Analysis on the Development of Digital Educational Technology

OUYANG Changcheng[a],*

[a] General Education School, Chongqing Vocational Institute of Industry, Chongqing, China.
*Corresponding author.

Abstract

With the rapid development of information technology, digital educational technology has been widely used worldwide. This article aims to explore the development process, current situation, and future trends of digital educational technology. Through analyzing its advantages and challenges, it provides reference for the development and application of digital educational technology in the future.

Key words: Digital education; Online learning; Artificial intelligence; Development history

The development of digital educational technology has transformed traditional education models and opened up more possibilities for modern education. Through means of computer technology, network technology, mobile technology, and other technologies, digital educational technology has been widely used in various fields such as pre-school education, basic education, and higher education. This article will explore the development process, current situation, and future trends of digital educational technology from three aspects.

1. DEVELOPMENT PROCESS OF DIGITAL EDUCATIONAL TECHNOLOGY

The early digital educational technology was mainly reflected in computer-aided instruction (CAI). With the continuous development of computer technology, computer-aided instruction software began to be widely used in teaching of various subjects. These software made abstract concepts more vivid and concrete through images, sounds, animations and other forms, thereby improving teaching effectiveness.

With the continuous development of the Internet and mobile technology, modern digital educational technology has entered into new fields such as online learning, mobile learning, and AI-assisted instruction. These technologies allow students to study anytime and anywhere, and also make personalized teaching possible. Emerging digital educational forms such as online learning platforms, MOOCs, and micro-courses continue to emerge, providing students around the world with more rich and flexible learning resources.

2. CURRENT SITUATION OF DIGITAL EDUCATIONAL TECHNOLOGY

Online learning platforms have become an important component of modern digital education. Through online learning platforms, students can study at any time and any place, and also communicate and interact with teachers and other students. Online learning platforms have become an important supplement to traditional classroom teaching.

With the popularization of smartphones and mobile Internet, mobile learning has also become more and more popular. Mobile learning allows students to study anytime and anywhere, and also meets students' personalized needs. Mobile learning has become a new way of learning, bringing more possibilities to digital education.

AI-assisted instruction is a new type of digital educational technology that uses AI technology to improve teaching effectiveness. AI-assisted instruction can help students better understand and master knowledge through intelligent recommendation and natural language processing technologies. At the same time, AI-assisted instruction can also improve teaching quality and efficiency through data analysis and prediction.

3. FUTURE TRENDS OF DIGITAL EDUCATIONAL TECHNOLOGY

With the continuous development of information technology, digital educational technology will become more and more popular. In the future, digital educational technology will not only be a supplement to traditional classroom teaching, but also become a new educational mode. Digital educational technology will be widely used in various fields including pre-school education, basic education, and higher education.

With the continuous development of AI technology, digital educational technology will become more intelligent in the future. AI-assisted instruction will be more deeply applied to digital education through intelligent recommendation and natural language processing technologies to help students better understand and master knowledge. At the same time, AI technology can also improve teaching quality and efficiency through data analysis and prediction.

The development of digital educational technology has opened up more possibilities for modern education. In the future, digital educational technology will become more popularized and intelligent, providing more rich and flexible learning resources and technical support for students around the world. At the same time, we also need to recognize the challenges and problems faced by the application of digital educational technology in areas such as network security and uneven distribution of educational resources. In the future, we need to further study and address these issues to provide guarantees for the healthy development of digital education.

REFERENCES

Chayka, K., & Khoo, E. (2010). The impact of digital game-based learning on information systems students' learning outcomes. *Australasian Journal of Information Systems, 13*(2), 71-84.

Chen, W. B. (2016). Teaching model transformation and thinking development under the background of digital education. Journal of Educational Development Research, 36(6), 23-35.

Cohen, E. (2003). Digital game-based language learning with communities of learners. *The Modern Language Journal, 87*(3), 326-337.

Downes, S., & Siemens, G. (2012). A review of the use of massive open online courses (MOOCs) in higher education. *EDUCAUSE Review, 47*(3), 37-52.

Kafai, Y., & Resnick, M. (1996). *Constructionism in practice: Designing, thinking, and learning in a digital world.* Mahwah, NJ: Erlbaum Associates.

Prensky, M. (2001). *Digital game-based learning*. New York: McGraw-Hill Osborne Media.

Prensky, M., & Zappe, D. (2014). A literature review on the cognitive demands of computer gaming for the language classroom. *Modern Language Journal, 98*(4), 696-718.

Rheingold, H. (2003). *The virtual community: Homesteading on the electronic frontier* (2nd ed.). New York: Basic Books.

Siemens, G., & Heller, M. (2015). The future of MOOCs and online learning: Five key questions and answers. *Change: The Magazine of Higher Learning, 47*(5), 18-25.

Siemens, G., & Long, P. (2014). The MOOC model for digital practice: A framework for design and development. *EDUCAUSE Review, 49*(4), 38-44.

Squire, K., & Jenkins, H. (2003). Redesigning learning for the digital age: Learners as agents of change. In P. Bates & P. MacDonald (Eds.), *The future of higher education: Policy, Pedagogy and the new student* (pp. 179-208). New York: Palgrave Macmillan.