

RUNNING HEAD: MOBILE LEARNING AND MALL: A FORMAL

MOBILE LEARNING AND MALL: A FORMAL INVESTIGATION INTO THE VALUE OF INFORMAL LEARNING

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Abstract

This paper begins by dissecting the evolving meaning of “mobile learning” and its offshoot: mobile assisted language learning (MALL). It then explores the literature regarding informal learning, especially as it relates to mobile learning and MALL. It finds that there is often a fine line between what is considered formal and informal learning. One of the greatest affordances of modern mobile technology is that learners are freed from the educational restraints of time and space, yet the literature review found that most implementations of MALL fell into traditional behavioristic models of pedagogy: formal learning at its most extreme. On the other hand, the literature also showed some creative uses of mobile devices used with varying degrees of formality. However, not all students adapt to the changing potential of the learner so easily. This paper shows that in some Asian countries, education regarding affordances of mobile technology and the power of informal learning was not enough to help students become more autonomous learners. This paper concludes with an argument that teachers need to provide opportunities for students to create with their devices, not simply consume, and on the importance of designing instruction to focus on the learning, not on the learners or their devices.

Keywords: Informal Learning, Mobile Learning, MALL

Introduction

Mobile learning, or m-learning, has been an area of research that has grown exponentially over the last two decades. In order to research it, it must be defined. Early definitions of m-learning placed an emphasis on the device. Traxler (2005) as cited by Crompton (2013) defined m-learning as “any educational provision where the sole or dominant technologies are handheld or palmtop devices” (p. 4). As the technology grew and become more integrated into society, that definition soon became obsolete. In 2009, Traxler redefined mobile learning “as not about ‘mobile’ as previously understood, or about ‘learning’ as previously understood, but a part of a new mobile conception of society” (p.14). Crompton (2013), along with the editors of

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the Handbook of Mobile Learning, Muilenburg and Berge defined m-learning as “learning across multiple contexts, through social and content interactions, using personal electronic devices” (p. 4). They then elaborate upon that definition saying that m-learning can occur with a device formally or informally, in or out of the classroom, with or without direction or a specific goal and related to or not, the environment in which it occurs.

Mobile devices offer affordances based on their physical attributes such as size, avenues for input and output, and the ability to store information (Al-Said, 2015; Alhinty, 2015; Ilic, 2015). Quinn (2017) describes four affordances which he calls the “4Cs of mobile: content, compute, communicate, and capture” (p. 245). He then goes on to argue that while the abilities to access a variety of content, to interact with the device to compute by affecting output through input, to communicate with others, and to capture both context and content are not unique to mobile devices. What makes the mobile devices unique is that they have the ability to do all of those things within that one device at the time and place of one’s own choosing is.

While the potential of m-learning has been recognized across the educational spectrum, one subject arena that has truly adopted it is that of foreign language acquisition. The ability to study, and gain access to authentic material, both audio and visual, without being tethered by limitations of time, space, or materials, allow students many more opportunities for comprehensible input (Krashen, 1982) and meaningful communication than were ever possible in an analog world. Mobile Assisted Language Learning (MALL) has the potential to provide students with all of opportunities to learn as described by Crompton (2013) which were listed above.

In my own experience as an instructor of English as a foreign language (EFL), I have tried to show students the affordances offered by their smartphones, and I have given them tasks that required their use, but I have never really been able to foster learner autonomy or get students to recognize how they could use their phones informally to foster their own learning. In a discussion on this topic, a colleague of mine said, “even just explaining to learners how their informal learning can be beneficial to their formal learning can contribute to their learning experience and lead to exponential progress.” With this idea in mind, I began to research how informal learning has been viewed in m-learning especially with a focus on its perception in MALL.

Informal Learning

How can we distinguish Informal Learning from Formal Learning when or if an informal aspect has been implemented by the instructor? Gikas & Grant (2013)

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offer up several scholars' definitions of Informal Learning, but much like the definition of m-learning, say that it cannot be conclusively defined. On the other hand, Formal Learning is designed and structured by instructors, and students will be assessed on how well they perform within certain limitations. If one accepts that definition, then the parameters of informal learning are quite broad. Any activity instigated by the student that results in learning can be considered informal. In an article on Informal Learning with PDAs and smartphones, Clough, Jones, Mcandrew, & Scanlon (2008, p. 360) reproduce a typology of informal learning created by Vavoula *et al.* (2005):

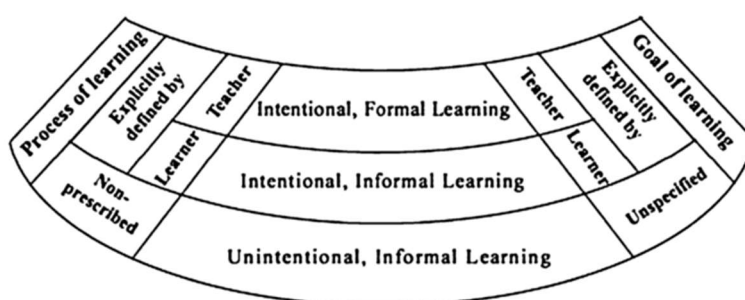


Fig 1 Typology of informal learning (reproduced from Vavoula *et al.* 2005).

With this, we can see that Informal Learning can be intentional or unintentional and that both the process of learning and the goal of learning are established by the learner. It does not seem that all researchers agree with these definitions because the term Informal Learning is often used in studies where the teacher has at least defined an expectation of learning. Song & Kong (2017) citing Sharples *et al.* (2014) say that “the teacher plays a central role in orchestrating the integration of mobile technology, pedagogy and curriculum across formal and informal learning settings” (p. 39).

m-learning and Informal Learning

Sharples, Taylor, & Vavoula (2005) felt that any theory on mobile learning should encompass both formal and informal learning situations. They recognized that learning needs can arise from an internal desire, “out of curiosity or serendipity, prompting the learner to form new goals which may then be explored through formal or informal study” (p. 5). Agreeing with this sentiment, Brown & Mbatia (2015) believe that m-learning can and should be utilized to integrate both formal and informal learning because “learning is interwoven with everyday activities that take place in everyday locations” (p 122).

In a comprehensive review of mobile learning in science, Crompton, Burke, Gregory, & Gräbe (2016) looked at 49 articles. They found that 51% of the studies could be considered to have taken place in informal learning contexts while 18% took

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place in a combination of both formal and informal settings. They found that 33 of the 49 studies took place, at least in part, in informal environments. For the purpose of their review, informal study was considered to be “intended learning in an atypical setting” (p. 153) which makes it unclear who defined the intended learning goals: the teacher or the students.

Jones, Scanlon, & Clough (2013) reported on two case studies that looked at m-learning in informal and semiformal settings. In the first study, 40 secondary students in an afterschool geography club focused on food sustainability. Students formed their own groups, and while the teacher was there for support, the students decided on their own avenues of inquiry. The authors found that m-learning allowed the students to follow their own paths of inquiry and take charge of their own projects. The second study involved geocaching, where the students did not have particular learning goals, but through searching for a geocache, learned about the landscape through their own research or collaboration with others.

Prieto, Migueláñez, & García-Peñalvo (2013) describe what seems to be a typical use of m-learning in an informal setting: the use of smartphones in museums which can be used to help learners with their just-in-time learning desires. Koole (2009) includes environment, type of task, and how the material is presented in discussing how mobile learning that takes place at museums or other types of memorable sites can help facilitate learning because it grounds the experience in what the author terms “episodic memory” (p. 31). Koole (2009) goes on to say that the affordances of m-learning “impact a learner’s ability to understand, negotiate, integrate, interpret, and use new ideas as needed in formal instruction or informal learning” (p. 36). Martin & Ertzberger (2013) also believe that not only do “mobile technologies ability to work within the specific context and environment of the learning, it has the ability to increase the ease of informal learning” (p. 78). However, in another museum-related study, students who had access to mobile devices to learn about specific paintings while viewing them scored lower than students who had to return to a computer work station to read about the paintings. They suggested that the reason for this was that the devices might have distracted the students from what they were supposed to be learning, so perhaps a cognitive overload.

MALL and Informal Learning

In a United Nations white paper on mobile learning trends in Asia, Hylen (2012) reports that “across the region, policy-makers have prioritized programmes that promote lifelong learning, and an increasing number of educators are recognizing the importance of encouraging informal learning that happens outside of school

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contexts” (p. 15). In looking to the future though, the author laments the fact that mobile devices are primarily being used as content delivery devices, not as tools for deepening understanding or the creation of knowledge. Does this prediction highlight a limitation of the devices or highlight a fault in pedagogical implementation? A few years after this report, Burston (2014) said that, “pedagogically MALL has been largely constrained to behaviorist, teacher-centered, tutorial applications” (p. 344). This assessment can apparently be applied to the United States as well. Looking at a 2014 study conducted by the EDUCAUSE Center for Analysis and Research, Joo, Kim, & Kim (2016) report that “students have favorable attitudes toward new technology, recognize the value of mobile technology for academic success, and expect to use it more for academic purposes” (p. 612). They then continue to say that while the students seem eager to take advantage of their mobile devices, there was little support of their using the devices on campus. It seems that while mobile devices have the ability to expand and enhance potential learning opportunities, they are all too often being used as updated textbooks or one-on-one assistant teachers. Even though mobile technology allows for learners to engage with language content and study informally, students (and teachers) might not be aware of how to do so.

Formalized Informal MALL

The study of vocabulary is a necessity when learning a foreign language, but it is rarely fun. In a Formal Learning situation, a teacher would assign a list of vocabulary words and then test students on them. Students who study vocabulary words because they have identified their own need to learn those words would approach the task more out of a sense of curiosity than as a chore. In an early study involving Informal Learning and MALL, Song & Fox (2008) tracked students for one year and detailed how they made use of PDAs to learn vocabulary and identified seven ways in which they were used for the learning of incidental vocabulary. They also found that students engaged in both individual and collaborative activities. While not an implementation study, Nisbet & Austin (2013) argue that adult ESL learners should be shown how they can use apps on their smartphones for vocabulary acquisition. One of their suggestions is that students commit to using an app of their choice for a certain period of time, and then report on how they felt about it. In this case, the suggestion would serve as sort of guided Informal Learning.

Informalizing Formalized MALL

Kukulska-Hulme (2009) wrote that a mobile device could serve as a bridge between formal and informal learning. In an ideal world, students would inherently

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know that they could use their mobile devices to cross that bridge. Bo-Kristensen, Ankerstjerne, Neutzsky-Wulff, & Schelde (2009) recognized that we don't live in an ideal world, and that in order to help students learn informally, they needed some formal guidance. In this implementation, students were given pre-activities that would activate schema and prepare them for the types of language they would most likely need in an unstructured situation. The authors had placed "geotags" (GPS location markers) around particular landmarks, and then students had to go to those landmarks and record a conversation they had using the target language with a native speaker they encountered at that location. The picture/recording/video would then be uploaded to the geotag's description in Google Maps. The author's felt that this type of activity helped students make a connection between the language they were taught in the formal setting of the classroom and the real-life language they used in the informal environment. When put together, the geotags and the content associated with them formed a sort of "tourist language map" of the city.

In order to help exchange students from a university in the U.K. engage with both the culture of the town in Spain where they were staying and with the language itself, Comas-Quinn, Mardomingo, & Valentine (2009) set up a blog where students could upload their encounters with the foreign culture. The students seemed interested in the project, but very few made entries. The authors felt that the main problem with this activity was that it was limited to one week. A future iteration would allow for more time for students to engage with the project.

In Japan, Freiermuth (2015) used geotagging to hide assignments in five different geocaches near the campus. Students had to find the geocache in order to find out what the assignment was. As a scaffolding activity, students began by finding two relatively easy to find geocaches. They were also tasked with creating "creative" videos that demonstrated the process of finding a geocache. Once the teacher felt that the students were able to accomplish the tasks, they were allowed to do so. The task itself inherently engaged the students, and the projects let them upload videos that students knew had the potential to be seen by others so they took care with their English. They liked the challenge and they liked learning about geocaching. The negative comments were "mostly about mosquitoes and weather" (p. 5), but overall, the students' impressions were extremely positive.

Barriers to Informal Learning with MALL

In an attempt to see how Chinese students would make use of the affordances of a mobile device in their informal study of English, Chen (2013) provided ten students with an android tablet, and instructed them on its various affordances.

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Students were then told that they should primarily use the tablets to study English. This was an action research project and after one cycle of guidance, observation, and reflection, the author initiated a revised plan that had two goals: make students more aware of the various affordances of the tablet and set up a way for them to interact and collaborate. At the end of the two-week study, Chen (2013) found that simply providing the devices was not enough for students to then engage in practices of Informal Learning. The author found that “learners need to be properly guided not only technologically, but also methodologically” (p. 28). Straub (2009) argues that the adoption of technology for informal learning (or formal learning) is the result of a complex interaction of individuals and their society. As Chen’s 2013 study was conducted with students who had been brought up and educated in a tradition of behaviorist teaching practices, it is likely that the methodological training Chen (2013) was referring to was in teaching students how to be self-autonomous, and not wait for direction from an instructor to proceed with their learning. In Japan, this seemed to be the case. White & Mills (2012) state the assumption that learning with mobile devices should stimulate informal learning, but they report findings from Kondo *et al.* (2013) that said, “research conducted in the Japanese university setting seemed to indicate that students in this setting may not possess the autonomy and self-directedness to take advantage of this affordance of the technology” (p. 5).

Conclusion

Mobile learning, MALL, and Informal Learning are all concepts that are easy to visualize but difficult to vocalize. Instructors’ goals should be to help students do well not only in one class, but in all of their classes, and help them develop the skills and curiosity that will help them become lifelong learners. The affordances of MALL and the qualities of informal learning are two traits that students need to learn about and teachers need to inform them about. The digital didactical design introduced by Jahnke & Kumar, (2014) included teaching objectives, learning activities, and assessment, supported by technology and involving active social relations. They talk about the integration of technology not for the consumption of information, but for the creation of it, and instruction is centered on the learning, not on the learner. It is only by showing students how mobile devices can be used to learn and create new knowledge, the full potential of m-learning or MALL will be reached.

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