

# A REFLECTION OF THE STATE OF MOBILE LEARNING IN ASIA AND A CONCEPTUAL FRAMEWORK

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## ABSTRACT

In Hong Kong, south of China, a predominantly Chinese speaking society, a financial capital in the world economy, a shopping paradise for mobile gadgets where we bear witness to exceptionally high penetration of mobile subscriptions and high churn of mobile phones, smartphones, 3G-enabled netbook computers and portable game devices, is also home to a relatively mature life-long learning working population and has a plethora of educational service providers catered for kids and youths, yet the notion of Mobile Learning somehow still lacks both clarity and purpose. However, there are increasing evidence that technology enhanced learning experiments which involves mobile services are jumping out of their lab and becoming pilot tests. Furthermore, we also observed an increase in the awareness of location-based, context-aware, and game-based learning theories with handheld technologies. This paper suggests that future research studies with an Asian context would be beneficial to the mobile learning community in the context of language learning, social-cultural, pedagogical implications, knowledge management, collaborative and informal learning. The paper also presents a novel conceptual framework called Heterogeneous E-Learning Portal (HELP) currently being put to trial and incubation at Hong Kong Cyberport IncuTrain Center for class booking under a mobile, open, heterogeneous, web 2.0 and collaborative environment.

## KEYWORDS

Mobile learning, handheld learning, m-learning, mobile learner, class booking, LMS

## 1. INTRODUCTION

Hong Kong has been one of the cities in Asia which has experienced a high growth and continuous demand for vocational training, continuous professional development and life-long learning - with 25% of aged 18-64, who are non-full time students, but are active in some form of continuous learning (Young, 2008). Hong Kong also happen to enjoy an exceptionally high penetration of mobile subscriptions recording 167% (ITU, 2008), and nearing 4.6 million of mobile data users (OFTA, 2009). This represents more than 50% of the population of Hong Kong that can receive some form of learning experience using mobile devices.

This paper intends to provide a reflection of the state of development in mobile learning in Asia – advocating a good research base of mobile adept population brought by the proliferation of mobile devices and affordable mobile internet connectivity. In the literature review section, we presented the leading school of thoughts and perspectives of mobile learning from various scholars in UK and Europe with reference to a broader perspective of the type of learning and citing some of the local academic research, experience and pilot projects. We also presented our conceptual framework of developing a heterogeneous model of a LMS focused in class booking and administration portal – a model to support learning activities conducted outside higher education institutions in the form of extra-curricular learning activities (eg. Judo class, piano lesson, playgroups) often offered by independent smaller educational service providers.

## 2. THE MOBILE LEARNER

### 2.1 The Mobile Learning Projects in Asia

In Hong Kong, there has been various pilot projects led by tertiary institutions such as Hong Kong Institute of Education's SMS-based teaching and learning system developed by So (2009) suggesting that SMS is still the most prevalent access model. Similar notion was also suggested by Ramos (2007) earlier in Philippines with the use of "SMS texting" in language learning. The University of Hong Kong's mobile quizzes (HKU, 2008) developed for the Beijing Olympic Equestrian also enables high school students to learn about the history of the Olympic games, equestrian event and the host organization. In Taiwan, Chiang *et al* (2007) concluded that m-learning related thesis and dissertations at universities had shown sharp rise between 2000 to 2005 at their local central thesis ETDS database while Luo *et al* (2009), also from Taiwan, reported that the results of 29 fifth-graders participating in a fieldtrip activity augmented by the use of learning objects delivered via PDA did "increase the efficiency of the learning process" and supports "collaborative learning". A review of the statistics in mobile phones ownership in Asia also suggests that the use of mobile learning could be on the rise since the growth of mobile phones is still strong.

The mobile penetration rate measures as mobile subscription rate per 100 people by ITU is also quite high with Singapore at 138%, Taiwan (China) at 110%, Malaysia at 102%, Australia at 105%, and with less densely populated countries like Philippines at 75%, Indonesia at 61% and China at 49% (ITU, 2008). The latter two has a huge population spreading a vast geographical area; hence in urban cities, this percentage can be higher. Selecting just a few European countries from the list reveals Portugal at 139%, United Kingdom at 126%, Finland 128%, Estonia 188% and Germany 128%, while USA and Canada is trailing behind other developed countries at 86% and 78% respectively. Based on this, one can hypothesize that these Asian countries could demonstrate the same propensity to the acceptance to mobile learning environment.

Motlik (2008) provides the supporting argument that despite the lack of e-learning successes in Asia, mobile learning seems to hold better promise as a result of more affordable technology and increased flexibility to situational distance education learning opportunity. Paliwal (2009) however suggested that the open question of finding the "viable and valuable revenue stream" remains the key obstacles to include m-learning into the main stream in Asia.

A review of the recent literature and conference proceedings related to mobile learning in general has suggested that the m-Learning or mobile learning still lacks definition albeit gaining more of an identity (Traxler, 2009) and has shown significant growth (Kukulka-Hulme, 2009). As the new mobile learner evolves from the mobile people (Peng, 2009), the ability to choose when and where to learn, not being bound by access, location, situation and context (Cobcroft *et al* (2006) are increasingly attractive and promising - especially for using mobile devices for learning languages. Many of the mobile learning pilot tests also

suggested that mobile services are best suited to supported language learning in United Kingdom (Kukulka-Hulme *et al*, 2008); in Turkey (Cavus *et al.*, 2009) and in Philippines (Ramos, 2007) and also in Hong Kong (So, 2009). These collectively suggest that mobile learning environment applied to the context of language learning are slowly becoming to be better understood by some.

### 2.2 A Call for HELP - a Conceptual Framework

The need for defining new conceptual frameworks in evaluating mobile learning has been suggested by many scholars like Peng *et al* (2009) in "ubiquitous knowledge construction", Laurillard (2007) in "conversational framework" and Cobcroft *et al* (2006) to "guide the design of learning-centered educational environments" and Traxler (2005) reflecting the need for critically evaluating and analyzing various mobile learning pilot tests. Kukulka-Hulme *et al* (2009) and Tsui *et al* (2008) both provide the supporting argument of how important the learning context is when applied in any new model or framework. This paper presents our novel conceptual framework of Heterogeneous E-Learning Portal (HELP) deployed as a class booking portal as a service to connect the stakeholders currently involved in extracurricular activities as shown below in figure 1.

In HELP, the stakeholders participate in a heterogeneous e-learning administrative portal - servicing parents (P), educational service providers (SP) and instructors (I). HELP in the context of learning centers around the need for the stakeholders engage in a relationship because of the learning object - a tuition class. A class is defined in this context a physical face-to-face delivery of learning (eg. a piano class, a judo lesson, an art and craft play group). As suggested by So (2009), the current practices of learning delivery can be

further enhanced with better and capable learner administration tool such as class enrolment, leave notification, grading, results, feedback, follow-me, tags, alerts, quizzes, and rich media. Future enhancement in HELP Mobile Edition (HELP-ME) is anticipated to offer via SMS or wireless browser access.

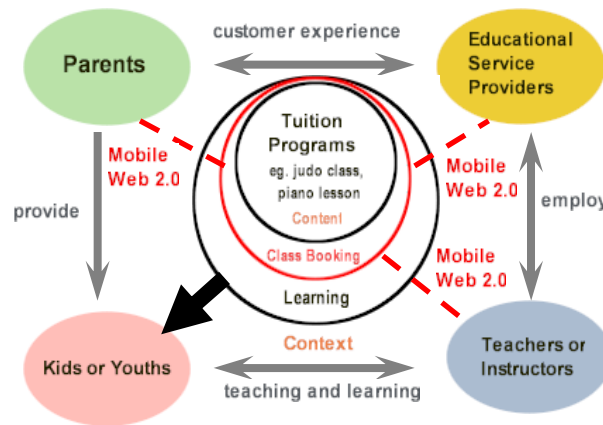


Figure 1. HELP-ME stakeholders relationship (outside Higher Education Enterprise)

Even simple SMS request-response keywords to interact with this class booking portal could be collectively contributing to improving the learning outcomes, and could help achieving other educational goals (Kukulksa-Hulme, 2009).

This conceptual framework which we refer as Heterogeneous E-Learning Portal (HELP) and the Mobile Edition (HELP-ME) intends to obviate the problems of scale, appropriateness and lack of critical mass. By offering an environment to stakeholders across different learning objects (face to face class) provided by different educational service providers, this increase access and promotes user participation. This project is a work in progress seed funded by Art Group Limited and receives incubation funding support from the Hong Kong Cyberport IncuTrain Center to develop the mobile learning 2.0 application.

### 3. CONCLUSION

This paper aims to reflect on the current state of mobile learning around the world highlighting the divide existing in Asia and the rest of the world in mobile learning. Despite having similar if not higher propensity to use mobile services, and equally high propensity of taking continuous education or language learning, the research activities in mobile learning in Asia are still trailing behind the western world. Furthermore, we concluded that there are in fact sufficient competence and research interests in the academic community regionally in Asia. We also highlighted various pilot test initiatives in mobile learning from professional practitioners, academic researchers, quasi-government bodies willing to invest fund into researching mobile learning projects before these projects can have their own revenue and reaching the main stream (Paliwal, 2009).

Finally, we have presented our Heterogeneous E-Learning Portal (HELP) conceptual framework and (HELP ME) – the mobile edition to the conference attendees. Focusing in mobile learning research opportunities can be challenging especially when the framework is to be designed for use external of an enterprise.

The conceptualization and evaluation methodologies of these mobile learning trials do require careful planning and alignment (Traxler, 2007) to the unique attributes or business aims of the organization (Traxler *et al*, 2005). In parallel to some of the conclusions drawn from the Open EdTech (2009) which calls for help to “embrace the full promise of mobile devices as learning platform”, we are working towards this goal, testing our proposed framework with user trials and we will be able to report and share our findings in future.

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