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Charting unknown territory: models of participation in mobile language learning

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Abstract: Current language learning provision seems ill-suited to meet the needs of 21st century learners. There is a growing expectation that mobile language learning will offer greater flexibility and that it will be better aligned with lifelong learning and the real needs of diverse and increasingly mobile populations travelling for work and leisure. The paper addresses the issue of how learners will participate in mobile language learning. To help conceptualize the issue, learning activities can be placed on a continuum that has teacher-driven language provision at one end, and entirely learner-driven provision at the other. The middle ground between these two extremes is unknown territory, but also the land of opportunity, where we are beginning to put down some markers. An emphasis on learner participation, bolstered by the possibilities created by mobile and ubiquitous learning, is set to transform language learning within the next decade, and possibly sooner.

Keywords: mobile learning; mobile language learning; mobile-assisted language learning; language provision; flexible learning; models of participation; learner participation; autonomous learning; pedagogical models; mobile communities; content sharing; ubiquitous learning

1 Introduction

In a world of increasing mobility in work and leisure, foreign language learning needs to adapt to a whole new set of requirements. Individuals have to be able to pick up specific language skills and cultural knowledge very quickly. They may be required to do so in any location, during periods of travel, over the course of a lifetime, and in ways that depend on greater autonomy and the creation of informal personal networks for information and support. It has been argued that materials and resources for language learning should be sufficiently relevant, flexible and open-ended to facilitate the transfer of what has been learnt in one context to more general tasks and other contexts (Lasnier, Morfeld & Borneto, 2000). However, current methods and technological supports for language teaching and learning are often poorly suited to circumstances that require rapid, tailored and flexible ways of acquiring a new language or honing the ability to use it for specific ends.

Mobile and wireless technologies, along with new types of online environments for community-building and resource-sharing, offer possibilities of new solutions to these escalating problems. As Gilgen (2005) concludes from a mobile language learning project at the University of Wisconsin-Madison, "When students

get a chance to hold the world in their hands, language learning becomes more exciting, more interesting, and more relevant" (p. 39). Gilgen's project is an example of early adoption of handheld devices within an institution, and reflects the pioneering spirit that is typical of many innovators and early adopters. As mobile learning develops, the intellectual issues are at least three-fold: how to envision and describe ways of working with mobile technologies so that they make sense to educators and learners; how to reflect accurately the purposes and realities of language learning; and how to contribute to the conceptual development and advancement of the field of mobile-assisted language learning.

The aim of this paper is to propose a way of thinking about mobile-assisted language learning that places emphasis on learner participation and locates learning activities on a continuum, with teacher-driven activity at one end and learner-driven activity at the other. This builds on earlier work which made distinctions between 'formally designed' and 'user-generated' activity in the mobile age (Kukulska-Hulme, Traxler and Pettit, 2007), although that work was not specific to language learning. In an education environment characterized by rapid change, it is helpful for educators and learners to be able to draw on 'models' or typical examples of teaching and learning practices that have been shown to work.

To develop our conceptualizations of mobile-assisted language learning, we have to take account of the state of play in both language learning pedagogy and in mobile learning. This is a challenging task and difficult to reflect within the confines of a paper. However our limited goal here is to focus on understanding the balance between teaching and learning and on learning designs that allow learners to play a more active part. The paper begins with a look at current challenges in language learning, with particular reference to the European context but within a global perspective. We then move to mobile learning and emerging models of how mobile devices are being used in education, followed by a brief overview of developments in mobile-assisted language learning. Three models of participation in mobile-assisted language learning are then outlined, with a discussion of how the models help us to understand evolving practices.

2   Language learning today

In recent years there have been a number of attempts to define the goals of foreign language education, in the context of new societal challenges such as the rise of multicultural communities and increased mobility. According to published standards in foreign language education in the US, "the acquisition of the ability to communicate in meaningful and appropriate ways with users of other languages" (p.3) is the most important goal, and a good level of skill in a foreign language should enable participation in multilingual communities in a variety of contexts and in culturally appropriate ways (ACTFL, 2006). In a paper prepared for the APEC (Asia-Pacific Economic Cooperation) Seminar on Learning Standards for English and Other Languages, Duff (2008) notes that "With the intense globalization and human migration taking place within the Asia-Pacific region as well as beyond it, an appreciation of multiple languages and cultures and an ability to communicate effectively with people across languages, cultures, communities, and new digital media is crucial." (p.1). She concurs with research showing that opportunities for autonomous language learning through the use of technology should cater to learners' needs and styles.

In the European context, the 'multiple languages and cultures' theme is visible in efforts being made at policy level to recognize and encourage plurilingualism, i.e. values and competences promoting a speaker's ability to use several languages to varying levels of proficiency and for different purposes. A survey on Europeans and languages found that three factors were responsible for discouraging language learning among European citizens (aged 15 years or older): lack of time, motivation, and the expense of language classes (Eurobarometer, 2006). An argument has even been made for the value of 'intercomprehension' – a particular form of communication in which "each person uses his or her own language and understands that of the other" (Doyé, 2005, p.7); this may be one way of addressing the lack of foreign language speaking and writing skills, by emphasizing comprehension. Nevertheless, the ability to use more than one language is at the heart of language education policies in Europe, and new ways have to be found to encourage lifelong language learning. For example, learners need to become aware that "…linguistic varieties may be acquired later, outside educational establishments, by [learners] teaching themselves" (Council of Europe, 2007, p.77). Furthermore, "Plurilingual education spills over the usual boundaries between subjects, the usual pacing of teaching, and the usual structure of educational cycles and even school itself. Its gradual implementation will require collective creativity in administration, the definition of products (curriculum and syllabus design), and in "ways" of teaching…" (ibid, p.84).

The Council of Europe's Common European Framework of Reference for Languages (CEFR) provides a tool for setting standards to be attained at successive stages of language learning and for evaluating outcomes (Council of Europe, 2009). The CEFR is a document describing the competences necessary for communication, related knowledge and skills, and 'situations and domains' of communication. It is a rich document that can serve as a very useful point of reference for developments in mobile-assisted language learning. One of the key questions it addresses is: How do learners learn? The CEFR summarizes two opposing points of view, and the middle ground between them, as follows:

"Some theorists believe… the 'acquisition' process…cannot be facilitated by conscious manipulation, whether by teaching or by study methods. For them, the most important thing a teacher can do is provide the richest possible linguistic environment in which learning can take place without formal teaching. Others believe that in addition to exposure to comprehensible input, active participation in communicative interaction is a necessary and sufficient condition for language development…
At the other extreme, some believe that students who have learnt the necessary rules of grammar and learnt a vocabulary will be able to understand and use the language in the light of their previous experience and common sense without any need to rehearse…
Between these polar extremes, most 'mainstream' learners, teachers and their support services will follow more eclectic practices, recognising… that learning is facilitated… by a combination of conscious learning and sufficient practice"
(Council of Europe, 2009, p.139-140)

The document highlights a lack of agreement among language theorists but in doing so it gives a helpful overview of how language learning combines 'conscious learning' (which could be self-directed or directed by a teacher) and other means of

acquisition such as exposure to the target language and active participation in communication.

The challenges and goals for 21st century multilingual communication and mutual comprehension are beginning to be understood, but the best ways of meeting those challenges are still being worked out – and the role of technology is by no means clear. Online learning offers a good alternative to spending time with a teacher locked into a predetermined pace and schedule, but like traditional education, it struggles to meet emergent requirements and the specific needs of individual learners or groups. It can be effective but does not exhibit sufficient flexibility or extend much beyond the capabilities of a particular set of teachers and learners. 'Open content' approaches, e.g. The Open University's OpenLearn initiative (2009), are breaking this mould and offer a mix of freely available content with opportunities to link with others who are studying similar materials. To demonstrate how any Web page in a foreign language is potentially a language learning resource, Wible et al. (2006) developed a browser-based agent that assists learners in acquiring word collocations during unrestricted browsing of the Web. Generally however, existing language learning tools and provision are not keeping up with user trends in Web browsing, social networking and personal technologies. Education providers have given relatively little consideration to the fact that mobile devices have permeated everyday life and that user-generated content is becoming ever more popular. Accessing, capturing and sharing information on the move is now second nature to increasing numbers of learners. This creates its own demand for a mobile language learning provision that understands both the constraints and the advantages of 'mobile learning' (Kukulska-Hulme & Traxler, 2005).

3   Mobile learning and 'emerging models of use'

The past few years have seen some efforts to present case studies and overviews of the field of mobile learning, with a number of authors and editors giving classifications and accounts of mobile learning activity or a rundown of different perspectives and research issues (e.g. Naismith et al., 2004; Alexander, 2004; Kukulska-Hulme, Evans & Traxler, 2005; Kukulska-Hulme & Traxler, 2005; Cobcroft, 2006; Sharples, 2006; Pachler, 2007). These have brought greater clarity; however, as mobile learning becomes increasingly entwined with informal learning in a broad variety of new contexts, there is a continuing need to track developments and maintain an overview of the directions in which the field of mobile learning is heading.

One reason why mobile learning is fairly challenging is that the ways in which mobile devices are appropriated and used in learning often cannot be anticipated in advance. Sharples et al. (2008) list three unpredictable aspects that present challenges for evaluation of mobile technology and mobile learning, namely: context of use, learning process (in the blurring of the distinction between formal and informal learning), and mode of use (learning practices). Even though teachers or researchers are typically in charge of developing mobile learning tasks, learners may have unanticipated ways of interpreting the tasks when performing them out in the field or over a longer period of unsupervised time, or may use the device for other related tasks. Therefore in trying to understand the learner's participation in mobile language learning, we are effectively working out the balance between teacher-driven designs

and the ways in which learners either adapt those designs or create new learning opportunities of their own accord (Kukulska-Hulme, Traxler and Pettit, 2007).

In a project on the impact of one-to-one personal ownership of mobile devices in schools, McFarlane, Roche and Triggs (2007) addressed the question: "What pedagogic models best support effective use of one-to-one access to educational resources and tools via a mobile learning device?" Their early findings point to three main 'emerging models of use', or ways in which mobile devices were being incorporated by teachers and learners, namely:

Teacher-directed activity
•   The teacher has a very clear notion of how the device is to be used to achieve the learning objective and also largely determines the outcome. Within this predominantly teacher-controlled environment, learners may exercise some degree of independence.

Teacher-set activity
• The teacher sets the task and the general outcome, but the processes and the format of the outcome are largely defined by the learner. Learners can use their own ideas and initiative. This approach has worked well with high attaining pupils, less so with others.

Autonomous learning activity
•   Learners do work unasked. For example, a learner decides to use a PDA to learn spellings or multiplication tables; or to access content not specified by the teacher, but out of curiosity and interest.

These three models of use give an indication of what might lie on a continuum of activity ranging from teacher-led through to learner-led. However, given the school-based setting, the possible roles of other people and places are not visible in these models; neither do they reflect interaction among learners or challenges that learners might set for one another. The stated objective is to identify 'pedagogic models', i.e. models that are based on a teacher's perspective: who is responsible for setting and directing an activity and how much autonomy the learners have. As such, the scope of this analysis is relatively narrow in relation to the broader field of mobile learning, especially when mobility and travel are emphasized.

A broader, learner-centred question can help us see the continuum from a different perspective: To what extent do mobile technologies enable or encourage learners to participate in active ways and make choices about their learning? This also enables exploration of the middle ground between formal and informal learning – the territory where learning opportunities may be offered but leave learners with a degree of freedom as to whether or not they take advantage of them. This is the territory where we may find so-called 'taster' courses, free materials and resources, and other more spontaneous or ad-hoc offerings that may prove attractive to learners and make them move from informal to formal learning or vice-versa.

By exploring the continuum, we are taking a step towards developing our understanding of how language learners are currently engaging with mobile learning, and what further possibilities are open to them that they may not have hitherto considered. In the next section, we look briefly at developments in mobile-assisted language learning, before moving on to three proposed models of participation,

related to current examples. This leads to a discussion of how the models help us to understand evolving practices.

4   Developments in mobile-assisted language learning

Developments in technology-enhanced teaching and learning have always tended to be technology-driven: new software or systems bring new possibilities that are seized upon and adapted to assist with some aspect of a discipline. Often the first reaction is to try to find a good fit between the new technology and existing content and activities. It is only later that educators begin to dream of new content and invent new kinds of activity. Language learning is no different – it has made good use of a wide range of computer-based tools to enhance, first, traditional, and then more innovative teaching and learning. It has, however, been particularly well placed to benefit from recent developments in technology-supported communication and community, which are closely aligned to its fundamental mission. It is also proving to be one of the prime disciplines to see real benefits from the use of mobile technologies.

        Kukulska-Hulme and Shield (2008) have outlined how mobile-assisted language learning studies are divided between those that are largely content-based (focusing on delivering and evaluating traditional language learning content and exercises meant for learners in formal education), and those that focus on design issues related to developing new kinds of learning materials and activities specifically tailored for mobile devices and new contexts of learning, including informal learning. Interesting applications of mobile learning have often been developed when researchers and teachers have had the opportunity to design learning without having to fit it into the constraints of existing formal curricula. As projects start to mature, and we see the emphasis shifting from teacher-led, formal activity towards activity that is more frequently learner-led and informal, it is an opportune time to consider the overall picture in terms of how mobile-supported language learning is developing, and in particular, what opportunities there are for learners to participate.

        "The mobility of digital technologies creates intriguing opportunities for new forms of learning", wrote Laurillard (2007), "because they change the nature of the physical relations between teachers, learners, and the objects of learning" (p.153). In the next section, aspects of these relations are explored by attempting to describe them in terms of learner participation in the act or process of learning.

5   Models of participation in mobile language learning

Through a review of the many different cases in which mobile devices have been used for language learning to date, it is possible to see several models of participation on the part of language learners. In adult learning, work-based and lifelong learning, as well as in open and distance education, there are many scenarios where teachers are hardly visible. Nevertheless, a set of materials, resources and tasks may have been prepared by teachers of some kind, also sometimes referred to as 'providers'.

        At one end of our proposed continuum, the emphasis is on making content and activities available on mobile devices, with the expectation that learners will engage with the language learning and complete it. At the other end of the continuum, learners are entirely self-propelled and undertake activities such as finding and downloading language learning resources or even creating some for others. In the

middle, there are various resources and activities that are proposed to learners but which they may or may not take up; there are also resources and activities that learners suggest and share with one another. This middle ground has barely been explored, which is why it is the main focus of this section of the paper. However, the two ends of the continuum are also worth setting out so that the middle ground becomes more clearly defined.

5.1   Specified Activity model

This model is based on the idea that learning material can be usefully packaged and delivered to a mobile device. The learner receives the material, which may consist of text, audio, video clips, interactive exercises, etc., and makes use of it, either on their own portable device or on a device that has been supplied. The emphasis tends to be on an individual's learning, even though the same content may be delivered to a group. In this model, a learning activity is specified and learners are expected to carry it out. There is no guarantee that the learners will act as intended, of course, but the provider's objective is that they should. The activity may take place within a scheduled class, but it can be continued outside of class as well.

One example of this model can be found at Duke University (Duke, 2006), where a professor of Spanish reported using iPods with students in her classes. Students used their iPods to listen to dramatic recordings of novellas in Spanish and to verbal comments on homework, they reviewed the pronunciation of vocabulary words, and they listened to audio exercises inside and outside of class. They recorded responses to oral quizzes and recorded themselves speaking on a topic. A website was set up to showcase their work.

A project reported by Ally et al. (2007) describes the provision of grammar lessons, with interactive exercises, to anyone with a mobile device that can access the Internet. The materials and this form of delivery are aimed chiefly at foreign workers needing training in English as a Second Language in order to enter the workforce and adult learners needing skills updating.

The above are examples of specified activity, but it is worth noting that the specified learning can easily spill over into further spontaneous practice or other informal uses of the mobile device. Gilgen (2005) – as mentioned earlier in this paper – describes an initiative at the University of Wisconsin-Madison which proposed to address the needs of foreign language instructors "in and out of the classroom". The initiative aimed to change the whole learning environment and encompassed learning of several languages. Thanks to funding from HP and wireless coverage on campus, students were able to access learning materials on handheld computers and laptops in more flexible ways than when using traditional language labs. It was found that typed chat sessions and Web access were the primary activities conducted on the handheld devices; for example, to practise communicating in French.

We are therefore at the boundary of the learning space described in the next sub-section which gives examples from the 'middle ground' between teacher- or content-driven practices, and learner-driven practices.

5.2   Proposed Activity model

A proposed activity can be defined as one that is considered likely to be helpful to learners, but is in no way compulsory. For example, for those learning to drive and preparing for their Theory Test, interactive practice questions can be downloaded to

mobile phones (e.g. CTAD, 2008). In this model, a language learning activity is proposed as something that is likely to help a target mobile user or group of users. They will typically have the freedom to complete the activity as they wish, or to adapt its use to suit their own ends. For example, the British Broadcasting Corporation offers exam revision materials in 'bitesize' chunks that can be accessed on mobile devices, including materials for revision in foreign languages (BBC, 2008). In this model, language learning materials are made available, for example on a website, and it is up to the user to find these materials and download them to a mobile device if appropriate. The learner may participate by seeking out suitable content and perhaps sharing this information with others who might benefit, but that would depend on encouragement or their own initiative.

Hattingh (2006) describes her Masters project in which eight students were invited to listen on their mp3 players to podcasts of spoken Japanese recorded by their instructor. The podcasts were uploaded to an audioblog and were available to students to listen to where and when they wanted, although they were not required to listen to them. The students were to decide whether the content was beneficial. The students' participation amounted to downloading the podcasts, listening to the podcasts, and evaluating them as part of the project.

Other types of provision are located on the intersection between formal and informal learning. In a formal education scenario, Shao, Crook and Koleva (2007) propose an informal mobile group blog to support students spending time at a foreign university, by enabling them to share informal observations about local language use and local customs. In another group-oriented activity, Petersen, Chabert and Divitini (2006) describe design considerations for the creation of a mobile community blog to support groups of language learners who find themselves in different geographical locations. A community blog enables learners on a university campus and those who are spending time abroad in a foreign country to communicate online by posting to a blog from their mobile phone or PDA.

A system designed by Fallahkair et al. (2007) supports language learning activity on mobile devices tied in with watching everyday television programmes selected by learners in their homes, in an attempt to bridge formal and informal learning; the target learners might be signed up for formal language classes, but the more informal mobile activity complements their formal learning.

The 'proposed activity' model of participation includes language resources that are offered as support for participation in international cultural events or for other foreign visits and travel. In the project described by Pincas (2004), SMS messages were sent to those attending the Olympic Games in Greece, giving phrases in Greek with the aim of encouraging them to communicate in Greek with local people. In a similar vein, the BBC website offers 'essential holiday phrases' in audio format for download to a mobile device. In a project that makes use of context-aware technologies, Tseng, Lu and Hsu (2006) give a scenario of use for a PDA-based system designed to enable learners of Chinese to access target language sentences that might be useful to them, depending on their precise physical location at a particular time, e.g. a visit to a flea market to do some shopping.

In some cases individuals or groups propose learning activities by creating language learning content for others, i.e. proposing an activity that others may be interested to participate in. For example, individuals can make podcasts available on personal blogs that may also advertise language courses (e.g. Lillepodcast, 2007). The video sharing website YouTube is another place that learners can go to for some materials intended to assist others in learning a language, e.g. Learn Chinese (2006).

The extent to which these types of material can be easily accessed on an individual's mobile device is still variable. This mode of operation – creating and sharing resources – brings us towards the other end of the continuum where learners are at the helm and are generating activities and content for themselves and for others.

5.3   Learner-driven Activity model

Moving away from the 'middle ground' towards learner-driven activity, this model emphasizes self-initiated and sometimes innovative learning, using a mobile device as a responsive tool that can adapt to changing user needs in a variety of situations including travel. The widespread ownership of mobile devices means that there is much more scope now for learners to integrate mobile technologies into their everyday life, work and study, generating new possibilities for learners to initiate learning activity in spontaneous ways or continue with it across several contexts.

     Kukulska-Hulme & Pettit have been investigating how personal mobile devices are used by students and alumni from a global Masters Programme (Kukulska-Hulme & Pettit, 2006; Pettit & Kukulska-Hulme, 2007). The aim has been to find out more about the ways in which those who are engaged in teaching and learning use mobile technologies, and in particular in relation to spontaneous learning and teaching practices and the intersection with daily life and work. The focus is on the types of activity undertaken, innovative or unexpected uses of mobile devices, and any issues mentioned by participants. The initial study included the use of cellphones, smartphones, PDAs and mp3 players. Although mp3 players were widely used for entertainment, they also turned out to be useful in a much broader range of activity, e.g. participants reported downloading podcasts, audio books, documentaries, lectures, conferences, interviews and other listening materials from the web; they also recorded conversations, lectures and conferences. The mp3 player was used in social ways, with the addition of speakers, to provide background music in workshops, to play sample music to clients and to play music to friends. Although the study was not specifically focused on language learning, participants were found to be using mobile phones for learning activities in Greek, Japanese, and Spanish, and in recording and playback for conversation analysis.

     Song & Fox (2008) have reported how some undergraduate student learners of English are capable of using a mobile device to support and extend their learning in self-directed ways, driven by a goal to take every opportunity to learn new vocabulary in English. The learners communicated informally and spontaneously about word meanings with other students and with lecturers. This small longitudinal study gives rich data about mobile device use by motivated, advanced learners, who are willing to define their own language needs and select resources, tools and communication methods that can help them meet those needs.

6   Discussion

Web-based and online learning have moved language pedagogy towards the recognition that learners are not mere recipients of knowledge but that they help to construct knowledge in active ways. The ability for anyone, without high levels of skill, to create, publish and interact on the web, means that learners can contribute learning content that can be accessed and enriched by others. Language learning has been relatively slow to move in this direction, perhaps partly because of a lingering reluctance by many language teachers to get involved with new technologies. Mobile

and ubiquitous learning could be a significant step in moving language learning towards a better balance between teacher-directed and learner-directed learning.

The three models presented above are situated on a continuum of activity ranging from teacher-initiated through to learner-led. The models focus attention on what learners are doing and the freedom that mobile devices give them to pursue their own needs and interests as they move about and travel. Comparing the models with those identified by McFarlane, Roche and Triggs (2007) mentioned earlier, we can see some similarities and some differences:

•   The 'Specified Activity' model is close to the 'Teacher-directed activity'. However, in our 'Specified Activity' model, the presence of the teacher is de-emphasized, and the learner is seen as moving between learning environments, e.g. in and out of the classroom, around a campus, between study and work.

•   The 'Proposed Activity' bears only slight resemblance to McFarlane et al.'s 'Teacher-set activity', since a proposed activity is only a suggestion; the onus is on the learner to make a decision as to whether or not to take it up. Furthermore, the 'Proposed Activity' model can include learners proposing activities to one another.

•   Finally, the 'Learner-driven Activity' model only partly overlaps with McFarlane et al.'s 'Autonomous learning activity', since the 'Learner-driven' model gives special mention to social interaction and communication initiated by learners and taking place among them, as well as with teachers.

As mentioned earlier, the models identified by McFarlane, Roche and Triggs (2007) are based on classroom practice and represent the teacher's perspective, noticing only the degree of freedom given to learners by the teacher.

It is worth remarking that current examples of autonomous and learner-directed activity tend to relate to high achievers and learners at more advanced stages of education, but personal technologies can play a role in helping other learners imitate those behaviours. It would be important to investigate further how mobile technology can be a catalyst for reflection on one's own learning and promoting learning among a group of learners with similar objectives (Kukulska-Hulme and Pettit, 2008). Furthermore, when looking for a wider range of examples to instantiate the models of practice for further analysis, it is likely to be necessary to look beyond examples published in journals and conference papers, since it takes time for innovative practice to surface in such publications, and some of it may never find its way into such outlets.

Mobile technologies have the capacity to provide a more personalised learning experience that is more closely tied in to actual needs on the ground. Language is so closely bound up with a person's individual and group identity and self-expression that learning a language is a highly sensitive experience. Sources that closely match one's personal communication needs in terms of age, gender, status and so forth, in relation to an interlocutor or target group, can be very important. As one participant in a podcasting project commented, "I think it would also be useful to have a male do some of the readings as well. Listening to females speak too much has made my Japanese a bit feminine, and I think the podcast can help correct that." (learner of Japanese quoted in Hattingh, 2006, p.13). The extent of variation in dialect, local idiom and professional usage also means that it can be difficult for teachers to provide learners with examples of the appropriate target language for their specific needs in relation to interactions with people in a given community or place. A project to record the varied speech in different parts of the United Kingdom (Voices, 2006) has paved the way to transforming learners' access to a very rich database of contemporary

language usage in English. If this type of material can then be interacted with via mobile devices, it becomes a very interesting resource with the potential to improve a learner's comprehension and perhaps also language production.

The examples we have reviewed highlight transitions or overlaps between formal and informal learning, as well as the fact that learners can now find themselves faced with proposed learning activities that could become attractive simply because they are so easily accessible on their mobile device. The uptake of proposed language learning activities, and the role of peer learners or learning communities in that process, could be a subject of investigation in its own right.

Conclusions

The paper has presented a perspective on mobile language learning in terms of learner participation. Although it is sometimes difficult to delineate distinct models, we can identify a conceptual continuum, with teacher-led or content-driven activities at one end, and learner-driven ones at the other. The middle ground between these two extremes has received relatively little attention, and the current paper explores that 'unknown territory' through a number of examples. The ways in which teachers and learners make use of mobile language learning is also not yet well understood, but the middle ground seems a good place for teachers and learners to look at language learning together, in a new light.

Mobile devices have opened up new possibilities for learning in ways that are convenient and suited to the needs of an individual within the context of their lifestyle. Learners will need to become more adept at identifying and evaluating a range of materials from different sources. They will need to become ever more agile in how they specify their personal learning requirements in relation to new contexts generated by frequent travel and the imperative to communicate effectively with people from many different linguistic and cultural backgrounds.

At the same time, opportunities for self-directed activity and for contributing user-generated content have multiplied in the past few years. These developments may require individuals to expand their skills in evaluating the relative value of professionally produced learning materials in relation to more informal content from either trusted or unknown providers, and how the two can complement each other. It seems likely that learner-driven and contextual learning will transform the discipline of language learning within the next decade, and possibly sooner.

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