-learning may be "the new hope for the future of education", yet it is only now that ubiquitous computing is becoming part of everyday life in ways that can be harnessed for learning.

Challenges and incentives for learning

A case in point is the emerging 'quantified self' paradigm (Wolf, 2010; Swan, 2012) which highlights the capacity of individuals to become engaged in gathering and interpreting data that illuminates their everyday behaviours and experience as well as contributing directly to bodies of knowledge in several domains including medicine, biology and sports science. Whitson (2013) notes that the ever more popular gamification practices that characterize contemporary technologies foster a quantification of the self, "collecting, collating and analyzing minute data and providing feedback on how to better care for one's self" (p.167), while she also cautions that the data about individuals' everyday lives, their health, movements and relationships are likely to be "alluring to corporations, health agencies, governments, law enforcement and others" (p.175).

Emerging technologies always raise interesting questions for educators, as well as posing many practical and ethical challenges. Technology adoption and appropriation depends on perceptions and experiences, and on many other human and organisational factors, not only

on objective features of the proposed technology. One area of interest is how use of technology impacts human interactions and the increasingly intimate interactions between humans and technology. The notion that a handheld device can offer 'personal assistance' to its user has been around a long time. This notion had an early incarnation in the Personal Digital Assistants which rose to popularity in the 1990s, and it has now evolved to include more humanoid services such as Siri and Speaktoit Assistant. User interfaces that use touch, gesture and gaze reinforce the intimate, affective relationship with a device that is carried or worn on the body (Vincent, 2006). Lifelogging (Sellen and Whittaker, 2010), Google Glass, and companion robots (Schroeter et al., 2013) all provide new levels of assistance whilst also amplifying and creating additional social and ethical challenges.

The MASELTOV project

Some of the above emerging opportunities, issues and concerns have been the subject of discussions in the FP7-funded MASELTOV project (www.maseltov.eu, 2012-15) which is developing a suite of smartphone services and tools aimed specifically at recent immigrants to Europe. The services, which will be accessed through a single app, are devised with a view to fostering social inclusion, and they provide support for gaining specific information, help with navigation, informal learning, translation, gaming and social interaction. The Open University, UK, is a partner in this project, leading the work package on 'persuasive learning services' which aims to encourage target users to engage with the provided tools and services in fruitful ways that will give them a sense of achievement and progress. The research is leading us to address questions of new configurations of human mobile assistance - teachers, friends, volunteers, mentors, online community – in tandem with various forms of assistance available on the smartphone. Role definitions, as well as ethical and practical issues are being identified. It is clear that the development of these innovative services will benefit our broader understanding of what it means to learn in informal environments (while travelling, while walking about, while visiting a health centre, and so on) and how this may be supported through semi-structured activities, context-specific recommendations, assistance for both planned tasks and unanticipated events, and a range of progress indicators, types of feedback and rewards (Gaved et al., 2013; Scanlon et al., 2014).

Mobile assistance for language learning

Specifically in relation to assistance with target language use and language learning, our focus is on how the MASELTOV app users will come to understand the possibilities of learning on the go and how they will make best use of a range of language 'lessons' as well as various other resources encountered in their surroundings (Kukulska-Hulme et al., 2012) . We are also interested in the implications of incidental, mobile language learning for the design of future language learning activities and materials.

The last few years have seen an explosion of online environments and mobile apps for foreign language learning that are open to all – or at least to anyone who has access to a personal computer, smartphone or tablet. Some of these environments and apps are for individual study, but increasingly they have a strong social component, with reciprocal

language teaching, mutual encouragement, and elements of play and competition becoming more popular. This generation of learning technologies offers alternative pathways for learning and practice, in a global, virtual setting that is different from most conventional language classrooms. Mobile language learning is still in its early stages of development, yet we can already glimpse the emergence of a new generation of wearable and context-aware technologies that will add new flavours and nuances to the learning experience.

Learners taking advantage of the new learning opportunities may also be enrolled in formal teacher-led classes. If the two activities are considered complementary, the less formal learning may seem broadly beneficial or harmless. If we look more closely, however, it becomes obvious that there are essential differences that have far-reaching consequences for language teaching and learning in the years to come. People now travel more, time-shift and multitask; they make use of their diverse online networks and ubiquitous mobile devices. The ability to extend language learning beyond the classroom, perhaps interweaving it with work and other activities, is an important attraction. Mobility, in conjunction with the use of social networks and portable devices, can create entirely new possibilities for language learning.

Conclusion

Mobile learning is taking on new qualities and characteristics as devices become ever more integrated with everyday life and wearables intensify the increasingly close relationship between people and technology. The notion of 'assistance' is foregrounded in the context of more informal learning in settings where teachers may be hard to access or when additional practice is needed. In the field of language learning, the availability of a personal device to support everyday communication and learning is seen as valuable yet still in many ways contentious. Such a personal assistant should possess some of the qualities of what might be considered a 'good companion'.

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