

Mobile-Assisted Language Learning: Practices among Iranian EFL Learners

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Abstract

Two hundred and fifty Iranian EFL learners participated in research into their use of mobile devices. Drawing on questionnaire and interview data, the paper examines how far the devices were embedded in the personal and professional lives of these learners, most of whom were aged 25-36. All had experience of online and distance education, and most worked in education or training. The study revealed some innovative uses of mobile devices, a selection of which is reported in this paper. The paper links the findings to wider debates about the changing relationship between learners and educational institutions, and the role of mobile devices in enabling individuals to engage in learning conversations. Data are provided on which devices were used by the learners and for what purposes, and the paper explores the implications of these findings for educators.

Key words: Mobile devices, Mobile-assisted language learning, Informal learning, English as a foreign language

Background and Purpose

Among all modern communication devices, mobile phones are the most powerful communication medium even richer than email or chat as it can act as a learning device despite its technical limitations. With such a learning device the learner controls the learning process and progress in his/her own space based on his/her cognitive state.

There are some factors having key roles in the use of mobile devices in learning environments. Physical characteristics of a mobile phone such as its size and weight as well as input and output capabilities such as keypad vs. touchpad and screen size and audio functions are among the factors which should be assessed in this respect. The learner skills and his/her prior knowledge and experience with mobile devices for learning, as well as the learner's attitude towards the learning through mobile phone play a crucial role in the output quality of such a mobile-based tasks (Koole, 2009).

Many researchers were so interested in Mobile-assisted Language Learning (MALL) approaches that they attempt to provide some strong supports to conduct further studies on this discipline. Today, mobile learning is easily possible by delivery of various learning materials or content to learners through the mobile devices. Various activities related to language learning are supported by mobile devices among which we can name SMS, internet access, camera, audio/video recording, and video messaging (MMS) (Kukulka-Hulme and Jones, 2011).

There are different mobile devices in the market compatible to the needs of different users. The basic activities can be performed by many mobile phones. However, for language learning, the

cost and technologies related to the mobile devices should be taken into consideration. Such learners can use their customized mobile devices for language learning based on their own abilities (Kukulka-Hulme and Shield, 2008).

Mobile devices have increasingly grown toward becoming tools for education and language learning, and all its users from teachers or students are getting used to this environment to make education as ubiquitous as possible. Moreover, the emerging of internet made open and distance learning a means of receiving education from all parts of the world. In a short period, the attractiveness of distance learning led to the realization that various mobile devices provide a very effective resource for education. This way, many researchers tried to make mobile devices a rich resource for teaching and learning. It was, in fact, a challenging affair to cover learning tasks by a mobile phone (Oberg and Daniels, 2012).

Pachler, Bachmair & Cook (2010) state that MALL deals with the use of mobile technology in language learning. Students do not always have to study a second language in a classroom. They may have the opportunity to learn it using mobile devices when they desire and where they are. As learning English is considered a main factor for professional success and a criterion for being educated in many communities, providing more convenient environment for people to learn English is one of the strategic educational goals towards improving the students' achievement and supporting differentiation of learning needs.

Statement of the problem

Mobile devices have become integrated with daily lives through the process of domestication (Ling and Donner, 2009). Increasingly, educational provision must recognize that since the devices are a significant part of the grain of daily life, it means that they will be used for information access and learning, even if only informally. The ubiquity of mobile and wireless technologies suggest that patterns of use developed through informal learning will also have an impact on formal education through learners' growing expectation of mobile access. Uncovering emerging pattern of use, and trying to work with them rather than against them, is the current challenge (Pettit and Kukulka-Hulme, 2007).

For many learners, the opportunity to use their personal mobile device to support an aspect of language learning is the starting point for an individual journey toward satisfying particular personal requirements with regard to content, type of practice needed or the circumstances of a person's work and life (Kukulka-Hulme and Arcos, 2011). The current research is to focus on these individuals who are forging ahead with developing their own ways of learning, using mobile devices and whatever materials, resources and human connections they decide are helpful in the course of building their ecology of resources for learning (see Luckin, 2010; Underwood, Luckin, and Winters, 2010).

As yet, few researchers appear to have considered how to use mobile devices to support pedagogical approach that is not teacher-led. Clearly, the ways in which different mobile technologies are employed by different language learners and in a variety of different contexts require further investigation (Kukulka-Hulme and Arcos, 2011).

We are interested to find out more about the ways in which those who are engaged in teaching and learning use mobile technologies, particularly in relation to spontaneous learning and teaching practices and the intersection with daily life and work (Kukulka-Hulme, 2012). We are also intrigued by anecdotal evidence that owning and carrying around one or more mobile devices may encourage users towards experimentation, which in turn could lead to innovative uses.

Research Questions

Drawing on the literature, three aspects of emergent practices used by Iranian mobile language learners were investigated. The following research questions were posed about groups of language learners who do well on the use of mobile devices to facilitate their own language learning experience.

Are there any specific language skills and components which are more practiced by Iranian mobile language learners?

Are there any specific mobile-enabled activities adopted by Iranian mobile language learners?

What are the most and the least frequently used MALL activities among Iranian EFL learners?

As can be seen, none of the studies reviewed have focused on these aspects of Mobile-assisted Language Learning (MALL) altogether among Iranian EFL learners as they were analyzed in details here in this study. None of the studies paid enough attention to mobile-enabled resources and mobile learner strategies, especially among Iranian mobile language learners. As it was mentioned, there are a number of studies which focused on emergent practices in MALL used by mobile learners from a general perspective, but few studies were concerned about the specific areas addressed in the research questions listed above.

Methodology

Participants

There are 250 participants in our research which were drawn, from among those TEFL graduate students who are the members of Teaching English Language and Literature Society of Iran (TELLSI), to take the questionnaires. TELLSI aims at developing and promoting learners' knowledge base, improving the quality of experts' practice and advancing teaching and research. Most participants have good or excellent levels of computer literacy since a large amount of interaction and communication in this society is done on-line, the programs are delivered on-line, and several of the modules proposed in the website of the society explicitly focus on aspects of e-Learning technologies. We therefore expected that the participants would include at least some who had interesting and innovative experience of using mobile devices. Since TELLSI programs are aimed largely at those practicing or intending to practice in education and training, it seemed likely that the participants would throw light on some of the ways in which mobile devices are being used in education and training, and would also reveal how practitioners were using such devices in other areas of their life – in their own learning, social interaction, and entertainment.

Instrumentation and Procedure

Data for the project were collected by means of a questionnaire with follow-up interview or retrospection (a questionnaire of MALL). MALL questionnaire consists of two main parts: Part A containing personal information, and Part B containing the usage of mobile devices in learning English as a foreign language. In part A respondents are required to determine their gender, university degree, major, age, and job. They should also evaluate their language proficiency levels. In case the respondents were teachers, they were asked to tell to which groups of English learners they teach, i.e. kids, teenager, or adults and their language proficiency levels.

Part B contains qualitative questions relating to research questions formulated in this study on the use of different types of mobile devices to learn English as a foreign language. The first table asks for commonly used mobile devices to learn and practice English (namely mobile phones, smartphones, PDAs, MP3 players). The 1st question, relating to research question number 1, looks for language skills and components which are more practiced in the respondents' mobile-assisted

language learning. The subjects are provided with a list of language skills and components, i.e. listening, speaking, reading, writing, vocabulary, grammar, and pronunciation. The 2nd question, relating to research question number 2, tries to elicit information about a personal detailed plan or strategy for using mobile devices to learn and practice English, and then the respondents are provided with some space to describe those strategies.

Taking the questionnaire with follow-up interview, the participants were asked to volunteer for an interview with the researchers in case they had some more information and experiences to share. Completing the questionnaire in this study, each person was interviewed individually, face-to-face, or by telephone for about one hour. Interviews were semi-structured and aimed at exploring how a variety of mobile devices—smartphones, mp3 players, handheld game consoles, digital cameras—helped our subjects acquire a foreign language; specifically we sought to find out concrete examples of how these devices were used, establish patterns and common scenarios of practice, and understand the motives for adoption from the personal perspective of each of our interviewees. Actually, the respondents were asked the same questions as in the questionnaire, but they were expected to focus on them in more details.

Most interviewees were subsequently invited to amplify the responses they made in the questionnaire before. Our approach was broadly phenomenological; in relation to the data arising from the interviews, we were interested in gathering individual stories, but aim not to take these as unsituated accounts. The interviews illustrated ways in which respondents were using mobile devices in diverse situations, and they provided insights into user choices in relation to contexts of use, ergonomic issues, and personal preferences. The interviewees were chosen principally because their questionnaire responses suggest they were engaging in interesting or novel applications, but we also took care to include at least some participants from a variety of different contexts. The approach was not intended to uncover uses that were representative of the cohort, and indeed it probably skews the data towards those with most experience of, and interest in, mobile devices. Nevertheless, interviews gave the opportunity to move outside the categories of the questionnaire and to capture details of individual accounts and contexts. The interviewees talked about their choice of device, the content of their activities, and the contexts, both formal and informal, in which they used their devices. All the interviews were carried out by an experienced researcher who was independent of the project. The interviews were transcribed by an administrative assistant and anonymized before being passed on to the authors of this research. Although this broadly phenomenological approach might deliver detailed stories, it is not assumed that an interview can deliver an ‘objective’ account or even, at the other end of the scale, an ‘authentic’ one. Both interviewers and interviewees draw on their conceptions of what an interview ought to be.

Results

Participants

About three-quarters of the respondents were aged 25-36 and a little over half (55%) were female. All the subjects were English major. Over half were studying TEFL (Teaching English as a Foreign Language), with most of the remainder studying English translation (30%) and 10% studying English literature. Nearly all described their profession as associated in some way with education or training. Around 80% of the respondents evaluated their English as upper-intermediate and advanced. The other 20% perceived themselves as intermediate.

The usage of mobile devices

Graph 1 indicates that, although all respondents reported that they had used a mobile phone, only less than 10% of the respondents had used a PDA or smart phone. Nearly all respondents

reported that they had used an MP3 player. Therefore, Iranian EFL learners used mobile phones and MP3 players much more than other mobile devices. This picture in this area is continuously changing, and the data in the table are inevitably a snapshot. Having been asked about why they didn't use smart phones or PDAs, the respondents said that these gadgets have some applications to be used for the sake of language learning, but those applications were not available in Iran because of international sanctions. It was also mentioned that lots of these applications should have been bought but it was not possible for most of the respondents to afford it.

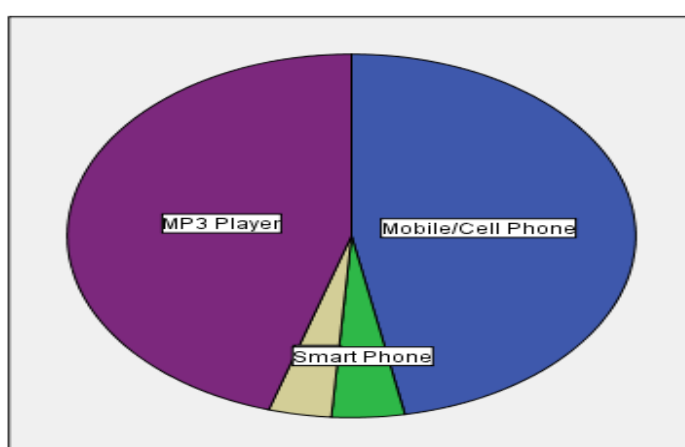


Figure 1. The usage of mobile devices.

Language skills and components

Figure 2 shows which language skills and components are more practiced in the respondents' mobile-assisted English learning. Three of the skills, i.e. speaking, reading, and writing, and a language component, i.e. grammar were much less interesting for Iranian mobile language learners. Listening is a skill that drew the most attention among the respondents. After listening, 'vocabulary' and 'pronunciation' were the two language components that were more interesting to Iranian mobile learners.

Actually, majority of the respondents use listening materials to improve their English. For example, one of them, Ali, said, "I listen to English everyday on my MP3 player and I believe that I can learn English successfully...". Mandana, another respondent, believes that "listening to English on my mobile device is the right way of teaching English to people." On the other hand, there are some respondents who listen to English audio files on their mobile device to improve their pronunciation. Some of their ideas about pronunciation are listed below:

"... I listen, at least once a day, to English files which is very helpful for me to correct my English pronunciation."

"... I read loads of scientific papers every day but I have, however, a real problem while speaking due to the pronunciation of some words... Thus, I find it very important to listen regularly to English native speaker."

“...My pronunciation is highly improved. Before podcasts, I was speaking English with a Persian accent. After podcasts, I’m able to talk in a way which is nearer American English.”

The quotes mentioned above are few among many who wanted to show their enthusiasm about the effect of listening on the pronunciation using a mobile device. In addition, there were lots of remarks about the effect of listening to podcasts on vocabulary learning. Some of these quotes are mentioned below:

“Listening to English on my iPod, I enlarged my vocabulary. Now I can describe more words by using English...”

“... Podcasts are so helpful. I began to recognize English speech better than I did before and significantly expanded my vocabulary...”

It is so common among the respondents to listen to podcasts on their mobile phones or MP3 players. They are using some websites like ‘VOA special English’ to download the podcasts and listen to them regularly.

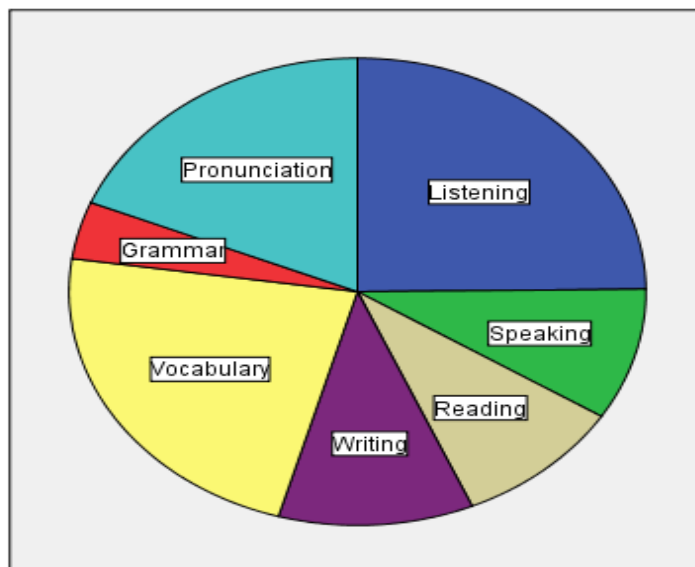


Figure 2. Language skills and components involved in MALL

Mobile-enabled language learning activities

The questionnaire followed by the interview was aimed at eliciting mobile-enabled language learning activities used by Iranian EFL learners. The respondents were asked to provide a detailed explanation for the activities they do in their MALL experience. The data enabled us to answer the 2nd research question (are there any specific mobile-enabled activities adopted by Iranian mobile language learners?).

The data gathered by the questionnaire was compiled and the interviews were transcribed and compiled. Then, analyzing all this written information, the researchers were able to come to a conclusion on the sorting categories. The categories of MALL activities (see Appendix A) are extracted from the respondents’ questionnaires and interviews. All the 22 activities are explained briefly below. These explanations are extracted from the respondents’ responses.

Activity 1: learners learn new vocabulary and idioms in different ways. They see suitable contexts, in their daily life, which matches with the vocabulary or idioms they acquired. Taking pictures of these contexts, they try to illustrate the newly learned phrases. That is a suitable practice for vocabulary learning and retention.

Activity 2: learners make sentences to describe the photo by using the words and phrases they learned. It can be assumed as a practice of sentence writing and also vocabulary learning.

Activity 3: some learners said that they share a website with their friends to which they upload their photos and sentences. Sharing the data helps the learners to review the vocabulary knowledge and also to self-edit the sentences.

Activity 4: having an access to the photos and sentences provided by others, learners have the chance to reflect on their peers' language production. In this way, the learners have a conscious focus on the appropriate language use and usage. They have an opportunity of not only correcting and revising their peers' sentences but also commenting on photos uploaded by others, which create a humorous and funny situation. All these activities are done by cell phone.

Activity 5: learners use the Notes feature to take note on the English they read or hear everywhere. Then, they use these notes for different purposes like presenting them to the class or sending them to their friends as a text message. Sometimes, learners hunt for specific language forms, (e.g. common nouns, the past perfect tense, formulaic expressions), which they find in their daily life.

Activity 6: like activity number 3, the notes taken on the cell phone can be shared on a website to be reviewed and reflected on.

Activity 7: learners use their cellphone to record and collect language samples from TV or radio. Then, these audio or video files are analyzed and discussed over and over. This process helps the learners to focus on both form and meaning.

Activity 8: since most of the respondents are graduate students, they use cell phones to record the lectures and talks from different conferences and workshops they participate in. the learners play the interviews and talks to be analyzed more.

Activity 9: text messages are used to send out vocabulary items at spaced intervals, thus increasing the learners' retention. In some cases, the respondents, as teachers, text the words covered in the class to encourage students to review them outside the school context. By sending out the words multiple times, the respondents increase the chances that students will remember them.

Activity 10: learners use flashcards to retrieve, share, and practice new words everywhere. Most of the time they use ready-made flashcards produced by professional companies.

Activity 11: the reality is that many respondents do not like to write. They associate writing in the school context with boring assignments and a punitive environment of criticism and negative feedback. In other words, the fun is missing. However, if one considers writing as any form of textual communication, it becomes clear that students actually write a lot. The number of text messages, status updates on social networking sites, and instant messages (IMs) sent by the average learners is staggering; clearly, a lot of writing is going on! The challenge is to encourage that type of writing that helps students learn English.

If students are not ready to write essays, they can practice with shorter texts to develop their writing skills. One activity is *circular writing*, where students create a story together by contributing one text message at a time. Each student writes a sentence or two and then sends this on to the next student, who adds another message, and so on until the story is complete. The teacher is copied and

has a record of the story as it emerges. It is experimented with different text types such as narratives or shorter forms such as news reports, instructions, and warnings.

Activity 12: Interactive writing can be encouraged through *tandem learning*. In this activity, two students who wish to practice English on a specific subject pair up and exchange text messages. It is a good example of the situated learning which states that learning is more likely to take place when information is contextually relevant and can be put to immediate use (Lave and Wenger 1991). For example, the learners use mobile devices to access relevant vocabulary and expressions while at a bank opening an account, to look up movie reviews while at the theater, or to discuss weekend plans with an English speaking friend.

Activity 13: A more advanced form of using the mobile phone for writing tasks is keeping a blog. This does require a phone with a connection to the Internet (or the use of a wireless network at home or perhaps at school). Learners use the Text Messaging and Camera features to add messages and post pictures to their personal blogs. This is great for writing about personal experiences, places visited, and people met, but it is also used as an activity in which learners collect information and report on it like journalists. Peers read these blogs and provide feedback, request more information, or comment on it.

Activity 14: Microblogging involves sending short messages (with a limit of 140 characters, including punctuation and spaces) from a computer or a mobile phone. Initially intended to provide friends with status updates (“Now going to the gym,” “Watching Lost in Translation,” “Feeding the hamster”), Twitter is now used by many different professions, including educators, to keep people informed about who is doing what. The learners use Twitter for a wide variety of assignments, such as reporting on their daily activities. To focus on specific aspects of language, the learners write down each idiom they find in a book they are reading or to report when they hear someone use a negative adverb such as *seldom* or *hardly*. The learners follow some of their peers’ tweets and respond to them.

Activity 15: Like Twitter, Facebook and My Space are enormously popular social networking tools that allow groups of “friends” to meet, post messages, share pictures, and generally interact online in a myriad of ways. Most of the interaction takes place in writing. Learners’ use of English instead of their native language produces a great deal of writing practice. Some teachers actively use such sites to keep in touch with students or to organize activities online. The sites can be accessed through mobile phones, and it could be good fun to ask students to post on each other’s pages in relation to a topic you have just discussed in class.

Activity 16: Using phones for speaking may not seem like an original idea, but one way to encourage reluctant students to start speaking is to establish a language exchange. In this activity two of the learners who want to learn English from each other talk in English for half of the time. This activity is expensive in Iran. That is why the learners use Skype on their mobile phones.

Activity 17: To practice individual speaking, the learners start *phlogging*, a recent form of blogging that entails calling a number and leaving a message on a website. Some programs like the currently free [www. ipadio.com](http://www.ipadio.com) will even automatically transcribe the recording. This is an excellent task-based learning tool for students to update oral and written reports about a given project.

Activity 18: Many phones have memory for graphics, photos, and music that is used to download listening material and transfer them to the peers’ phones or other media. This could be a recording of a class, a podcast, or course listening materials. In addition to providing hundreds of existing podcasts for English language learners, the iTunes U website

(www.apple.com/education/itunes-u) will upload learners' own podcasts to which students can subscribe.

Audiobooks are another source of listening materials. These are downloaded in a variety of formats and transferred and played back on any phone that has sufficient audio capabilities. Numerous commercial websites sell audiobooks read by professional readers, but there are also websites where public domain audiobooks can be downloaded for free, such as <http://librivox.org>.

Activity 19: Similar to the listening idea above, the learners download reading materials. There are numerous sites with free reading material, including Project Gutenberg (www.gutenberg.org), which also has many audiobooks available. Many books are now published in mobile friendly formats.

Activity 20: Many of the free games for mobile phones, such as Scrabble and crossword puzzles, involve a focus on language. Although not all of them may be suitable for English language learners, they at least encourage the learners to engage with English language, and to do so in the context of entertainment. Once the learners determine that their phones have the capability to play games, they download and install the programs.

Activity 21: the learners document their learning progress by using the Notes and Voice Memo Recorder features. The learners document their use of the language outside the academic setting and any problems they encounter, such as a communication breakdown or misunderstanding, as well as any successful communicative interactions. In addition, the learners use the Calendar feature or other productivity tool available on most phones to set goals, deadlines for assignments, and reminders to rehearse material covered in class. Using these features, the learners reflect about their language acquisition and take control of their own learning.

Activity 22: Lots of graduate learners use mobile devices for research and data collection. They administer mobile questionnaire which can be taken and sent back on the phone. As it was mentioned before, these gadgets are used to create educational materials and adapt the materials in collaboration with other peers.

Then, these items of MALL activities, listed in table 1, were presented to 50 of the respondents, who were more active than the others in using their mobile devices to learn and practice English, in order to be prioritized from the most frequent items to the least frequent ones based on their usability and applicability in the respondents' MALL experience. Actually, these subjects were provided with the list of activities and asked to score each item from number 1 (Never) to number 7 (Always). 50 subjects scored the items on a scale from Never=1 to Always=7. Therefore, the perfect score for an individual item is 350. The aim was to find out which activities were the most and least frequent ones. The results of the survey are illustrated in Figure 3.

As it can be seen in the graph, activities 9, 14, 18, 19 are the most frequent activities among Iranian EFL learners. The first rank, among the most frequently used activities goes to activity 18 (We use mobile phone memory to distribute listening materials and we listen to podcasts.). Activity 18 is related to the use of mobile devices for listening to podcasts. As it was mentioned earlier in this paper, Iranian EFL learners have a very good idea about listening to podcasts because they think that it is so effective to boost their English proficiency. The second activity, among the most frequent ones, is activity 19 (We use mobile phone memory to distribute reading materials like eBooks.). Talking to some of the learners in the interview session, I came to know that lots of them carry their e-books in their mobile devices in order to have an access to them whenever and wherever it is possible. They think, doing this, they can take the most out of their time. The other two activities, among the frequent ones are activity 9 (We use text messages to send out vocabulary

items at spaced intervals, thus increasing our retention.) and activity 14 (We send short messages to write down and report on our daily activities (e.g. micro-blogging on Twitter).). SMS and short messages are the easiest and the least expensive mobile service available for Iranian EFL learners. That is why they are using it in a variety of different ways to learn and practice their English. Some these learners type their messages at a surprising speed using the special spelling common on cyber-Net.

Activities 7, 12, 16, 17 are the least frequently used activities among Iranian EFL learners. Activity 17 (We use the mobile phone for “phlogging”- a recent form of blogging that entails calling a number and leaving a message on a website.) is the least frequently used activity among Iranian EFL learners. The learners mentioned that these cyber-services are not available for Iranians because of international sanctions but a few of them use it to improve their speaking ability. Activity 16 (We use the mobile phone for a language exchange, i.e. we talk in English on the phone.) is the second in the list of the least frequent ones. Iranian EFL learners preferred to use their mother tongue when they wanted to talk on the phone but the story seems a bit different when they wanted to leave short text messages. Activities 7 (We use the Voice Memo Recorder feature to record language from TV to be analyzed.) and 12 (We pair up and exchange text messages in an interactive way.) are the other two activities among the least frequent ones. Iranian EFL learners preferred to download podcasts and the other sorts of listening materials from the Internet rather than recording language from TV or radio. They had an access to a lot of website for free podcasts which were easily downloaded. About activity 12, the learners mentioned that we prefer to talk with our friends when we pair up. Sending messages in this situation is not interesting enough. The other activities are used on an average base.

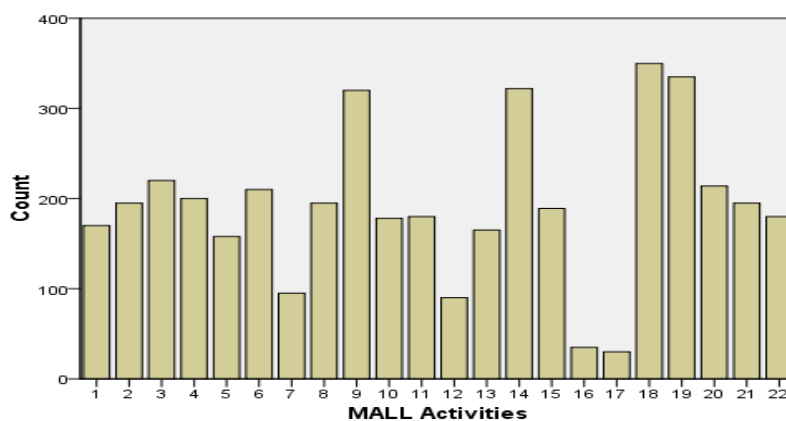


Figure 3. Frequency of uses for the MALL activities.

Discussion

The study has delivered interesting results into emerging practices of mobile devices in Iran which can serve as a link to foster learning in formal and informal contexts. Mobile devices are shown to support informal and community learning. There are numerous reported benefits, particularly emphasized by the distance education students. While the predominant use for mobile devices is communication, it seems that other aspects of social interaction can benefit, such as the ability to share media between mobile devices directly or blended across other social networking technologies like Facebook. Amongst the Iranian EFL learners surveyed, receptive, productive and

communicative uses are in evidence across learning, social, entertainment and workplace environments. The research confirms the popularity of SMS for vocabulary learning and reporting on their daily activities, listening to podcasts, and reading e-books. It also highlights that taking photographs and making notes are relatively frequent activities among some students. Using the mobile phone for social networking in English and playing games, like crossword puzzles, which involve a focus on language are also popular among Iranian EFL learners.

The data indicate that, while nearly all participants had used a mobile phone or MP3 player, only a few learners had used a PDA or smart phone. Usage is changing, and data of this kind can only be a snapshot. Nevertheless, they suggest that educators need to be wary, when designing educational activity for learners like these Iranian learners, of counting on incorporating access to PDAs or smart phones. Of course, with careful design and support, innovative use can be achieved: educators don't have to confine their ambition to what's familiar to learners, and there are reports of success in introducing students to new devices/uses.

The data continue to show the main use for these devices involves communication through phone and text, and referencing information such as websites, readings and podcasts. What is interesting is that there appear to be many ways in which users are employing the technologies to generate products. Our survey shows that mobile devices are enabling users to create resources for teaching purposes, write blogs to keep their friends up to date with events, take and distribute photos and videos, and make and take notes and recordings.

Uses within Iranian context suggest evolving social and cultural practices that may result from patterns of use among friends, family, colleagues and teachers. This research helps to identify uses of mobile devices that teachers and others can exploit to further unlock the potential for using these devices as cognitive tools to support learning (Herrington et al., 2009). By considering apparent features of MALL in educational context in Iran in different contexts, we enable researchers and teachers to become more sensitive to different circumstances facing students who are studying remotely or spending time away from their usual place of study, and can help educational practitioners designing learning for culturally diverse cohorts.

Current respondents also report feeling that paper is 'easily lost' and less reliable. Mobile device use is a fast-changing field that reflects rapid social changes as well as the increasing availability and smarter marketing of new devices. Anecdotally, our current respondents' "least frequent uses" reported in Graph 3- such as phlogging, oral language exchange on the phone in English, interactive text messaging and recording pieces of language from TV are becoming more widespread, and we would expect these uses to figure more prominently in the future.

In the time since this study was conducted smartphones have become cheaper and more common amongst students and a new generation of 'slate' devices (e.g. Apple iPad™) has come onto the market. References to Facebook, Skype, or microblogging in the data suggest that the device students are using qualifies as a smartphone. While there are no clear figures available from the data, it may be expected that the use of smart phones will increase as the market becomes dominated by these devices in Iran. Whilst mobile applications are fashionable they are not necessarily cheap and it is important that educators planning to develop apps understand how students perceive and use their mobile devices, especially in the context of Iran that the students complain about financial problems a lot. Our findings indicate that institutions planning to offer mobile apps should build on the existing preferences of students for social communication, listening to audio, watching videos and reading short texts if the apps are successfully to enhance the learning experience.

It is interesting to compare our findings to those of Walls et al. (2010) who questioned the assumption that students are enthusiastic users of podcasts in their non-university lives and therefore keen for their university to start using them. They found that most students did not even know that podcasts existed but once the tutors started to offer podcasts then some students started subscribing to podcasts more widely. Unlike the Walls et al. study cohort, some of our students have already been listening to podcasts so that could account for the difference in the findings. However, our findings do support the conclusion that when students are offered appropriate mobile resources then they will make use of them. Due to the high use of mp3/mp4 resources in Iran, teachers could consider using more podcasts and vodcasts as teaching materials. In previous studies about podcasts, the majority of students preferred to listen to podcasts on their laptop rather than using their MP3 player (Salomon et al., 2007; Carvalho et al., 2009). This preference may be due to an association of mp3 players with leisure rather than learning, a lack of broader adoption of mobile devices in education, or a reflection of an individual's everyday mobility and the places where they prefer to study.

Conclusion

Our research gives a national (Iran) account of mobile device use from learners' perspectives, in relation to learning, social interaction, entertainment and work, with a view to helping researchers and educators incorporate the emerging learner practices into their plans for further research, development and designs for learning. We agree with Kennedy et al. (2008) that "an evidence-based understanding of students' technological experiences is vital in informing higher education policy and practice" (p. 109) since, as they point out, this will have implications for student access, equity and transition. We believe the insights gained from looking at learners' accounts of authentic experience are essential in improving understanding between learners and teachers as well as helping to shape future plans for the use of technology in education.

Whatever their age, learners constitute a pool of valuable experience and expertise in the use of mobile technologies. As a collective body, they own, or have access to, some of the latest mobile devices and applications. Pressures of study and assignment deadlines lead them to seek effective solutions to immediate needs on the go. If they are studying in different university departments, they are also in a good position to share experience freely across discipline boundaries, which is something that educators may find much more challenging to do.

Straub (2009) suggests that "the future of adoption research should focus not just on adoption and implementation of information technology in the formal organization but how individuals understand, adopt, and learn technology outside of the formal organization" (p. 646). We concur with this view, while also heeding his plea to avoid a 'pro-adoption bias', that is, the assumption that the goal is to disseminate information about innovations specifically so that they might be adopted by others (Rogers, 1995). Whilst some practices are worth adopting more widely, others may not merit it, but being better informed about evolving practices has to be a worthwhile goal.

The present investigation leads to various hypotheses for future research, including possible differences in communication choices depending on gender and age. Given the wide-spread use of SMS demonstrated in our study, we would advocate more research on how language use is adapted for texting. Furthermore, since the use of a mobile device represents a new technological means of reading books, articles and comments, this might have an impact on how, and how much, students read, however further research would be needed.

The landscape of mobile devices has changed since our survey with some devices (cell phones) becoming almost extinct and others (MP3 players) endangered. The functionality of these

devices has been incorporated into smart mobile phones and tablet devices. Not only are mobile devices becoming more affordable and thus more widely used, they also have enhanced connectivity using Wi-Fi. Our study has considered the broad use of mobile devices amongst students; the next research step should be to examine the specific applications that students use for learning, especially those produced by universities. How, where and when do students make use of these applications? In what ways do the applications contribute to the students' overall learning? If mobile applications become a significant part of a university's offering, does this disadvantage some students and, if so, how? Furthermore, as mobile devices become more widespread there will be new types of applications and probably substantial changes in practice which cannot necessarily be foreseen but which will also provide interesting directions for further research.

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Appendix A

The list of mobile-enabled language learning activities

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| 1 | We take photos of suitable contexts to illustrate the idioms. |
| 2 | We make sentences, using the idioms, to describe the photos. |
| 3 | We upload the photos and sentences onto a shared website. |
| 4 | We perform peer reviews on the shared website by commenting, correcting or revising our peers' sentences. |
| 5 | We use the Notes feature to take notes on the English we read or hear. |
| 6 | We upload the notes onto a shared website to be exchanged, compared, and discussed. |
| 7 | We use the Voice Memo Recorder feature to record language from TV to be analyzed. |
| 8 | We use the Voice Memo Recorder feature to record interviews or conversations we engage in so that we can analyze them. |
| 9 | We use text messages to send out vocabulary items at spaced intervals, thus increasing our retention. |
| 10 | We use mobile vocabulary flashcards that can be retrieved, shared, and practiced everywhere. |
| 11 | We create a story together by contributing one text message at a time. |

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| 12 | We pair up and exchange text messages in an interactive way. |
| 13 | We use the Text Messaging and Camera features to add messages and post pictures to our personal blogs. |
| 14 | We send short messages to write down and report on our daily activities (e.g. micro-blogging on Twitter). |
| 15 | We use the mobile phone for social networking in English (e.g. English social interaction on Facebook). |
| 16 | We use the mobile phone for a language exchange, i.e. we talk in English on the phone. |
| 17 | We use the mobile phone for “phlogging”- a recent form of blogging that entails calling a number and leaving a message on a website. |
| 18 | We use mobile phone memory to distribute listening materials and listen to podcasts. |
| 19 | We use mobile phone memory to distribute reading materials like eBooks. |
| 20 | We use mobile phone to play games, like crossword puzzles, which involve a focus on language. |
| 21 | We use the Voice Memo Recorder, Notes, and Calendar feature to keep a portfolio which encourages us to reflect about our language acquisition. |
| 22 | We can source and create our own content, share it with peers, share different learning paths, and evolve better answers through collaboration. |