# 19 Exploring the application of a conceptual framework in a social MALL app

**Timothy Read[1], Elena Bárcena[2], and Agnes Kukulska-Hulme[3]**

## Abstract

This article presents a prototype social Mobile Assisted Language Learning (henceforth, MALL) app based on Kukulska-Hulme's (2012) conceptual framework. This research allows the exploration of time, place and activity type as key factors in the design of MALL apps, and is the first step toward a systematic analysis of such a framework in this type of app in the future. Firstly, the selected conceptual framework is discussed, emphasising the adequacy of its development (or even adaptation) for the systematised design of mobile apps for second language learning. Secondly, the prototype of the Audio News Trainer (ANT) app, which aims at developing oral and written competences in a mixed individual-social modality, is presented in terms of its formal features and its functionality. Finally, some preliminary findings are presented together with suggestions for further development.

Keywords: mobile learning, MALL, conceptual framework, social media, oral reception, written interaction.

1. UNED, Madrid, Spain; tread@lsi.uned.es

2. UNED, Madrid, Spain; mbarcena@flog.uned.es

3. The Open University, UK; agnes.kukulska-hulme@open.ac.uk

# 1.    Introduction

In most modern cities it is hard to take any form of public transport, such as the underground/metro or bus, without seeing a significant percentage of the public on board with their heads craned forward while they interact with some kind of mobile device, be it a smartphone, tablet, netbook, or personal media player. It was just a question of time before users turned to using these devices for their educational needs. It has been estimated that at this moment in time there are over 80,000 educational mobile apps available[4], a proportion of which are intended for Second Language Learning (henceforth, SLL). To get a very general idea of how many, and how difficult it is to find suitable apps, just searching for 'learn English' on the iOS and Android app stores returns almost 800 results. From an academic perspective, it is hard to assess the real value of these apps and even harder to see if they have been designed and developed using any underlying conceptual or pedagogic framework. Talking to app developers and even reading background information about some of those that are available online suggests an essentially ad hoc methodology, which may reflect some teaching/learning experience on the part of the development team, but is far from what the scientific literature has to say on the subject.

If there were a single aspect of mobile devices that characterises them, it would arguably be their ability to enable us to communicate with other people. Historically, this was undertaken by phone calls but gradually, as the Web gave rise to Web 2.0 and the dominance of social media, the majority of the communication undertaken on these devices today is via these social tools (Evans, 2013). Kaplan (2012) highlights the importance of their use and introduces the notion of *mobile social media*, where he goes on to define four types: firstly, *Space-timers* (location and time sensitive), with apps like Facebook Places or Foursquare for interchanging messages that are relevant for a specific location at one specific point in time. Secondly, *Space-locators* (only location sensitive), with apps like Yelp or Qype for interchanging messages that are relevant for one specific location (tagged as such to be read later by others at the same location).

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4. http://noticias.universia.es/ciencia-nn-tt/noticia/2014/04/07/1093782/ya-existen-mas-80-000-aplicaciones-educativas.html

Thirdly, *Quick-timers* (only time sensitive), with apps like Twitter or Facebook for increasing immediacy. Fourthly and finally, *Slow-timers* (neither location, nor time sensitive), with apps like YouTube or Wikipedia for transferring traditional social media applications to mobile devices.

In this article, Kukulska-Hulme's (2012) conceptual framework is considered and applied to a prototype social MALL app as the first step toward a systematic analysis of this type of app in the future.

## 2.    The need for a conceptual framework

Kukulska-Hulme (2012) argues that the design of mobile apps for SLL requires the development (or even adaptation) of a conceptual framework to systematise their design. She goes on to define such a framework in terms of the temporal and spatial characteristics of mobile learning scenarios, highlighting a series of questions that should be answered for any given mobile SLL app, as can be seen in Figure 1.

Figure 1.    Conceptual framework for next generation mobile SLL apps (based on Kukulska-Hulme, 2012)

| Next generation designs | Time | • Specific time or anytime? <br> • Routine or spontaneous? <br> • Instant access or leisurely? <br> • How much available time? <br> • Dependent on sufficient time? <br> • Interruptible? |
|---|---|---|
| | Place | • Specific location or anywhere? <br> • Private or public place? <br> • Relaxing, energising? <br> • Stationary or moving? <br> • Walking, running? <br> • Driver or passenger? |
| | Activity | • Challenging or easy? <br> • Suitable for multitasking? <br> • Receptive or productive? <br> • Involves speaking aloud? <br> • Writing or gestures? <br> • Individual or social? |

Arguably, some of these questions can be asked before developing the app, but others would need to be answered by a student as and when they are using it. In this article, a modified version of a MALL app developed by the authors is applied to explore this framework, or at least a part of it.

As well as the temporal and spatial criteria, it is important to consider what pedagogic context the activity/ies would need for a given app to be developed. A thorough analysis of this question goes beyond the scope of this article, and it should be noted that there are a great many such analyses available (e.g Rodríguez-Arancón, Arús-Hita, & Calle-Martínez, 2013; Traxler & Kukulska-Hulme, 2005). However, in the SLL literature, as well as work on e-Learning in general, a differentiation has been made between instructivist and constructivist learning approaches. Mesh (2010) argues that the former is useful to provide beginners with basic language structures, lexicon and pronunciation. Laurillard (2007) argues that the latter can be related to discursive processes (dialogue, concept exchange), interactive processes (task-based experimentation, meaningful feedback), adaptive processes (linking or adapting ideas from theory to practice) and reflective processes (thinking about the interactive process and feedback to achieve task objectives). Given what was identified above about the importance of social media use from mobile devices, it is arguably important to include aspects of social-functionality in apps within a given learning scenario. For example, Yeager, Hurley-Dasgupta, and Bliss (2013) identify four types of activities that can be undertaken: aggregation/curation (bringing together links to existing resources), remixing (documentation, blogging, etc.), repurposing/constructivism (where users arguably build their own internal connections) and feeding forward (sharing new content, resources, summaries, etc. with others). The incorporation of one or more of these activities would facilitate the pro-active learning of the app's users.

## 3.     The ANT app

ANT has been developed to enable a student to develop both his/her oral and written competences from a mobile device, running either iOS or Android. It

has been developed using a cross-platform development technology. The news domain was selected by the authors as one of the most popular subjects for the general population and, as such, inherently motivating to be used on a daily basis, something that is crucial to ensure the continued use of an educational app. This is important because the authors have observed that the majority of MALL apps are left to one side after an initial period of exploration and use because the app had no connection to the everyday lives of the users and no interest beyond the academic goal of SLL. ANT aims to encourage sustained language practice that is integrated with daily life. It also aims to capture information about the user's experience.

ANT contains previously classified audio news podcasts available online to present a list in terms of three levels of difficulty (which is colour-coded following the standard traffic light system: green – easy, yellow – medium and red – difficult). The app has three functional phases: firstly, after logging in and reading the guidelines (Figure 2a and Figure 2b), the user listens to an audio news podcast (Figure 2c and Figure 2d) and answers questions about the experience (Figure 2d and Figure 2e). Secondly, s/he connects to Facebook to note what has been understood as the main argument of the news item. Thirdly, the user scours other social media to find supporting material for his/ her understanding of the news as presented in step two, which s/he can then include on Facebook.

Regarding the questions mentioned as part of stage 1, three come from the conceptual framework presented by Kukulska-Hulme (2012) and three are directly related to the task in hand, that of listening to the audio recording:

- Is this routine or spontaneous use?

- Are you in a private or public place?

- How much available time do you have?

- What is the volume level used?

- How much background noise is there around you?

- How much have you understood of what you have heard?

These data about the factors that affect audio comprehension are logged on the ATLAS server and the student is returned to the list to listen to other recordings. The questions that come from the framework are of a more general nature and have been included to provide empirical data on the usage habits of students as a way to support their presence in the model.

Figure 2.   ANT screens
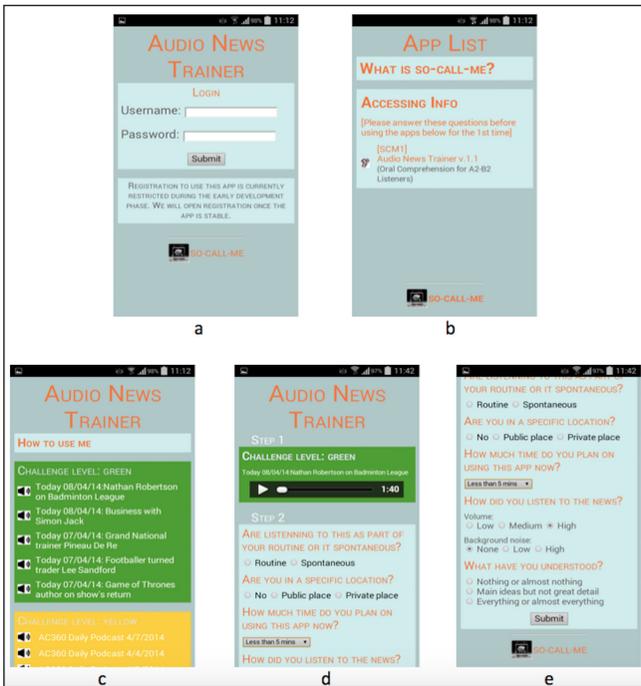


The others have been included to explore criteria identified to have an impact on audio (Cutler & Clifton, 1999) i.e. the lower the volume of the audio input and the greater the background noise, and the harder it is to understand as the hearer

has to use their knowledge of the language and experience of the real world to substitute the unheard segments in their mind). Furthermore, all six questions are needed to assess the real world use of the app to help the designers improve the current version and work towards the next one as and when necessary. Apart from these questions, a number of brief answer-only-once questionnaires have been designed on different aspects of the underlying learning process (e.g. on the importance of audio skills in language use; on the use of mobiles for educational/training purposes) once again to give the designers data as part of a needs analysis.

Figure 3.  Sample Facebook post to ANT group summarising what a student might have learnt from listening to a news item and liking an existing entry



Although functionally speaking ANT is currently quite simple, it offers three pedagogic advantages over just listening to the radio news on a mobile directly from the website: firstly, the sequencing of podcasts in order of difficulty according to accent and speed, since level adequacy of the SLL input has been

identified by the experts to be fundamental for effective learning (Krashen, 1985). Secondly, the pedagogic structure of the interface enhances self-regulation and metacognition, which are particularly relevant processes within adult SLL. Thirdly, the way students can work collaboratively afterwards with other users on a given social network to refine what they think they have understood after listening to a recording, following a constructivist approach.

As was noted above, once the user has worked with the app s/he leaves a note of his/her understanding on the ANT Facebook page. There are two possibilities here: firstly, if no one has the same interpretation as him/her, then the student can create a new entry, as can be seen in Figure 3a. Secondly, if someone else has already concluded the same, then s/he can click on the Like button, to show their support for the entry, as can be seen in Figure 3b.

As was also noted above, once a student has participated on Facebook, depending on the other interpretations of the recording and notes that have been added there, the student should use other social media and websites to search for supporting evidence for his/her understanding, which should also be added back to Facebook with further comments as necessary (in the target language), as can be seen in Figure 3c. The complementary information and data obtained by the different users about a given news story are expected to lead to a fruitful debate on Facebook or in the classroom. Arguably, this form of written digital interaction is useful practice as it represents a major means of communication today (Maggiani, 2014).

## 4.      Preliminary findings

Given the early stage of the work presented in this paper and the desire to further explore the importance of time, place and activity type in the design of MALL apps, only the first of the three steps described above was tried. The data entered by the students were logged on the ATLAS research group server (atlas.uned.es). An early pilot has been undertaken with ten students from a first year university course in Professional English. The results gathered can be divided into two

groups: the data about the temporal and spatial conditions of the way in which the student worked with the app and the data about the actual listening activity. Regarding the former, given the prototypical nature of the trial undertaken, the students arguably had not had time to internalise the use of the app and all had reported using it spontaneously, following a request for participation that had reached them by email. There was an even split between the app's use in public or private places, as expected. Most users had only listened to one recording, so given the typical duration of 2–3 minutes, and the additional time needed to answer the questions, then 5 minutes was marked as the duration of use. For the latter, it was evident that most of the students did have some difficulty following the podcast. As was expected, background noise was also a naturally occurring factor for oral comprehension, which students have to get used to. Even though, as was noted above, the app was developed using a cross-platform technology, the majority of difficulties that the students had were due to usability problems. For example, on some devices the play button had to be pressed several times to get the recording running and on others it would just not work.

## 5.     Conclusion and future work

The initial results obtained here have helped the authors plan a subsequent more comprehensive test to be undertaken that should provide finer grained evidence about the adequacy of applying Kukulska-Hulme's (2012) temporal – spatial – activity-based conceptual framework for the next generation of MALL SLL apps. Furthermore, language teachers could also use these data to plan appropriate blended or distance learning activities to make the most of the way in which the students actually use these apps.

## 6.     Acknowledgements

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