

The Mobile-based Learning (MBL) in Japan

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Abstract -- The latest breakthrough in the cellular phone technology had opened the door to new learning possibility in Japan. Today, about 73 million mobile phones are subscribed and about 3/4 of those mobile phones are capable of browsing mobile internet in Japan. The paper briefly explains a mobile-based learning (MBL) practice which takes place in Japan. Also, the paper attempts to see how it differs from web-based training (WBT) from a system designer's point of view.

I. INTRODUCTION

As a technical gap between personal computers and cellular phones has narrowed down, the technological obstacles of designing learning system in these technologies are almost indifferent. Today, what we did in the past with the computer-based training and web-based training are easily be transferred in mobile learning environment.

Currently, the most of cellular phones in Japan are capable of browsing information through internet and running software written in JAVA. On top of these technologies, about 20-30% of cellular phones have built-in digital camera and about 10% are capable of recording short movies with built-in camera.

To observe the possibilities of mobile-based learning, ALC Press, Inc., one of Japanese largest publishers specialize in English language education, had provided paid English learning system called 'Pocket Eijiro' for mobile phone users. It was launched on December 14, 2002 and after 30 days, the 'Pocket Eijiro' project (PEP) had approximately 10,000 users and feedbacks are, so far, very positive.

Through explaining the system design process of ALC Press' MBL system, PEP, this paper analyzes how and what system designers should consider in order to built successful MBL environment for the mobile learners.

II. DIFFERENCES BETWEEN WBT AND MBL

When PEP was first designed, ALC used WBT system as a prototype for designing the PEP because ALC already had several successful WBT systems. However, after one of successful WBT systems was precisely copied and transferred in MBL environment, the end product was not satisfying for test learners in terms of usability and continuous learning. Since the mobile phone does not initially equipped with

keyboard, the learning system needed to be more click-centered than type-centered. Moreover, due to a small screen size of mobile phones, each learning content was too long for MBL as the test data showed that learners who have monitored a prototype could not finish or continuously use the system. It seemed that learners would rather choose WBT if they have to look at small mobile phone screen for more than 5 minutes.

As a result, the system designers have learned that even though computers and mobile phones possess very similar technological qualities, WBT and MBL carries different prerequisites for users' learning environment. A WBT system assumes that learners will prepare time to study in front of a computer, but a MBL system ought to assume that learners will not prepare time to learn with MBL; instead the learning takes place in their spare-time such as during their waiting time. Furthermore, a WBT system assumes that learners are capable of typing with keyboard, but a MBL cannot require keyboard. Simply put, a mobile phone only has number buttons and several keys.

Therefore, when the PEP was redesigned, the system designers had to disintegrate the WBT content into smaller segment so that each learning process can be finished in 1 minute or less. Moreover, technically, the followings are considered:

- The majority of the learning contents can be studied by using only arrow keys; thus, It does not require typing.
- Each page of the learning contents is limited to certain size and length so that it is easy to read.

Though a MBL appears to be inferior to a WBT, after redesigning process, I have found that the dropout rate for MBL learners are quite smaller than WBT learners. The ALC's data shows that, on average, about 50% of WBT learners usually stop using the system after 15 days. On the other hand, those 10,000 learners that ALC have already acquired, about 90% of them are still learners after 15 days. Since ALC is using same learning content in both WBT and MBL, it is likely that the nature of MBL had helped to produce this interesting result.

As I mentioned above, the mentality of learners in MBL are different from WBT in ways that the MBL learners often utilize the system when they want to fill the time. Instead, WBT learners often need to make the time to use the system. It may be too stereotypic to say at this point, but in my opinion,

MBL learners come to learn when they exactly want to learn with the system; whereas WBT learners are forced to learn with the system.

III. CONCLUSION AND NEXT...

In a MBL, learners are interested acquiring knowledge during their spare time. Even though WBT can provide more structural curriculum than MBL, it is more static, inflexible, and time consuming. A MBL can provide more flexible learning opportunities to learners because a mobile phone is the most wearable technology that are diffused in today's society. In ALC's PEP, I have concluded that the learning content we have transferred from WBT was more suitable for MBL than WBT, but I have no doubt that depend on the learning content, the research result could have been vice versa.

In conclusion, this study only touched the surface of MBL. More studies are needed to be conducted in this field as mobile technologies advance in our societies. Furthermore, I do understand that mobile phones are not the only mobile technology. Although, they are the most diffused technology in today's society, PDAs, in my opinion, also hold qualities of successful learning infrastructure for MBL.

However, it is important to realize that each technology has competent and shortcomings. When we design a learning system using these technologies, we should consider that what kind of qualities these technologies possess in terms of learning environment and hardware usability.