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## Learning Cultures on the Move: Where are we heading?

Agnes Kukulska-Hulme

Institute of Educational Technology, The Open University, UK // a.m.kukulska-hulme@open.ac.uk

### ABSTRACT

The paper analyzes the globally recognized cultural move towards a more learner-centred education and discusses the implications for the adoption of mobile technologies and design for learning. Current expectations vis-à-vis learner attributes, skills and competences are explored. The pervasiveness of mobile technologies is precipitating these developments, whilst also generating a distinct mobile culture where learners take mobility and context-awareness as starting points and become more visible as innovators, creators and producers. Language learning, one of the most popular application areas of mobile learning, provides fertile ground for the growth of this phenomenon. The paper reviews several innovative language learning applications and concludes by indicating the directions in which we are heading.

### Keywords

Mobile learning, Learner-centredness, Learner-led innovation, Competences, Language learning

### Introduction

Technology is fundamentally changing how we teach and learn. Is this assertion true? It is something many would wish to believe, as education struggles to re-shape itself in response to the perceived challenges of the early 21<sup>st</sup> century. Certainly, “too many educational institutions still lack serious leadership engagement with the innovative application of digital technologies” (Laurillard, 2007: xvi), but there are bottom-up change processes at work, with many researchers and education professionals exploring more effective approaches to ‘design for learning’ (Beetham & Sharpe, 2007) and learners becoming more engaged as co-creators of experiences and resources.

The evolution of ‘learning cultures’ is one of the manifestations of change. The term ‘learning culture’ is often used as a means to promote a positive and active disposition towards learning in society or in organisations, focusing on helping people to develop the habit of learning throughout their lives (e.g. DELNI, 1998). A project aimed at improving learning in Further Education in the United Kingdom concluded that “The most effective way to improve learning is to change learning cultures” (Hodkinson et al., 2005: 1); this meant recognizing that ‘what works’ is often context-specific. The project found that “Often the good pedagogy researchers observed did not fit official criteria. More support for a tutor’s individual approach that is sensitive to the surrounding learning culture could be combined with staff development strategies that encourage the sharing of expertise” (*ibid*:1). The lesson from this is that we have to face the plurality of learning cultures and find ways to value the individuals who are closely involved. This would also apply to learning cultures emerging around particular technologies and media.

Educators are nowadays able to share expertise and to learn informally from one another through social media and online support. Likewise learners, in formal and informal settings, are taking advantage of online social spaces for learning and mutual support. Mobile access enlarges those communities and networks, and perhaps it is starting to play a role in connecting them, too; for example, individuals’ status updates are increasingly shared across applications. Yet it takes more than technology to connect people in ways that are sensitive to existing and emergent learning cultures.

Learners are increasingly in a position to engage in educational activities motivated by their personal needs and circumstances, including those arising from greater mobility and travel, and to draw on the resources of communities of like-minded learners. ‘Context-awareness’, that is, awareness of one’s surroundings and their potential to provide information and rich learning experiences, becomes a starting point for learning. Context-aware learning is about enabling learners to use personal and social technologies to draw on aspects of their environment, including people who can join in or help, approaching the environment as a dynamic learning resource (see Luckin, 2010). Context-aware technologies can also detect a learner's presence in a particular place, or in relation to other people and objects nearby, and adapt the learning experience accordingly.

This leads to a variety of uses of technology, inside and outside the classroom, in flexible and spontaneous forms of learning and sometimes with ‘lifelong learning’ as an ambitious goal. Foreign language learning, arguably very well suited to lifelong and mobile learning, is a good case in point. By looking at how language learning is changing, we can see the transformation that is possible as well as the challenges that need to be understood. Language learning is increasingly an everyday activity integrated with life, as travel becomes more commonplace and use of the Internet means that everyone will stumble upon opportunities to read and connect in other languages.

This paper analyzes recent developments in the cultural move towards a more learner-centred education and discusses the implications for the adoption of mobile technologies and design for learning, noting the effects of widespread mobile technology use and the directions in which this is taking us. When learners become the focus, expectations change. Learner attributes, skills and competencies come under scrutiny and need to be explored. The pervasiveness of mobile technologies appears to be precipitating these developments. At the same time, the combination of mobile technology and mobility generates a mobile culture where learners’ specific needs in relation to their current location and context become important stimuli for learning designs. Our ongoing research with mature learners and teachers, summarized in this paper, provides insights into emergent practices with mobile technologies that have implications for all those involved in the design of learning technology and working in education. This new reality is shown in relation to language learning, where a range of novel applications is emerging, with potential for much more innovation if the unique characteristics of mobile learning are fully realized.

## **Learner-centred Education and 21<sup>st</sup> Century Learners**

Although learner-centred education is not new (see Rubin, 1975; Brandes & Ginnis 1986; Pulist, 2001), in some of its earlier interpretations teachers were the true focus of attention rather than learners. In his book on the learner-centred curriculum, Nunan (1988) writes that the curriculum is “what teachers actually do” (p. 1). He goes on to advise that the first step in the curriculum process should be the collection of information about learners, but notes that “the most valuable learner data can usually only be obtained in an informal way after relationships have been established between teachers and learners” (*ibid*, p. 5). In practice, for example when large numbers of students are involved, this can be hard to achieve.

As classes grew larger, but before widespread use of technology, it was difficult to obtain learner data, to know what individual learners required and how they wished to learn; nowadays it should be more feasible to accomplish this, although it still requires effort. Online education has been at the forefront of such developments, with various web-based tools being designed to assess learner preferences and their readiness for a particular learning modality (e.g. Diaz & Bontenbal, 2001). In an effort to help both learners and teachers, Nakamura *et al.* (2002) developed a multimedia communication system allowing learners to select materials according to their interests and preferences, while at the same time helping teachers to become more learner-aware. Beaven (2009) reported on the successful use of blogs as a communication medium between teachers and learners, a way to carry on a conversation in between formal learning sessions.

Mobile technology is still underused in this respect, perhaps due to unresolved issues in the use of mobile devices for informal teacher-learner communication when classes take place in a formal setting – issues such as privacy, information overload, prohibition of use in some establishments, and a lack of trusted guidelines on acceptable conduct. Nevertheless, the fact that learners are carrying personal tools which can be used for learning and communication (typically cell phones and music players; perhaps tablets and e-book readers in the near future), means that mobile technology acts as a catalyst for an inquiry into learner preferences, skills and study behaviours (Kukulka-Hulme & Pettit, 2007). What we expect of learners is changing, partly due to the pervasiveness of technology.

So, what do we expect of our learners nowadays? If a “changed and more experienced person” is the major outcome of learning (Jarvis, 2006: 132), what transformations are educators hoping to achieve? There are many answers to these questions, but recent initiatives suggest some forward-thinking ideas in education at all levels. Several examples of emergent thinking are worthy of mention. In the UK schools sector, The Royal Society for the Encouragement of Arts, Manufactures and Commerce developed the Opening Minds framework which aims to help schools provide young people with “the real world skills or competencies they need to thrive in the real world” (RSA Education, 2010), in an alternative to a strictly subject-based curriculum. Used in over 200 schools, Opening Minds

was developed in response to a belief that the way young people were being educated was becoming increasingly detached from their needs as citizens of the 21st century. It is based on five sets of competencies that can be developed in projects or 'umbrella' units; the competencies are: Citizenship, Learning (learning how to learn), Managing Information, Managing Situations, and Relating to People. These competencies put emphasis on active engagement and participation.

In the US, the Partnership for 21st Century Skills (2009), an organization that advocates the enhancement of core academic subjects through the development of a range of vital skills, has elaborated the Framework for 21st Century Learning. This Framework describes the skills, knowledge and expertise students must master to succeed in work and life, covering three areas: Learning and Innovation (creativity, critical thinking, problem solving, communication, collaboration); Information, Media and Technology (information, media and ICT literacies); and finally, Life and Career (this includes flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, leadership and responsibility). The MILE Guide Self-Assessment Tool (2009) shows the envisaged outcomes of this 21<sup>st</sup> century skills development, stating that ultimately students will be "active collaborators" in the teaching and learning process, acting as co-creators of knowledge along with other students, teachers and education leaders, engaging with project work and inquiry-based learning. Similar sentiments are expressed in the UK higher education sector, where the Higher Education Academy (HEA) put forward the idea that universities need to improve "the nexus between research and teaching" (HEA, 2009). To help realize this goal, it is argued that all undergraduate students in all higher education institutions should experience learning through, and about, research and inquiry. Drawing together international experience in developing undergraduate curricula focused on student research and inquiry, Jenkins and Healey (2009) state that the goal is "to move more curricula in the direction of developing students as participants in research and inquiry, so that they are producers, not just consumers of knowledge" (Jenkins & Healey, 2009: 6).

Expectations can also be identified in relation to non-formal and informal learning. In the lifelong learning sector, the European Commission has a strategy to foster the recognition of these types of learning and *Youthpass* has been provided as a tool to record learning outcomes gained in international educational projects, enabling participants in these projects to describe what they have done and the skills they have acquired. The framework sets out eight 'key competences' (Youthpass, 2009: 20):

- Communication in the mother tongue
- Communication in foreign languages
- Mathematical competence and basic competences in science and technology
- Digital competence
- Learning to learn
- Social and civic competences
- Sense of initiative and entrepreneurship
- Cultural awareness and expression

On the basis of a survey of early 21<sup>st</sup> century initiatives, we can begin to form a picture of what is expected of learners, or what is the ideal learner today. From an educators' perspective, a number of learner skills, attributes and competences emerge:

- Active, inquiring, analytical
- Engaged citizens
- Equipped with research and inquiry skills
- Exercise independent critical judgment
- Co-creators and producers of knowledge
- Able to function effectively in the real world
- Able to communicate and cross language boundaries or cultural boundaries
- Motivated and equipped to continue learning over a lifetime

Many educators aspire to use new technologies in ways that will enable such competences, skills and attributes to be strengthened or to emerge. As mobile technology becomes ever more pervasive, the question arises as to whether it can enable learners to demonstrate or develop these traits. One way to approach this question is to look at how learners are already using their personal mobile devices for life and learning, to see if there is any kind of match between the nature of these mobile device uses and the characteristics that educators would wish to promote. The

next section gives an account of learner-driven practice and innovation and what can be deduced from the ways learners are using mobile devices to support their studies and in other areas of their lives.

## Learners as innovators

What can we learn from the ways in which learners use mobile devices? In 2005-9, the JISC e-Learning Programme in the UK funded a series of studies under the 'Learner Experiences of e-Learning' theme. The publication 'In Their Own Words' (JISC, 2007), which summarizes the first stage of the programme, describes an "under-researched and imperfectly understood world of the learner in a digital age" (p.3), and goes on to explain how the funded projects aimed to fill this gap. The studies considered the use of all e-learning technologies by students. Mobile devices were included, and in fact mobile phones, laptops and PDAs were found to be widely used to support learning. It was claimed that the mix of new technologies used by students and traditional ones supplied by course tutors and institutions was shifting patterns of study and causing a mismatch between the expectations of academic staff and the study habits of learners.

Another finding from these studies was that peer support provided by informal networks of friends and family, using a range of communication technologies, provided "an underworld of communication and information-sharing invisible to tutors" (p.11). How can tutors find out more about this activity? The report recommends establishing "a culture of listening to learners" (p.24). In the second stage of the programme, a synthesis report confirmed that learners value the use of personal technologies in institutional settings (Sharpe & Lessner, 2009). All this points to a rising tide of mobile technology use against a backdrop of institutions and teachers who are curious about this aspect of their students' lives but have little information about it. In the first phase of their research on young people entering university, Jones et al. (2010) collected information about access to mobile devices, though not the detail of particular uses; they report that among these students, the laptop and the mobile phone are not yet universal "...but the vast majority of students make extensive use of mobile technologies and computing facilities for communication and for access to course materials and resources" (p. 20). Ito, Okabe & Matsuda (2005) have written about uses of the mobile phone amongst young people in Japan, where it is regarded above all as a personal accessory enabling constant social connection.

During 2006-9, we undertook a series of studies focusing on more mature learners (typically over the age of 25), to investigate their use of mobile technologies in various spheres of life, including learning. The learners were either using devices that had been lent to them for the duration of the project (Kukulska-Hulme & Pettit, 2008; Pettit, & Kukulska-Hulme, 2008), or they were using their own devices (Kukulska-Hulme & Pettit, 2006; Pettit, & Kukulska-Hulme, 2007; Kukulska-Hulme *et al.*, 2009). Our interest in older learners is partly determined by our involvement in distance education, which has traditionally attracted a majority of students in their 30s, 40s and 50s. However, there are also other reasons why more mature learners are interesting to research, in particular because they are more likely to lead more complex, multitasking lives, with more experience of work-related mobility and travel. Being older, they are likely to be able to use their past experience to make sense of current experience, reflecting on what worked well in terms of their past learning and what didn't. Admittedly, experience can be a double-edged sword: the extent to which we can free ourselves of our past is a debateable point, according to Jarvis (2006, p. 128). We may be too heavily influenced by it! Nevertheless, our inclination to look at mature learners is shared by the Thema project (Robinson *et al.*, 2008), which explored the experiences of Masters students in technology-rich environments. The researchers explain:

Master's students are of particular interest because of their varied educational history (some are recent graduates; others may be returning to study after a long period) and life situation (part-time students may have work and/or family commitments). In addition, a substantial number will be planning to embark on doctoral programmes and thus are making the transition from taught to independent study (Robinson *et al.*, 2008).

From our surveys and interviews with mature learners using mobile devices, as referenced above, we have amassed a considerable amount of detail of learner experiences; some general findings and reflections are worth sharing here:

- *Collectively there are countless ways to use a personal mobile device to support learning.* This may seem self-evident, yet there is an important point here. Owners of personal technologies do not normally receive training in their use; instead, they learn informally from friends, work colleagues and family. A

more complete picture of possible uses of mobile technologies to support learning would perhaps enable learners to make better purchasing decisions and to take greater advantage of the devices already in their pockets.

- *Photo-sharing could be a route to informal learning and then formal learning with others.*  
Taking photographs and sharing them with others is a highly popular activity which is facilitated by camera phones, photo sharing sites, and the relative ease with which photos may be posted on blogs. Users report liking the supportive feedback obtained by having others comment on posted photos. It may be a relatively non-threatening way to begin to turn an informal interest into more formal study.
- *Usability of mobile devices is learner- and context-dependent.*  
Many learners are perfectly happy to read on a tiny screen, whilst for others this is a major barrier. User experience also depends on lighting, ambient noise, environment of use. Learners want free and reliable wireless access to the Internet; this is often a major factor in continued use of a mobile device or its rejection. Commuters' experiences are liable to change without warning, e.g. when new types of seating are introduced on buses or trains.

*Table 1. Examples of personal mobile device uses, reported by learners*

Australia	Send photos of landmarks to friends to find out where I am Create e-resources with audio such as Powerpoint presentations Record things on my iPhone and replay them in the iPod function
Hong Kong	Use the dictionary, listen to news to learn English Take photos of billboard advertisements and pictures in reference books Download a lot of books for reading
Portugal	Enter contests and use my mobile to answer quizzes Listen to podcasts and class summaries Record music samples, share music with my students
Sweden	Listen to educative radio shows Learn songs and words of songs Make calls to friends who are experts in a diversity of fields
United Kingdom	Send texts and pictures to the Moblog community Listen to BBC podcasts while I cycle to work Read blogs when waiting for dentist who has free wifi in surgery

Through our international survey undertaken during 2008-9 in Australia, Hong Kong, Portugal, Sweden and the UK (Kukulska-Hulme *et al.*, 2009), we have continued to gather examples of mobile technology use in relation to life and learning. The motivation behind this research is to capture early signs of where new practices are emerging, that may spread elsewhere, and second, to identify local factors that may influence learner choices and actions. The overall aim is to raise awareness of learner experience with mobile technologies, in a world where educators need to develop their understanding of international students whose home experience will in some way impact on their technology choices and expectations when they study abroad. The research has yielded interesting examples that can help start conversations between teachers and learners, in the spirit of listening to learners and promoting mutual understanding (Table 1). These examples of personal mobile device use show that learners are actively using their cell phones, smartphones, PDAs and mp3 players to create, collect and access useful resources, to communicate inventively in a variety of ways with other individuals and communities, and to make best use of time wherever they happen to be. Over the period of our research to date (2005-10), new activities have gradually started to be mentioned more frequently, which can be grouped under five headings (Table 2). These point to the emergence of social and community interaction, mobile Internet access, use of multiple media, location-based activity and user-created content.

An awareness of these developments can shift perceptions of what can be done with mobile tools, draw attention to the possibility of connecting informal and formal learning, and of course it raises questions about what this means for

teachers, curricula, institutions, and for education systems more broadly – how these practices may impact on teaching and learning. Considering the expectations that educators have of 21<sup>st</sup> century learners, as outlined in the previous section, it is possible to see how personal use of mobile technologies might support these aspirations. Admittedly, reported learner activity does not readily reveal the thought processes and motivations behind learners’ actions, nor the extent to which a specific activity is representative of a competency, skill, attribute or expertise. To establish this more fully, in-depth research will be needed. Nevertheless, there are indications that mobile devices are instrumental in giving learners scope to adopt an active stance in relation to the process of learning and to develop their initiative, digital competence, knowledge production and communication. There is more work to be done in looking underneath the surface of these categories, to investigate whether there is an alignment between educators’ and learners’ perspectives on what is involved. For example, is there agreement on what constitutes ‘communication’ in mobile environments and what types of communication are educationally valuable? Furthermore, mobility and physical context are apparent in learners’ accounts of their uses of mobile devices, whereas educators’ expectations make little reference to how these aspects may impact on how learners behave and what they are expected to achieve.

*Table 2. New activities emerging during the period 2005-10*

social/community interaction	<ul style="list-style-type: none"> <li>• the use of use social apps on the phone (e.g. Facebook)</li> <li>• being part of microblogging communities, e.g. Twitter</li> </ul>
mobile Internet access	<ul style="list-style-type: none"> <li>• browsing websites</li> <li>• reading news</li> </ul>
multimedia uses	<ul style="list-style-type: none"> <li>• watching movies and TV shows</li> <li>• listening to audio books, podcasts, and vodcasts</li> </ul>
location-based activity	<ul style="list-style-type: none"> <li>• using GPS to find places</li> <li>• using location-based services</li> </ul>
user-created content	<ul style="list-style-type: none"> <li>• filming an event to create a resource</li> <li>• creating podcasts</li> </ul>

It can be argued that the pervasiveness of mobile technologies is generating a distinct culture where learners repeatedly use mobility and awareness of their immediate context as starting points for keeping social contact alive, accessing fresh content, getting local information and becoming visible as creators and producers of content. These developments have special meaning for language learning, as will be discussed in the next section.

### **Will mobile learning change how languages are learnt?**

Foreign language learning has always been pursued both as a serious, long-term commitment, and as a more ad-hoc activity connected with travel, work, business, leisure and personal contact with speakers of other languages. ‘Culture’ has a special significance in language learning, being a core concept inseparable from language – although this is not always apparent when language learning is reduced to memorizing sets of supposedly equivalent words and phrases, as still too often happens at beginner level. The ways in which ICT and the online and mobile worlds are affecting language itself, are also the concerns of academic study (e.g. Kenning, 2007; Baron, 2008).

Language learning is proving to be one of the more popular application areas of mobile learning, with a multitude of mobile resources available for formal and informal learning and practice. However, many of these materials merely reproduce conventional approaches to teaching and learning; too many are not designed for a mobile learning experience except in the sense that content has been packaged differently. Ros i Solé (2009) rightly proposes a more ambitious agenda for language learning, which “addresses questions about social habits and the resulting sense of the language learning self” (p. 138) and which has situated learner experience as its focus.

There are some promising signs of new beginnings. New tools include the CapturaTalk (2010) software for mobile phones, designed for people who struggle to read, by enabling them to have text read out on their phone. Its users are typically people with disabilities such as dyslexia, but also those learning English. They can capture text from books, signs, leaflets and so on, using the camera on the phone, and immediately check words in the online dictionary as well as listening to the text. This approach is conducive to situated, immersive learning where the learner interacts with his/her surroundings whilst having the ability to adapt the learning experience to personal needs. In a context-aware application, Ogata *et al.* (2010) propose a computer assisted language learning environment (TANGO) that detects physical objects around the learner using RFID tags, and assigns questions to the learner related to the detected object, in order to improve vocabulary knowledge; the environment also allows the learners to share their knowledge. This development focuses on the learner's mobility and interaction in a designated space.

Personalization is at the heart of a tool developed by Chen & Hsu (2008), a PDA-based intelligent mobile learning system (PIMS) which recommends English news articles to learners based on their reading ability and provides appropriate explanations of vocabulary. A personal approach is also advocated by Pemberton, Fallahkhair & Masthoff (2005), who investigated the use of interactive television (iTV) for supporting second language learning amongst independent adult learners, emphasizing the need to fit in with these learners' approaches to media use in language learning, and suggesting a solution using the mobile phone in conjunction with iTV to facilitate informal language learning from up-to-date authentic materials broadcast on television.

Another interesting approach is the development of mobile learning resources based on 'crowdsourcing', that is, production by many distributed individuals willing to put in time and effort for free. The Smart.fm Mobile Study Dictionary has been designed by Joseph (2009), who is learning Japanese; this uses a crowdsourcing approach which combines mobile content with materials on language and culture produced by like-minded learners and shared via a community site. In a similar vein, Pemberton, Winter & Fallahkhair (2010) have developed CloudBank, a collaborative mobile knowledge sharing system for language learners that combines the characteristics of personal and contextual use, informal learning, user-generated content and content syndication, together with a social network. This mobile and web-based crowd-source information system is designed to help international students further their knowledge and understanding of local language and culture in the country where they are studying.

Self-direction and community-based learning underlie Michelsen's (2008) proposed design of a mobile digital revision space where learning is based around a virtual community of practice, enabling second language learners to revise on the go for the Cambridge First Certificate in English exam. Collaborative, situated, learner-directed learning is demonstrated by Comas-Quinn, Mardomingo and Valentine (2009) in their project involving a mobile blog for sharing experiences of a foreign language and culture. In a formal school setting, Ogata *et al.*'s (2008) mobile environment for language learning outside the classroom (LOCH) enables a teacher to assign field activities that involve students sharing individual knowledge and experiences; the aim is to integrate students' real world needs with knowledge acquired in the classroom.

All the above mobile tools, in their different ways, place the learner at the centre of the situated language learning experience; some have a special focus on culture, but there is more to be done in this respect. The end of the 20th century marked the beginning of a European initiative to encourage cross-cultural communication and lifelong learning. The European Language Portfolio, or ELP (Council of Europe, 2010a), aims to support lifelong language learning and to promote understanding and tolerance across languages and cultures by providing a way to record and reflect on skills in any language, no matter how the skills have been acquired. The Council of Europe recommended that further tools should be developed to encourage learners to reflect critically on their responses and attitudes to experiences of other cultures. The 'Autobiography of Intercultural Encounters' fulfils this role. It invites users to reflect critically upon their own memorable intercultural experiences, and helps them to analyse these experiences in light of the most defining aspects of each encounter. According to the Autobiography website (Council of Europe, 2010b), an intercultural encounter can be an experience between people from different countries or between individuals from other cultural backgrounds in the same country. Users of the Autobiography are meant to describe specific intercultural encounters in which they have taken part, analyse their experience, and identify different aspects of their current intercultural competence by referring to: Attitudes (attitudes and feelings towards the whole experience), Behaviour (interpretation of another's behaviour as well as the behavioural patterns of the learner); Knowledge and skills (knowledge about otherness and how people act in intercultural contact situations; the skills applied); and Action (taken as a result of analysing the intercultural encounter) (Council of Europe, 2010b). The Autobiography was designed to be used across the curriculum in school or any other educational context contributing



to lifelong learning, including as a self-evaluation and development tool. Although the ambition is laudable, it is difficult to imagine individuals using this tool by themselves, in everyday life for instance. Nevertheless the reflective framework is interesting, and the prospect of ‘action’ holds promise that a tool such as the Autobiography could promote change. If it were to be adapted for use on mobile devices, so that it could be used to capture intercultural encounters immediately after they had occurred and to share the experience and the reflection with others, and perhaps if it were integrated with a language learning facility, it might have a greater chance of being used.

## **Future Directions: Where are we heading?**

A mobile culture is one where mobility, awareness of context, and learners’ specific needs become genuinely important stimuli for adoption of mobile technologies and innovative design for learning. We have seen that educators’ expectations with regard to 21<sup>st</sup> century learners encompass many competencies that can be developed through the use of mobile devices, but there is a need for more explicit mapping between what is expected of learners and how mobile technology can help realize these goals. Learners want to make best use of time, wherever they happen to be; yet educators are not used to thinking about time use and the realities of their learners’ lives. The time and context dimensions need to feature both in design for learning and in future plans detailing which attributes, skills and competences should be identified or developed in learners, since learning will become increasingly time-sensitive and context-specific. Generic competences are still valid, but they also need to be related to ways in which they can be acquired, and mobile technologies will become an integral part of how this happens. Learners who are proactive and innovative in their use of personal mobile devices can point the way to the future, however the majority of learners will have to be alerted to the possibilities that exist. Both educators and learners need to realize that mobile technology is substantially different from desktop computing in its essential connection to mobility and the contexts in which it is used.

Increasingly, learners will use mobility and awareness of their immediate context as starting points for keeping social contact alive (who is nearby?), accessing fresh content (what resources are available here?), getting local information (what’s interesting here?) and becoming visible as creators and producers of content (what can I contribute?). In this way, they can develop essential skills and competences as 21<sup>st</sup> century learners, but most of them will need guidance in how to do it. A culture of listening to learners will involve finding out about their current practices with mobile technologies and seeking to extend them or channel them in the right direction. Language learners and teachers will need to understand, and be equipped for, self-directed, situated learning. They will then be in an excellent position to share this expertise with others, including those from other disciplines.

Mobile language learning is faced with many opportunities in terms of promoting a lifelong learning culture in society and aiding individuals in their efforts to have learning experiences that fit their needs. Recently developed tools make language learning more tailored to the individual whilst at the same time they facilitate access to a community of learners for mutual support or co-creation of resources. They take advantage of the unique characteristics of mobile learning, such as the potential for situated, immersive learning where learners interact with their immediate surroundings and have the ability to adapt the learning experience to personal needs. There is scope to develop more collaborative informal language learning; use of the mobile Internet; location-aware content; learner-driven content creation; to integrate mobile language learning with other subjects; to develop mobile language learning games; and to facilitate authentic communication practice and capturing real cross-cultural communication issues as they arise when people and their cultures are in contact with one another. However the mere presence and pervasiveness of mobile devices may not be enough to realize this potential. The broad aims and the local cultures of language learning will need to be adapted as well. This is a considerable challenge but a worthwhile undertaking.

## **Conclusion**

In this paper we analyzed recent developments in learner-centred education, in relation to mobile learning and with reference to cross-cultural understanding and language learning. Language learning is chosen as a prime example of a lifelong learning pursuit and it has a special role to play in promoting understanding of different cultures and highlighting issues of cross-cultural communication.

A number of recent education initiatives and investigations suggest what is expected of learners in the early 21<sup>st</sup> century. In parallel, learners are tentatively developing their own vision of how they wish to learn, through the ways they use technology to support learning. Our ongoing research with mature learners, summarized here, provides insights into emergent practices with mobile technologies, which suggest that personal devices may be helpful tools in developing initiative, digital competence, and skills in knowledge production and communication. They also point the way towards applications that will help learners keep social contact alive, enable them to access fresh content and local information on the move, and support them as creators and producers of content.

The pervasiveness of mobile technology is certainly changing how we teach and learn. Mobility is a great instigator of change. Language learning, so relevant across all generations, can help bring about a lifelong learning culture, but new materials and tools must pay more attention to learners' real needs in context, in the situations in which they arise. Support for reflection on intercultural encounters is equally important. It seems that learners will increasingly lead the way by sourcing and producing their own resources and software tools. However their pedagogical expertise is necessarily limited. Consequently, the new learning culture should be a shared project between learners and teachers.

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