The Development and Implementation of U-Msg for College Students’ English Learning

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ABSTRACT

With the advance of mobile technology, mobile devices have become more portable and powerful with numerous useful tools in daily life. Thus, mobile learning has been widely involved in e-learning studies. Many studies point out that it is important to integrate both pedagogical and technical strengths of mobile technology into learning settings. Thus, the purpose of this study aims to investigate the effects of implementing a ubiquitous multimedia message transmitting platform (U-Msg) for college students’ English learning. 19 college students participated in a four-week experiment and each student used client-side application platform U-Msg platform for English learning through an Android-based mobile phone. After the experiment, a survey questionnaire with 22 questions was administered. The findings of this study show that those participants hold significantly positive attitude of U-Msg platform, including platform quality, learning content, platform support, platform usefulness, user satisfaction, and platform use. That is, this U-Msg platform for English learning can be effective and suitable for college students’ English learning.

KEYWORDS
Emerging Technology, Mobile Learning, Push/Pull, Ubiquitous Learning

INTRODUCTION

Although many studies adopt information technology to enhance the effect of English learning, some literature suggests that learning effects may vary depending on what a learning device involves, especially, a learner’s attitude toward the use of information technology. The learner’s attitude toward the use of information technology equipment also influences its learning effects. When mobile Internet
technology becomes mature, and smartphones popular, the use rate of transmitting and receiving signals via a mobile device has increased. Also, mobile technology has been employed to various schools setting and subjects and its results and effects has been explored by many prior studies (Shih, 2011; Cheng, Lou, Kuo, & Shih, 2013; Cheng, Isman, Hsu, & Hsin, 2014; Huang, Tsai, Ray Diez, & Lou, 2014; Hsieh, Kuo, & Lin, 2014). As the government and civil organizations have proactively constructed cloud computing spaces, smartphones have become necessary communication tools for daily life. Multimedia data with text, image, sound, video, and animation can be sent to mobile devices economically, conveniently, quickly, and closer to the users through the cloud computing platform, allowing them to obtain stable and fast digital content in real time.

In this study, in order to achieve the goal of active push/pull of information, and to conform to behavior of a smartphone user, we developed an App, “Ubiquitous multimedia messaging platform (U-Msg)” under C2DM (Cloud to Device Messaging Framework), a free Push/Pull cloud service by Google. Although the push/pull technology has been applied to Internet transmission of information and multimedia data, it has rarely been applied to practical instruction. Under this context, this study uses media transmission techniques of Technology-Push and Need-Pull, with Google C2DM for Android mobile devices as a game-based platform for English learning. With this App, teaching material for a class can be transmitted to these learners via mobile phones in real-time. By using U-Msg platform, the real-time interaction, between teachers and students and among students, in language learning, we mainly study a learner’s usage behavior with a mobile phone as learning device.

LITERATURE REVIEW

U Learning/Ubiquitous Learning

The concept of ubiquitous computing was first expressed by Dr. Mark Weiser in 1991 in “The Computer for the 21st Century.” He suggests that after large computers and personal computers, the third wave of computer computations will be technology incorporated into daily life ubiquitously, in an age of soundless technology. The U of ubiquitous comes from Latin, and refers to the gods. Evolving to this point, this term means “everywhere.” Ubiquitous computation is the mechanism for storage and control that is primarily determined by emotional senses (Wu & Pan, 2012). This mechanism authorizes a user its controls primarily depending on the contextual information. Therefore, with the user’s location information of where it is, the mechanism gives the user its corresponding user controls.

Stage U comes after E and M. E refers to digitizing traditional paper data, while M allows users to use mobile devices to search and process data at any time and place other than sitting in front of their computer. U refers to integrating digitized databases, so that users can have the devices and environments that enable them to receive such information. When users need information, they can use the Internet to access various types of information relating to the current location of the users in real-time. Simply put, it allows them to connect to the Internet anytime and anywhere so as to retrieve resources from the Internet.

The concept of the ubiquitous computing environment is to create an environment that is not constrained by time and space. It connects the Internet environment, information equipment, device platforms, and information content. This type of Internet environment construction allows anyone at any time and place to use any devices (PDAs, smartphones, notebook computers) to connect to the Internet. Users do not have obstacles as using a substantial network. However, these mobile devices themselves should be with the ability of logical computation, while using wireless communication techniques and Internet to communicate, providing users with the convenience of obtaining resources at any time and place (Chen, 2006; Hwang, Yang, Tsai, & Tsai, 2009; Wang, Shen, Novak, & Pan, 2009; Martin, Diaz, Plaza, Ruiz, Castro, & Peire, 2011; Wang & Shen, 2012).

Additionally, some prior studies suggest that the mobile device and online platform can effectively enhance learners’ learning performance and effectiveness (Cheng, Hwang, Wu, Shadiev, & Xie, 2010).
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