

A comparative study of mobile learning implementation modes

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Abstract

In recent years, as people pay more and more attention to improving their theoretical knowledge, they can ensure online learning anytime and anywhere by adopting mobile learning. This paper mainly analyzes and studies the concept of mobile learning, and briefly describes the online and offline types of mobile learning. Finally, a comparative analysis is made on each seed mode involved in online type and offline type, so as to effectively ensure that the appropriate learning mode is selected according to the comprehensive consideration of learning content, learning demand, learning situation and other factors during mobile learning.

Keywords

Mobile learning; Realization mode; Comparative study.

1. Overview of mobile learning

Mobile learning is a new way of learning, which is the organic combination of mobile communication, network technology and education. It is a kind of learning that can take place at any time and anywhere with the help of mobile devices. Mobile devices used in mobile learning must be able to effectively present learning content and provide two-way communication between teachers and learners. The evolution of mobile learning has gone through the following stages (see Figure 1).

1.1. Knowledge Transfer

At the stage of the rise of mobile learning, people naturally think of taking advantage of the portability, mobility and ubiquitous communication of mobile devices, and begin to transfer courseware originally run on computers to handheld devices. The original way of delivering content through network is now more convenient through wireless technology, and the original need for interaction and feedback through wired data network. It is now easier to interact and respond via wireless technology.

1.2. Cognitive Construction

With the deepening of mobile learning practices, people gradually realize that it is far from the advantage of mobile technology to publish learning content only through wireless technology and convert existing book knowledge into mobile learning content only. Modern learning theory holds that learning is a self-construction process of learners, who actively put forward new ideas or concepts based on existing knowledge. Mobile devices can provide real environment and support tools for learners and can effectively motivate learners to become active knowledge builders. Therefore, mobile technology in mobile learning is not only a tool for transferring and carrying knowledge content, but also a tool for information processing,

cognition and social cognition construction and sharing for learners.[1]

1.3. Situational cognition

With the progress of technology, the situational awareness ability of mobile devices will become more and more powerful. It will integrate more sensors, detectors and collectors. Through these electronic micro-sensing devices, the information of users, devices, places, problems, coping strategies and methods and other real world information can be captured, as well as all kinds of information in our living environment that cannot be directly felt by human senses. The knowledge collected from the mobile devices in the distance is entered into the digital virtual world. After calculation and processing, it becomes the reference knowledge for human learning and decision-making. It connects the virtual world and the real world to some extent, and enhances people's understanding and control ability of reality through knowledge learning in the virtual world.[2]

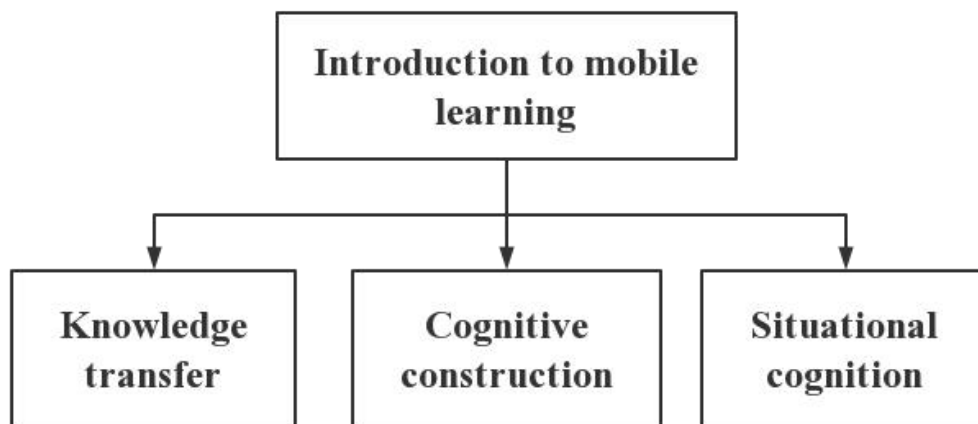


Figure 1 Development stage of mobile learning

2. Practice mode of mobile learning

At present, the main modules of our mobile learning practice mode include: online mobile learning mode and offline learning mode, this article mainly analyzes the two kinds of mobile learning practice mode. (See Figure 2)

2.1. Online mobile learning mode

Mobile short message based mobile learning means that learners send short messages to the teaching server located on the Internet through the learning terminals such as mobile phones. The teaching server analyzes the short messages of users and converts them into data requests, and then sends them to the learners' mobile phones for data analysis and processing. It is mainly used in learning activities with little communication data and simple text description. Is a common approach to mobile learning at present. The main activities include: school notification of teaching activities, students' questions, inquiry of learning status and some simple assessment and guidance.

2.2. Offline mobile learning mode

This mode is also known as the storage and carry mode, which means that digital contents such as e-books, multimedia courseware and text courseware are pre-stored in mobile devices before learning, so that they can learn anytime and anywhere without network restrictions.[3]

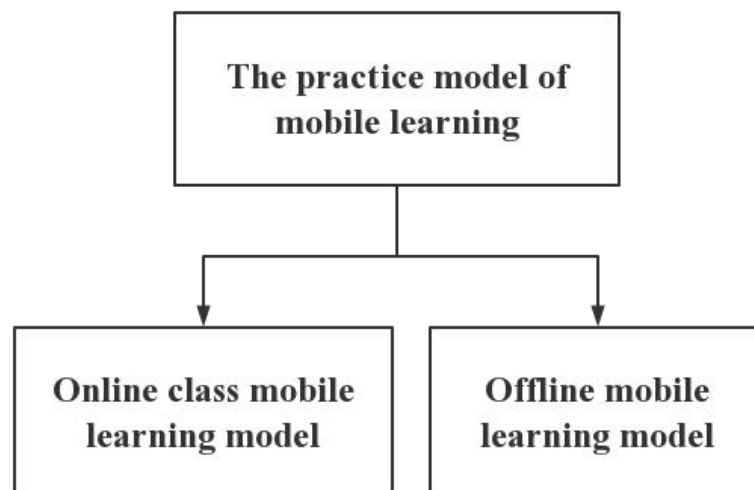


Figure 2 Practice mode of mobile learning

3. Comparison between online mobile learning model and offline mobile learning model

Compared with offline mobile learning, online mobile learning has strong immediacy. It adopts online reading and browsing, and online mobile learning has stronger interaction, which can better reflect the interaction between learners and teachers and students and students. Offline mobile learning is not restricted by the network and can be freely carried to any place for learning, but the interaction is not timely. In addition, the storage of learning materials is also limited by the storage capacity.

Various implementation modes of mobile learning are compared in terms of resource form, applicable terminal, applicable situation, learner demand and interaction mode (see Table 1). Mobile learning has some applications at the present stage, but it cannot completely replace our normal learning. Mobile learning cannot be used as an independent learning method for systematic course learning. It needs to be combined with other types of learning methods. To complete the corresponding learning content and apply it to traditional learning education and distance education.

	SMS mode	Storage-carry mode
Form of resources	Text-based information	Documents, pictures, audio, video, courseware, streaming media, etc
Applicable terminal	A handheld mobile device with short message function	MP3, PDA, learning machine, laptop
Applicable	On the way to work, on	Busy work, and need to recharge, on the

situation	business trips, etc	way to work, business trip fragmentary time to study
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Table 1 Various implementation modes of mobile learning

4. Conclusion

To sum up, with the widespread use of mobile learning, it has not only become a way for students to learn, but also the primary choice for office workers to improve their comprehensive level. People can use their spare time to improve their comprehensive ability and complete the corresponding learning content, which has become a new learning mode.

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