



Mobile Learning for Languages: Can The Past Speak to the Future?

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Executive Summary

This paper explores the past decade of mobile learning projects, policies, research, and conceptualising and asks about its relevance to the future as it might apply to language learning. The paper provides a very broad categorization of mobile learning in order to identify pedagogic possibilities for language learning, but it moves on to ask about the changing nature and authority of language and learning. There are nevertheless practical lessons to be learnt.

The Focus of this Paper

This paper proposes and explores the notion that looking backwards we see a research and practitioner community working within the narrow and conservative confines of conventional education and training exploiting the affordances of previously rare, expensive, and complex mobile devices to deliver existing curricula. These curricula sometimes include the learning of language. In contrast, looking forwards we see a society where these technologies, now cheap, pervasive and simple, are transforming language, its social context, and the nature of learning. The paper thus asks about the relevance of history and experience at this juncture.

In general, we believe that it is possible to make language learning more authentic, efficient, relevant, and effective by recognizing and responding to universal mobile technologies. These technologies can be viewed as

- an important delivery mechanism, with unexploited affordances such as image-capture, speech recognition, and location-awareness, which builds on ten years of pilots, projects, and interventions;
- an important modifier on the nature and extent of which language functions need to be learnt, practiced, retrieved, rehearsed, and memorized, or can increasingly be outsourced to personal mobile devices as extensions of human cognition, senses, and memory; and lastly as
- an important determinant of linguistic practices and the nature of discourses across the community, especially amongst less advantaged sectors with less access to conventional ICTs, Information and Communication Technologies, the rather opaque term for today's digital technologies.

There is much research work now ready to be integrated, synthesized, disseminated, and commercialized, but this process must happen within the wider social context that we discuss in this paper.

Mobile Learning – Origins in the Old Worlds

The practice and theory of language learning are both mature and established but continuously evolving. Mobile learning as a research community, however, dates from only about 2001. The first *mLearn* conference took place in 2002 and both the FP7 IST *MOBILearn* and *m-learning* projects date from roughly the year before. Alongside this community, mobile-assisted language learning (MALL) did not see a summative special edition research journal issue until the 2008 issues of *ReCALL*, and this publication did not recognize the



coming universality of mobile phone ownership. The research journal, *Mobilities*, (established in 2006), Urry's *Mobilities* (2006), and Ling's (2004) *The Mobile Connection: The Cell Phone's Impact on Society*, amongst many others, indicate the relative youth of *mobility* as a research area and explain the lack of engagement with the mobile learning community. There are, however, now enough documented empirical studies to provide a coherent perspective and input for language learning and particularly MALL.

There are already papers that document the history, evolution, and development of mobile learning (Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2011; Pachler, Bachmair, Cook, & Kress, 2010). These studies are excellent accounts from early key players in European mobile learning research and are valuable for their scholarly and critical readings of events and concerns in the first decade of mobile learning. There are also sources that give global perspectives (Herrington, Herrington, Mantei, Olney, & Ferry 2009; Ally, 2009; Cobcroft, 2006; Metcalf & De Marco, 2006; Schuler, 2009; Quinn, 2000). Our focus now is to categorize the work of this first decade and explore the relevance of the categories to the learning of language.

Mobile Learning – Reaching Out

The mobile learning community has demonstrated that it can take learning to individuals, communities, and countries that were previously too remote or sparse, economically, socially, or geographically, for other educational interventions and initiatives to reach. This category has included addressing the following issues:

- Geographical distance, sparsity and separation, connecting thinly spread and perhaps nomadic learners to create viable communities, reaching into deeply rural areas, for example the Janala project in Bangla Desh (BBC, 2010), which delivers English language teaching.
- Infrastructural, environmental and technical barriers, for example, areas of in South or Central Asia or sub Saharan Africa, supporting those communities lacking mains electricity (or “household electricity,” as it is known in the US and Canada), secure clean buildings or land-line connectivity, for example the SEMA project in Kenya (Traxler & Leach, 2006) delivering in-service training including Kiswahili to primary teachers.
- Social exclusion, reaching students unfamiliar with and lacking confidence in formal learning and its institutions, for example the homeless, gypsies, nomads, those not-in-education-employment-or-training (NEETs) (Collett & Stead, 2002), lower socio-cultural groups (Unterfrauner, Marschalek, & Fabian, 2010) and township youth (Botha, Vosloo, Kuner, van den Berg, 2011), and economic migrants, for example Africans needing Italian language support upon landing in Europe (Attewell & Savill-Smith, 2004)
- Physiological or cognitive differences, for example, supporting learning access and opportunities for people with impaired hearing or mobility, or scheduling and organizational support for people with dyslexia (Rainger, 2005)
- Privacy and connection, helping chaperoned or secluded women and girls in traditional cultures to access informal and social learning, cultural sensitivities may inhibit reporting,
- Dead-time, exploiting small bursts of otherwise unused time, waiting in elevators, cafes, buses, and queues, current incarnation of *bite-sized learning*, educationally



limited, mobile phones will always be carried by learners, used to teach vocabulary, for example, Italian (Levy & Kennedy, 2005) and Greek (Pincas, 2004).

For purely practical reasons, learning and technology have often been simple, and have concentrated on content. Furthermore, for this category but especially those examples where learning is being extended into communities that are somehow remote or marginal, perhaps culturally, linguistically, socially, or just geographically, we must recognize that technology, including mobile technology, always has ideology and pedagogy embedded in it. There are no neutral, empty technologies. These technologies project the pedagogies and languages, strictly speaking the epistemologies, of outsiders into communities that already have their own learning and language. There is a risk that mobile technologies delivering learning in this way represent both a Trojan horse and also a cargo cult (Lindstrom, 1993; Worsley, 1957) that threatens or undermines fragile educational ecosystems.

Mobile Learning – Enriching

The mobile learning research and developer community has demonstrated that it can enhance, extend, and enrich the concept and activity of learning itself, beyond earlier conceptions of learning. This category includes ideas of

- Contingent learning and teaching, where learners and/or teachers react and respond to their environment and their changing experiences, for example, with real-time data collection and analysis on geography field trips; where teachers can change their teaching in response to the changing affordances of the environment, for example using students using mobiles as personal response systems (PRs) in lectures (Draper & Brown, 2004)
- Situated learning, where learning takes place in surroundings that make it relevant and meaningful. This sub-category includes language learning (Thornton & Houser, 2005) but also learning about religions whilst visiting temples, mosques, churches and synagogues (Burke, 2010); and natural history, for example butterfly spotting (Chen & Kao, 2003).
- Authentic learning, where meaningful learning tasks are related to immediate learning goals, for example basic literacy or numeracy in work-based learning on the job or learning on placement for junior doctors in surgeries, student vets in consultations, nursing trainees in the wards, and trainee teachers in schools (Kneebone & Nestel, 2003; Smordal & Gregory, 2003; White, 2005; Kneebone & Brenton, 2005; Kenny, Park, Van Neste-Kenny, Burton, & Meiers, 2009)
- Context-aware learning, where learning is informed by the history, surroundings, and environment of the learner, for example, learning in botanical gardens, museums, game parks, or heritage sights. (Lonsdale, Barber, Sharples, Byrne, Arvanitis, & Brundell, 2004).
- Augmented reality mobile learning, where learning builds on local physical context supplemented by an audio and/or video overlay (Smith, 2008; Sharples, M., Meek, S. & Priestnall, G. (2012)
- Personalized learning, where learning is customised to the preferences and abilities of individual learners or groups of learners (Kukulka-Hulme & Traxler, 2005a)
- Collaborative learning, linking learners together meaningfully on a shared task (Facer, Joiner, Stanton, Reid, Hull, & Kirk, 2004)
- Learning support, for example Mobile Oxford (m.ox.ac.uk/desktop/) and CampusM (www.ombiel.com/), gathering information from across city and university datasets



to provide help for students with day-to-day tasks, including finding a library book, checking the next bus or their next lecture, and finding what time the mail is collected from the nearest post box. These systems can be accessed by any mobile phone with a web browser and GPS, both systems giving university students location-specific guidance to academic resources, and urban venues.

- Mobile recommender systems, using the context, academic goals and learning preferences of mobile learners to suggest personalized learning objects, are appearing in the research literature (Yau, 2005)
- Pastoral support, enabling students to access non-academic services and support (Vuorinen & Sampson, 2003), and organizational support (Corlett, Shaples, & Westmancott, 2005), increasingly this is context-aware and location-aware, allowing personalised and timely support.
- Game-based learning, now increasingly mobile (Facer, Joiner, Stanton, Reid, Hull, & Kirk 2004; Giles, 2009; Kato Cole, Bradlyn, & Pollock, 2008; Pulman, 2008)
- Assessment techniques aligned to the affordances, for example physiotherapy (Dearnley, Haigh, & Fairhall 2008)

Few of these sub-categories are clearly defined or mutually exclusive; few are currently occupied by or applied to the learning of language. The purpose of this categorization is to locate ones that might prove useful. All of them, however, represent trends that take learning away from the classroom and the lecture theatre, in fact away from the institution, and at a practical level to support courses and programs that engage with the world outside the institution, either exploring that world or training students to take their places in it. They do, however, also each represent specific sets of pedagogic assumptions about relations between the institution, experience, learning, and education that are not necessarily universal. Not all cultures or countries would share these assumptions and these assumptions represent a challenge for language learning, with its significant cultural context.

Mobile Learning – Learning from one Another

The mobile learning community, in an increasingly widening and amorphous sense, has also demonstrated that the creation of learning, as well as its consumption, can involve learners and everyone else. For example, consider the following:

- Podcasts, although some may come from formal institutions, either universities (Salmon & Edirisingha, 2008), broadcasters, or publishers, such as Pearson, MacMillan, or the BBC, the British Broadcasting Corporation, or informal groups and passionate individuals. Some teach language and conversation, some expound philology and comparative linguistics.
- Social networks, micro-blogs and blogs, such as Facebook, with a Learning Norwegian group, and Twitter, with a feed for anyone learning Wolof.
- User-generated content, for example YouTube, Flickr, and Wikipedia, describing every aspect of language and language learning, however obscure or theoretical
- Apps, several minority language groups and most major publishers provide mobile phone apps for download.

This category makes several different points. Mobile learning is reaching beyond the mobile learning research community or even the more loosely defined mobile learning community of researchers, practitioners, teachers, and their institutions. The wider world is now aware of the potential of mobiles for learning, including learning language. This awareness brings a



weakening or fragmenting of the authority of established institutions and organizations over the curriculum and the canon, creating a more demotic ecology of learners and resources, and a greater diversity of materials and styles. In relation to language, this development poses questions about who owns, controls, and defines language. Whereas historically, organisations such as the Oxford English Dictionary, the Académie Française, the BBC, and the British Council might have had an unquestioned pre-eminence, nowadays this view is more contested, and the mobile and connected nature of our societies is part of that contestation. It is not clear, however, whether mobile technology threatens, protects or embalms fragile and marginal languages. There are conflicting examples from Native American, West African, Central Asian, and East African language communities.

Mobile Learning – Theorizing and Defining

The mobile learning research community has challenged and extended theories of learning (for example, Laurillard, 2007, in which she expanded upon her work that she presented years before, the Conversational Framework, 2002) and engaged with wider socio-cultural theories (for example, Engeström, with his Activity Theory (1987) and wildfire learning (Engeström, 2009), as well as Beddall-Hill and Raper (2010), and Wright and Parchoma (2011) with Actor Network Theory). This development has taken place across both formal learning, including the university sector and the schools sector, and informal learning, including adult learners and visitors in art galleries and heritage sites. No society is monolithic in terms of culture, specifically in terms of learning, language, and epistemology. The latter, meaning, what people know, how they know it, how they express it, how they come to know it, and how they pass it on, are defining features of different cultures. The global knowledge economy and the common ethos and practices of university education might tend to homogenize or harmonize higher level formal learning, and global techniques and technologies might tend to standardize vocational and technical education and training, but this standardisation and harmonisation are less apparent within informal, family and community learning, within communities with an oral culture rather than a literate culture, creating a very diverse epistemological, linguistic and learning ecology, a patchwork, one that has not been adequately explored or documented. It is part of the much larger issue of the interaction and the dynamic between technology, learning and culture. “Some see technology as supporting modernisation, economic growth and improved lifestyles. Others look upon it as an imperial force, mono-cultural, invasive, eroding traditional cultures” (Latchem & Jung, 2010, p. 14).

There is, however, a more practical aspect to these theoretical considerations. Practitioners, managers, and policy-makers, and the population as a whole, have become more familiar and confident with increasingly powerful mobile technologies. As a consequence, learning with mobiles has become apparently self-explanatory and self-evident and researchers, especially theorists, have dropped out of the picture, as ministries, agencies, and corporations invest more in learning with mobiles, including those involved in language learning with mobiles: Theory is apparently no longer necessary. In fact, theory still operates but it is often simplistic, uncritical and tacit theory, like *keep it simple stupid* or *content is king*. The mobile learning research community must still assert the value of theory in order to resist this dumbing-down, but must also explore the relevance of theory specifically to language learning.

Mobile Learning – Enthusing and Motivating



The last achievement of the mobile learning community, right from the outset, has been its capacity to interest and motivate learners, especially it seems those who are disenfranchised or disengaged. Sadly it is difficult to capture, document, and analyze the nature or extent of improved motivation and what one sceptical journalist called the *fluffy* nature of the evidence has often been thought to be problematic. The most common observation about mobile learning has not been something concrete and objective but something far less tangible yet nevertheless very apparent to teachers, researchers, and any other observers. Looking back, we find learners like it. Looking forwards rather than backwards and asking about the rationale for learning with mobiles, it is clearly no longer the evidence base, *fluffy* or otherwise, that matters but the fact that learning without mobiles is no longer credible or authentic in our societies, especially learning languages, so often now mediated by mobiles.

Mobile Training – Just-in-case vs. Just-in-time

There has always been a significant distinction between *just-in-case* learning and *just-in-time* learning. The former is the notion that education, especially primary and secondary education, can and should equip individuals for life. The latter is the notion that education can and should be delivered as and when required by individuals. Mobiles increasingly facilitate learning *anywhere, anytime* and *just-for-me, just-enough* and are now the obvious technologies for *just-in-time* learning. They are however also the obvious technology for *performance support*. Performance support (Quinn, 2011, p. 8) is “in effect augmenting our brains,” it is the provision in real time, usually automated, of information, images and guidance, often contextual or personalized, to enable a task to be performed more accurately and efficiently. It does however mean that individuals need less training, education or preparation for tasks, since mobile technologies will guide, instruct and monitor them as they perform the tasks; individuals will also have less choice, autonomy, agency and discretion about how they perform tasks. To return specifically to language learning, mobile performance support for languages may renders progressively more aspects of language learning redundant. *Speak another language? There’s an app for it!* This is actually only the latest incarnation of personal, portable, real-time machine translation.

Mobile Learning – Limitations and Challenges

Mobile learning should be obvious, it ought to be easy, and it ought to be successful. Most people have mobile connected devices, and most people want to learn or have to learn, so what could be easier? Most people have their own ideas, habits, and experiences about how they should learn. Mobile learning has not however swept the board, it is not the new orthodoxy and there are still challenges.

The first challenges are based on misconceptions about how easy it will be to scale-up, sustain, and embed our mobile learning trials and projects. We must develop a much better understanding of how specific pilots, projects, and trials can be safely enlarged and can be best deployed and extrapolated, and learn how to disentangle outcomes that have been contingent on specific and possibly insignificant local factors. We need to understand how to abstract or generalize, to think about transferability and relevance.

Sustainability is a related misconception. We must develop an understanding of mobile learning projects, in terms of their ability to generate revenue or meet their costs and an understanding of their impact on human, economic, and social capital in relation to their



various costs. Sustainability is complex and important; various stakeholders each have their own perhaps simplistic misconceptions

Embedding is part of the same set of misconceptions. It means the integration with other technology enhanced learning systems, such as virtual learning environments, and with institutional and organisational processes. The misconception is that it will be an easy foregone conclusion but has however proved difficult owing to funders, researchers, and developers prioritizing the project rather than the environment of the host institution, of cultural and psychological differences between innovators especially outsiders and regulators and administrators.

The last but also related misconception surrounds the nature of evidence derived from mobile learning trials and pilots. The community needs evidence that demonstrates relevance, significance, and impact. Mobile learning researchers and developers have not always had the time, resources, and expertise to generate credible and appropriate evidence; the evaluation of mobile learning has been inherently challenging compared to e-learning because the context and the environment act as confounding variables.

These observations apply to language learning with mobiles as much as any other learning, but we now argue that this relative failure of mobile learning, or rather the mobile learning community, may not be as catastrophic as our portrayal, since the universality of mobiles may relegate mobile learning as enacted by the mobile learning community to the margins, while as a whole adjusts to living with and learning with mobiles.

New Mobile Learning in the New World – The New Truths

Having looked backwards, at the achievements, limitations and possibilities of learning language with mobiles as conceptualized and practiced by the community of mobile learning researchers, we now look forward. In the coming decade, from roughly the present onwards, mobile technologies have become popular, personal, robust, affordable, and social. These technologies have become democratic or rather demotic in nature as society itself became mobile and connected. As the functionality and capability of mobile technologies increases, as a generation of young people matures and as network take-up, competition and coverage approach saturation, it becomes increasingly difficult to imagine everyday life before or without mobile technology. We begin to see a new world, with new languages, communities, expectations, and behaviour. There is a chaotic, rich, and growing literature describing the profound and transformative impact of the widespread ownership of mobile technologies on most aspects of our societies and cultures.

These two brief perspectives, looking backwards and looking forwards, allow us to describe the present, perhaps rather dramatically, as a *tipping point*, one with considerable consequences for the nature of education and learning.

Mobiles and Mobile Learning – The Tipping Point

The most obvious and the most objective transformation, at a national, organizational, and individual level, is of the artefacts, resources, commodities, and assets that constitute economic life, and of the ways that we, as individuals, organizations, and nations, produce, exchange, invest, and consume them. There is also a transformation of the nature of work itself. Mobile technologies facilitate remote and extended working, out of hours, off the premises, in the holiday, and by increasing the supervision and they facilitate monitoring



and potentially deskilling of peripatetic and dispersed workers. These transformations are some of the social contexts of language use, and the key context of language for business purposes.

Another obvious though perhaps minor transformation is forms of artistic expression, creating or mutating genres for art, creating new artists, new business models and new markets for their work, from blogs and flash mobs to ringtones and downloads. Others transformations be seen in our political life as the old sedentary institutions and organizations lose touch with the values and concerns of people growing up in a different world, and in crime and wrong-doing from BlackBerry-enabled rioters to trolling, happy-slapping, blue-jacking, and cyber-sex. Unfortunately, not only are the facts of a mobile and connected society important for educations but so are its fictions, the moral panics that cite mobile technologies as the cause of students who stay in bed, the decline in literacy, the deterioration in manners, and the rise of the couch potato. Educators must sadly and defensively view and review their mobile learning innovations through the eyes of journalists needing copy.

Mobiles and the Transformation of Space, Place, Identity, and Community

There are also accounts (for example, Katz & Aarhus 2002; Fortunati 2002; Ling 2004; Nyiri 2007; Pertierra 2005) of how mobility and connection change how we think of ourselves, our identities, our affiliations, our relationships, and our communities; nowadays many people have multiple online identities, sometimes even within the same cyberspace domain and sometimes different genders. These identities are not merely their real identities and personalities (re)enacted online, any more than their avatar in *SecondLife* is merely a collection of pixels. Nor are they somehow less real than the real ones, nor are they online fancy dress or impersonation, but are actually and obviously authentic locations where emotions and values are established, felt, and transformed. The implications for learning language are the transience, fragmentation, and complication of the identities and communities being served, potential changing the ideas of outreach and recruitment as people shift the places and spaces that they inhabit.

Mobiles are becoming embodied or prosthetic, part of us, inseparable, umbilical cord to much that we now value, the last thing at night, the first thing in the morning. Organisations expecting to separate people from their mobiles need to think about threatening these attachments.

Mobiles and the Transformation of Social Practices

These changes drive further changes in expectations about behaviour, about what is good, acceptable, appropriate or okay in our interactions, our relationships, our conversations, our ideas about what is correct and, ethical, as the mobile phone intrudes more and more into everyday life and as the mobile phone is increasingly the portal to online activities and communities. What defines and characterizes a community is a shared consensus about ethics and expectations, and a shared language. What is as an acceptable gesture, an interaction, a conversation, a lexicon or a topic in one community is not necessarily so in another. Furthermore, online communities are much more volatile and tacit than physical face-to-face communities—offense is easily given in the wrong place. Educators find themselves venturing into the equivalent of foreign countries with strange customs and traditions when they take learners to or seek learners in cyberspace or in phonespace.



As the mobile phone becomes an automatic component or presence of every face-to-face social and interpersonal interaction, in the café, the conference, the classroom, and the concert, the street corner, the bus, and the pub, these interactions change and the rules evolve, quickly or slowly, willingly or unwillingly, consensually or conflictedly. The literature talks about tie-signs, enforced eavesdropping, and a host of other social practices that grow, change, and fragment whilst forming the matrix for conversation and discussion.

Educators must work with and within a society where the private and social online spaces of music, community, and interaction intrude physical and educational spaces and where, for example, phone calls interrupt conversations, classes, and concerts. Recognising this transformation is especially relevant to learning language where the intrusion is actually the context of the language.

Joining or creating communities, online or otherwise, means acceding to a set of expectations about how to behave and how to interact. In the online world, these communities are fragmentary, transient, and complex, accessible more to those digital native learners than so many of their digital immigrant teachers, if we may use such a flimsy generalization.

Mobiles and the Transformation of Knowing and Learning

Connected universal mobile devices, the portal onto web2.0 services, also change the nature of learning and knowing. Everyone with a smartphone can generate, store, share, discuss, and consume images, ideas, information, and opinions. They can access the cloud, and the services it provides, and they can access one another. They can pursue, sustain, or invent interests specific to them, their location, their histories, and their culture. This formulation sounds like education by another name, perhaps a highly personalized or undisciplined education, but an education without the gatekeepers, barriers, and constraints of most schools, colleges, and universities, and without the support, standards, structure, stability, and incentives of these established institutions. The challenge to education systems is of course the shift or discrepancy in control, authority, and agency represented not by the technologies themselves but by the social changes around them. This challenge is perhaps at the heart of notions that mobile learning is disruptive, not just a nuisance, but profoundly transformative, and impacts both the practice and curriculum of language learning.

Mobiles and the Transformation of Language and Discourse

We have made the general case that language is a social practice, that society is being transformed by mobiles, by connectedness and mobility, and that language is a defining characteristic of communities. An obvious and concrete example is *text-speak* and its original subversive association with communities of teenagers. Shortis (2007) and Thurlow (2003) both give considerable context to this remark. Goggin (2006) draws together a number of accounts from the history of texting, from various contexts and from different analytic perspectives. We could cite examples of the capacity of mobiles to perturb the balance of different languages within physical communities, for example in East Africa, and even to perturb the balance of different representations of language, not only *text-speak* but also Latin character sets versus local character sets in China and Arabia.



Looking Backwards and Forward - The Tipping Point

This short account clearly abbreviates and exaggerates something far more complex and subtle but the points are nevertheless relevant to a discussion of mobiles, language, and learning. The implications for education and learning are manifold. Even if the role of education is only to service the economy, the nature of that economy is changing rapidly, often in ways that the settled institutions of education might be the least suited to adapt to. Another role for education is to address exclusion and disadvantage, including linguistic exclusion and disadvantage – the latter are however both transformed in a mobile and connected society.

We conclude by turning our philosophical and social account of language and discourse into one of language learning. We can restate our belief that mobiles are an important delivery mechanism for language learning with unexploited affordances, such as image-capture, speech recognition, and location-awareness. We can revisit the belief that mobiles are an important modifier of the nature and extent of which language functions need to be learned, practiced, retrieved, rehearsed or memorized, and can increasingly act as substitutes and extensions of human cognition, senses, and memory, and restate our belief that mobiles are an important determinant of linguistic practices and of the nature of language, communication, and discourse within communities.



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