

Abstract: Design and Implementation of a Problem-based Digital Textbook

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Abstract

This paper proposes a problem-based digital textbook (DT) by defining an instructional model of problem-based learning (PBL) for DTs. The objective was to develop a DT that stimulates self-directed learning through the support of a wide range of student-centered learning activities to enhance the overall learning experience and effectiveness. As an application, a problem-based DT that performs PBL according to the proposed instructional model was developed for the subject of general computing used by high schools in South Korea. For the experiment, the DT was applied to practical classes for one semester at a commercial high school and there were generally very positive responses and enhanced problem-solving achievement.

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