English Class on the Air: Mobile Language Learning with Cell Phones

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Abstract

Busy, active adults often do not have the time or ability to study in traditional, face-to-face classroom settings. In addition, adult learners may need access to content or expertise as they go about their daily activities, which may take them far from their fixed computers. Yet, these adults often have compelling needs to learn new knowledge and skills. Mobile learning with cell phones offers a unique response to this need. Mobile phones can support many kinds of learning, including language learning. This article explores the emerging technologies available for mobile language learning, and provides a model for integrating research-based pedagogy with available and emerging technologies to develop learning objects for effective, engaging mobile language learning.

1. Introduction

Imagine this situation: You are a cab driver in Beijing. You have been told that to keep your job through the coming Olympics you need to improve your knowledge of spoken English. But your dawn-to-dusk shift doesn't give you time to take classes. What can you do? For many, giving up is, unfortunately, often a likely course of action. But the solution may literally be already in our hands: our mobile phones.

Mobile phones are already becoming much more than devices for transmitting the human voice wirelessly. Mobile phones already support a variety of data and multimedia features, most notably short messages and photography, but also video photography and audio for playback of ringtones and music. Mobile phones also are beginning to add flat and dynamic content, including individual and interactive games and access to information (such as driving directions, travel information, and email). Users can access information on fine wines, submit samples of music to find out the name of the song, artist, and record label, and submit pictures of famous buildings to access guidebook content. More traditional academic learning content is also being developed using these same capabilities.

This paper examines ways mobile multimedia content can create a rich learning environment that is particularly suited to the teaching of second and foreign languages, including developing listening, speaking, and reading skills, as well as cross-cultural awareness. As a preface to this information this paper first provides background information on the tools used to create these learning objects and also discusses the technology used to deliver the learning objects to mobile phones.

2. Content creation systems

At present, technology exists that allows the creation of a variety of content, ranging from text-only to rich multimedia content (including audio and visual content) that can be delivered over the air to mobile phones. Technologies include Flash movies, Java and Brew applications, SMS (text messaging), and MMS (multimedia messaging). SMS is the most rudimentary, allowing the transmission of simple text messages. MMS allows the integration of visual, audio, and text. Applications such as Java and Brew allow the creation of sophisticated content with art, animation, rich audio, and more. Within Java and Brew environments, a variety of proprietary technologies have emerged, including Flash movies and the EduMax format, a technology developed by a Chicago company to encode multimedia content in a format that is easy to create and easy to customize to many delivery platforms, including most models of mobile phones, as well as connected handhelds and laptop computers. An advantage of a solution such as EduMax is that a single step of encoding can be output to many devices.

Proceedings of the Fifth IEEE International Conference on Advanced Learning Technologies (ICALT'05)
0-7695-2338-2/05 $20.00 © 2005 IEEE

3. Content delivery systems

At present, the most sophisticated content delivery systems are in Asia and Europe. However, infrastructure is in place around the world to deliver content to mobile phones. China, especially, has played a leadership role. China is the world's largest and fastest growing cellular marketplace. Currently, about a quarter of mobile phones world-wide are able to support multimedia applications. This number is expected to grow quickly, as newer mobile phone models penetrate markets. Carriers avidly support this growth, for they see content services as the most logical way to increase revenue.

4. Curriculum and pedagogy

Developing curriculum for mobile phones requires understanding of both the delivery platform and good instructional practices. At present, the technology supports mostly static, non-interactive content. Viewers can listen and view content, but not do much more.

Using current capabilities, a variety of content can be developed for language learning, including:

- Short dialogs as conversational models.
- Read-alongs, recorded audio stories with the ability to follow along with the printed text while listening to develop both listening and reading skills.
- Picture dictionaries with illustrations of common objects and actions, plus audio playback of the new language and translations into users' languages.
- Phrase books for travelers.
- Preparation for tests such as TOEFL and TOEIC.

Soon, however, a number of interactive features will become available, including:

- Ability to integrate a wider variety of media, including animation and short video.
- Ability to submit sound files for evaluation of pronunciation and speaking, including automated evaluation.
- Establishment of learner communities for interactive learning using shared tools and content.
- Ability to obtain location-specific content, using GPS technologies.

The development of new features of this technology should be guided of principles of good curriculum design and pedagogy for teaching English. New features need to support needs for:

- Greater interactivity with the content, through the ability to submit student responses.
- Access to teachers, librarians, and other learners.
- Ability to interact with other learners, including playing games, conversation, and project-based learning, preferably using the phones' capabilities to take pictures, capture sound, and input text.

5. Conclusions

Mobile learning is just beginning. Only now are technologies emerging that will support basic learning applications, but even these technologies offer the ability to develop meaningful, effective learning objects for language learning. New technologies will support learning applications of greater sophistication. By drawing on previous experience, integrating effective, research-based methods, and melding those with the emerging capabilities of mobile phones, the possibility exists of developing compelling mobile learning content to meet the needs of language learners worldwide.

References

Arrigo, M., Gentile, M., Taibi, D., Chiappone, Tegolo, D. MCLT: An application for collaborative learning on a mobile telephone. Rome: mLearn 2004 Conference Proceedings.

Collis, B & Moonen, J. (2001). Flexible learning in a digital world: Experiences and expectations. London: Kogan Page.

Roschelle, J. (2003). Unlocking the learning value of wireless mobile devices. Journal of Computer-Assisted Learning 19 (3), 260-272.

Sharples, M., Corlett, D., & Schluckmann, C. (2001). The design and implementation of a mobile learning resource. Personal and Ubiquitous Computing, 6: 220-234.

Singh, H. (2003). Leveraging Mobile and Wireless Internet. *Learning Circuits,* retrieved Dec. 10, 2004: www.learningcircuits.org/2003/sep2003/singh.htm.