RESEARCH ARTICLE

Large-scale randomized controlled trial with 4th graders using intelligent tutoring of the structure strategy to improve nonfiction reading comprehension

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Abstract   Reading comprehension is a challenge for K-12 learners and adults. Nonfiction texts, such as expository texts that inform and explain, are particularly challenging and vital for students' understanding because of their frequent use in formal schooling (e.g., textbooks) as well as everyday life (e.g., newspapers, magazines, and medical information). The structure strategy is explicit instruction about how to strategically use knowledge about text structures for encoding and retrieval of information from nonfiction and has consistently shown significant improvements in reading comprehension. We present the delivery of the structure strategy using a web-based intelligent tutoring system (ITSS) that has the potential to offer consistent modeling, practice tasks, assessment, and feedback to the learner. Finally, we report on statistically significant findings from a large scale randomized controlled efficacy trial with rural and suburban 4th-grade students using ITSS.

Keywords   Reading comprehension · Intelligent tutoring systems · Web-based learning · Randomized controlled experiment