

e-Learning Korea 2017: Conference

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TITLE OF ABSTRACT

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Digital Textbook On Its Way, Beyond Challenge

Since an information and knowledge based society has arrived, educational needs considering social diversity and individual characteristics requires many changes in the curriculum and school education. In the traditional knowledge-transmission education system, students have heavily relied on simple memorization and repetitive learning techniques. But after fostering creative convergence talents has become the major objectives of education, demands for new teaching methods with discussions, problem-based learning and collaborative learning, etc. reinforced, including enhancing self-directed learning capabilities, also reveal a cross section of society. In addition, the internet development and appearance of various education methods like e-learning, and learners accustomed to digital medium require changes in education media. Textbooks, which are the final deliverable of curriculums and education media, are required to dramatically transform with all these changes and demands.

However, as printed books are two-dimensional and knowledge-intensive, there are limits to accommodating such changes and demands. Digital textbooks, on the other hand, still maintain functions and characteristics as a textbook which printed books have, and also have many advantages, including but not limited to, accommodating various changes and demands due to added characteristics of digital technologies and media, driving change in education method. Korea began its research digital textbooks quite early on, and the digital textbooks have been cemented as education media which forms the basis of school education after going many phases, including a preliminary research in 2002, technical introduction in 2007, systematic maintenance in 2012, and demonstration and utilization in 2014. Digital textbooks have positive effects on both students and teachers. They offer the opportunity for students who use digital textbooks to improve their learning competence and for teachers to enhance their professional performance. Moreover, it has been proved that various dysfunction-mitigation programs or researches which are in progress for utilizing digital textbooks have had positive effects on elementary/middle school student's healthy use of information.

Especially what students utilize digital textbooks in future will change to what an intelligent information society requires for. A digitization which spreads around the world will not just deliver information, but be the center of cultivating great talents in future. For this, we intend to upgrade the quality of learning content after applying virtual reality content (AR, VR, etc.) into the digital textbooks, which can make students have the true experience, and to maximize the learning effect. Furthermore, we plan to support teaching-learning methods for enhancing core competency and diversify related services, including but not limited to analysis of evaluation questions in the digital textbooks, acquisition and analysis of activity data.

Keywords: Digital textbook, Effects of utilization of digital textbooks, Dysfunction of digital textbooks, Intelligent learning analysis service

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