DESIGN PRINCIPLES FOR CELL PHONE LEARNING IN EFL

By

FEIHONG WANG

Instructional Design and Technology, Virginia Polytechnic Institute and State University.

ABSTRACT

Cell phone learning (C-learning), as an instructional approach, has been gaining more and more attention in the field of teaching English as a foreign language (EFL) in the last 10 years. While studies have proved C-learning an effective instructional approach in research settings, a review of literature indicates the lack of design principles to guide the design and development of C-learning activities, not to mention the principles specifically for EFL teaching. The effectiveness of C-learning depended on appropriate activity design (Librero, Ramos, Ranga, Trinona, & Lambert, 2007; Prensky, 2005). The purpose of this article is to propose a combined task-based learning approach to guide the design of C-learning activities for EFL teaching. A sample learning activity is also provided to illustrate the suggested principles.

Keywords: Cell Phone Learning, English as a Foreign Language, Design Principles.

INTRODUCTION

Mobile learning (M-learning) has a brief history starting from the 1970s in which mobile technologies were invented (Cui & Wang, 2008). Mobile learning is associated with a wide range of mobile devices, such as personal digital assistants (PDAs), cell phones, Tablet PCs, Pocket PCs, iPods, and palm computers (Ally, 2005; Chinnery, 2006). Modern cell phones have combined features of various mobile devices, which make cell phone learning (C-learning) representative in M-learning. Features of cell phones also make it possible for C-learning to exceed the limitation of "elearning through mobile computational devices" (Quinn, 2000, p.1), and become a multi-talented instructional approach that enriches classroom teaching.

People around the world are passionate about English learning; therefore, the exploration of C-learning in the field of teaching English as a foreign language (EFL) has been conducted worldwide (Roberson & Hagevik, 2008). In addition to positive conceptual discussions (e.g., Cui & Wang, 2008; Lucking, Christmann, & Wighting, 2010), empirical studies also revealed positive results mostly from the perspective of students' attitudes (e.g., Stockwell, 2010; Thornton & Houser, 2004). A review of literature, however, indicated the lack of design principles in developing C-learning activities, not to mention principles specifically for EFL teaching.

As researchers have pointed out, the effectiveness of C-learning depends on appropriate activity design (Librero, et al., 2007; Prensky, 2005). This article claims that an effective C-learning activity for EFL teaching should be authentic, task-based, and collaborative. In addition, the integration of cell phones as instructional tools should be seamless and transparent. For this reason, this article proposes a combined task-based learning approach to guide the design of C-learning activities for EFL teaching. The combined task-based learning approach uses Willis' task-based learning (Willis, 1996) as the framework with six guiding questions to specify the details. A sample C-learning activity is provided to illustrate the suggested principles.

Review of Literature

In the last 10 years, cell phones evolved from simple vocal communication gadgets to palm-sized, high-tech packages that can serve as mini-computers, telephones, and cameras, as well as transfer text, pictorial, video, and audio files (Prensky, 2005; Wang & Higgins, 2006). In conjunction with the technological advancement, the exploration of using cell phones for educational purposes went through the conceptual formation, theoretical discussions, and the initial project implementation (Librero, et al., 2007).

Cell Phones and Education

Generally, supporters of C-learning have argued from one or more of the following perspectives: learners' characteristics, cell phones' attributes, and cell phones' proliferation. As far as learners' characteristics are

concerned, researchers believe that cell phones can complement the short-burst, casual, and multi-tasking learning styles of today's digital native learners (Prensky, 2005) who grow up with interactive technologies integrated as an everyday feature of their lives (Andone, Dron, & Pemberton, 2009; Oblinger, 2003). In addition, cell phones have also become digital native learners' companions and tools for personal expression (Attewell, 2005a; Roberson & Hagevik, 2008). Therefore, C-learning can motivate learners by matching their learning styles with instructional approaches, and by enhancing their personal relevance to the instructional approach (Keller, 1987; Prensky, 2005; Roberson & Hagevik, 2008).

From the perspective of cell phones' attributes, cell phones hold great promise for the spread of one-to-one computing for students, especially, for students from developing countries (Lucking, et al., 2010). First, the common features of modern cell phones such as Internet access, voice-messaging, SMS text-messaging, cameras, and even video-recording make them possible substitutes for personal computers. Second, the desktop computers and even laptops are location-centric and thus inconvenient. Cell phones, on the contrary, are portable, versatile, and convenient. Students can listen to music, watch videos, text or call friends, email, surf the Web, and play games on cell phones (Pursell, 2009).Third, although computers have been a part of the educational environment for some time now, they are still too expensive for one-on-one computing. Cell phones, in contrast, are affordable computer-like devices. Besides, comparison studies indicated no significant differences in learners' achievement between using cell phones and personal computers (e.g., Stockwell, 2007; 2010). Last, the affordability of cell phones may also alleviate some pressure on valuable institutional resources (Kiernan & Aizawa, 2004).

As early as 2004, there were 1.5 billion estimated cell phones in the world (Prensky, 2005). It was more than three times the number of personal computers (Attewell, 2005b). Researchers believe the increasing proliferation of cell phones is a sufficient reason and motivation for educators to explore the possibility of making cell phones important instructional tools (Cavus & Ibrahim, 2009; Librero, et al., 2007; Lucking, et al., 2010).

C-learning in EFL Teaching

Using cell phones to facilitate EFL teaching is one of the earliest research trends in C-learning (McNicol, 2004). With the world being passionate about English learning, attempts of applying C-learning in EFL teaching has been explored worldwide (Roberson & Hagevik, 2008). Cavus and Ibrahim (2008, 2009) used text messaging to teach undergraduate students new technical words in Northern Cyprus. Saran, Seferoglu, and Cagiltay (2009) sent multimedia messages to students to improve their pronunciation in Turkey. Librero, et al. (2007) explored the possibilities of using cell phones to offer formal and informal English education in Mongolia and Philippines. Among Asian countries, Japan is a pioneer in the research of applying C-learning to EFL teaching. Thornton and Houser (2005) provided learners with a series of mini-lessons over cell phones. Taylor and Gitsaki (2003) used the browser function of cell phones to perform Internet searches as a learning activity. Kiernan and Aizawa (2004) conducted task-based English learning through cell phones.

Problems in C-learning for EFL teaching

Although studies indicated that learners were mostly positive about C-learning for EFL teaching (e.g., Saran, et al., 2009; Taylor & Gitsaki, 2003; Thornton & Houser, 2005) it was not without problems.

First, the exploration of C-learning in EFL teaching has not exceeded its original format of distance language teaching. As early as 1988, Twarog and Pereszlenyi-Printer (1988) used telephones to provide distant language learners with feedback and assistance. Today, cell phones are used mainly for accessing instructional content anywhere and anytime (Ally, 2009; Attewell, 2005a; Cavus & Ibrahim, 2008, 2009; Saran, et al., 2009). Thus, the C-learning investigation centered two cell phone functions: SMS text messaging and web accessing. The integration of cell phones into the curriculum, however, can be as varied as the phones themselves (Roberson & Hagevik, 2008, p. 3). Cell phone functions, such as vocal communication, SMS text messaging, Internet access, dictionary, camera, games, and calculator can all be used for educational

purposes (Cui & Wang, 2008; Lucking, et al., 2010) This conflict leads to a question: how to integrate cell phones into curriculum more creatively?

Second, small screen size, low resolutions, inconvenient input style, limited Internet access, and small memory and storage have all been considered technical limitations of cell phones that may be detrimental to the effectiveness of C-learning (Wang & Higgins, 2006). This raises another question: how to avoid technical limitations of cell phones?

These two C-learning problems imply the necessity of design principles to guide the design of C-learning activities for EFL teaching.

C-learning Design Principles for EFL Teaching

Combined Task-based Learning Approach

Learning theories are sources of instructional strategies, tactics, and techniques (Ertmer & Newby, 1993). Constructivism believes the mind to be the source of all meanings, and an individual's direct experiences with the environment are critical (Ertmer & Newby, 1993). Within the realm of constructivism, researchers suggested three instructional approaches for either EFL teaching or mobile learning: task-based learning, collaborative learning, and authentic learning.

Task-based learning has been a staple in EFL teaching practices (Carless, 2002; Huang, 2010) with the purpose to stimulate the second language acquisition processes (Ellis, 2003; Kiernan & Aizawa, 2004; Skekan, 1993). As the name indicates, in task-based learning, students are assigned to complete tasks. Willis' task-based learning framework (Willis, 1996), provides a practical guide for conducting task-based learning. The task cycle includes three components: task, planning, and report. In the task phase, students complete the task without the direct involvement of the instructor. In the planning phase, students prepare the report about their results and their discoveries. At last, students report to the entire class or exchange their reports with other students to compare the results.

In task-based learning, students usually work in pairs or small groups to promote interaction among students and active learning (Huang, 2010). In addition, from the viewpoint of cell phone features, mobile device are believed to be most effective when combined with group activities (Librero, et al., 2007; Stead, 2005). In other words, collaborative learning is suggested for C-learning from the perspectives of both second language learning and mobile learning. In collaborative learning, learners work in small groups toward shared academic goals through sharing of resources and knowledge, as well as through constructing new knowledge, skills, and meaning collaboratively. Collaborative learning encourages resource sharing, interactions, and mutual help (Johnson & Johnson, 1999; Roschelle, 1996).

Foreign language learning requires language exposure, so that the language activation and recognition can become automatic. In-class activities, generally, do not have sufficient language exposure to make effective language learning (Saran, et al., 2009; Thornton & Houser, 2004). Foreign language students, however, usually have little opportunities to use English outside the classroom. For this reason, authentic learning in which language is embedded in daily lives was suggested by researchers. Authentic learning means learning that involves real-world problems and projects that are relevant and interesting to the learner (Traxler, 2009).

Authentic learning can take students mentally out of the classroom and bring language learning to a real life situation.

Putting together, this article suggests a combined task-based learning approach: using Willis' task-based learning as the framework, specifying the task to be authentic tasks, and conducting the task in a group setting.

Technology Transparency

As Wang and Higgins (2006) pointed out, if learners conceive the C-learning environment as not conducive to learning, it can have a detrimental effect on the learning. The technical limitations of cell phones such as screen size, resolutions, input style, may negatively affect C-learning, if not enough attention is given. In addition, students value control over the technologies by choosing the technology and the functions of that technology (Andone, et al., 2009). Therefore, the article suggests the adaptation of the concept of technological transparency for the design of C-learning activities. The term "transparency" is borrowed

from computer science. It represents the idea that computing technologies should be seamlessly embedded into the environment to make the technology invisible (Ishii & Ullmer, 1997; Weiser, 1991). In other words, instead of merely using cell phones to access or receive instructional content, the integration of cell phones into the learning activities should be natural. Students will use the cell phone to accomplish a specific learning task based on their own choice, and because they believe it is convenient to use the cell phone instead of other technologies for the task.

Design Principles

Based on instructional design principles (Dick, Carey, & Carey, 2009) and above discussions of tasked-based learning (Carless, 2002; Ellis, 2003; Huang, 2010; Kiernan & Aizawa, 2004; Skekan, 1993), collaborative learning (Johnson & Johnson, 1999; Roschelle, 1996), authentic learning (Saran, et al., 2009; Thornton & Houser, 2004; Traxler, 2009), and technology transparency (Ishii & Ullmer, 1997; Weiser, 1991), this article suggests the following six questions to guide the design of a C-learning activity for EFL teaching:

- What is the task? (task-based learning)
- Who are the target learners? (learner analysis)
- Why is this activity suitable for the target learners? (learner analysis)
- Does the activity include real life problems? (authentic learning activity)
- Does the activity include collaboration among students? (collaborative learning)
- Why use cell phones instead of other learning technologies? (technology transparency)

Sample C-Learning Activity-2010 World Expo Tour

The following is a sample C-learning activity that is guided by the suggested six guiding questions. The general process of the task follows Willis' framework.

- What is the task?

The task is to develop a photo story (telling story from digital photos) about the 2010 World Expo Tour in English. Students will take photos of street logos and signs that are in English that refer to the 2010 World Expo by using the embedded cameras in their cell phones and create a photo story by using these photos. World Expo is in the tradition of international fairs and expositions that can be traced back to Great Exhibition of the Works of Industry of All Nations in 1851. Shanghai, China is hosting the 2010 World Expo from May 1 to October 21, 2010 (Wikipedia, 2010)

- Who are the target learners?

The target learners are local high school students who are taking English classes in Shanghai, China.

- Why is this activity suitable for the target learners?

These target learners were chosen for three reasons. First, these students commute from home to school or go out during weekends. Therefore, this task can be naturally integrated into their daily lives. It is expected that the students will develop a habit or a special interest in reading English signs in their daily lives after this activity. Second, the vocabulary of this task fits their learning scope. The assignment won't be too difficult so the students are frustrated or too easy to bore them. Third, Chinese high school students have almost 100 percent cell ownership (Yi, 2010).

- Does the activity include real life problems?

Yes, students will go out onto the streets to see English written in the settting of the 2010 World Expo.

- Does the activity include collaboration among students?

Yes, students will work in small groups to develop their photo stories.

- Why use cell phones instead of other learning technologies?

Students carry their cell phones with them on a daily basis. By using cell phones, students won't feel the intrusion in this learning task. In addition, some cell phones have an Internet access function. Students can share their photos as soon as they take them by uploading the photos to a shared online space and get feedback from other students.

Conclusion

C-learning in EFL teaching has been gaining more and

more researchers' attention as an innovative instructional approach. While it has proved to be positive in studies, the design of C-learning activities has been a weak link in this research. The lack of design principles may affect the effectiveness of C-learning activities in classroom applications. This article analyzes the limitations of current C-learning studies and suggests a combined task-based learning approach to guide the design of C-learning activities for EFL teaching. The combined task-based learning approach uses Willis' task-based learning as the framework, specifies the learning task to be authentic tasks, and conducts the task in a group setting. In addition, this article also proposes six guiding questions to specify the details in the combined task-based learning approach.

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ABOUT THE AUTHOR

Feihong Wang did her Ph.D in Instructional Design and Technology at Virginia Tech. Her work focuses on game-based learning, mobile-learning, distance-learning, and collaborative learning. She can be reached at fwang06@vt.edu.