

# The Learning Context Analysis System for Digital Textbook Service on Learning Cloud

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**Abstract.** On previous e-learning environment, learners should learn by him/herself, decide the learning sequences and take examination, since there were no way for teachers to know what the learners do and how the learners do for their learn. That means that after teachers giving the learning contents, teachers could not interact with learners, as like off-line classes. From those reason, e-learning environment has many disadvantages compared with off-line learning environment from the view of education or learning efficiency.

But, on digital textbook service environment developed by this research, basic learning devices are smartphone that supports interaction between learners, teachers and learning contents. With various kinds of sensors and environment of digital textbook service, digital textbook system could track and gather learner's learning activity and learner's personal learning information(learning history, learning assessment results, e-portfolio, etc.). In this paper, the learning analytic system is designed for extracting, classifying and accumulating various learning data of learners from the learner's learning activities and from learner's personal learning information(learning history, learning assessment results, e-portfolio, etc.). And analysis learning data can be used to decide learner states and can be useful to construct learning strategy of learning direction and learning assessment results. In this research, proposed learning analytic system collects learning data from previously proposed digital textbook service and virtual practice learning cloud, and extracts and analyses learners' learning activity. With the proposed learning analytic system, personalized learning sequence and personalized learning contents could be delivered to learners by intelligent tutoring engine and the learning analytic system and learners' learning interests and learning efficiency would increase.