CE> Vol.3 No.4, August 2012

OPEN ACCESS

Teach Ourselves: Technology to Support Problem Posing in the STEM Classroom

PDF (Size:77KB) PP. 513-519 DOI: 10.4236/ce.2012.34078

Author(s)

Carole R. Beal, Paul R. Cohen

ABSTRACT

The theory of problem posing in mathematics education suggests that there are motivational and cognitive benefits for students from creating their own problems, yet such activities are not typically integrated into the traditional classroom. A field study was conducted to learn if middle school students (N = 224) could successfully create math and science problems using a web-based content-authoring and sharing system, and if the activity could be successfully integrated into classroom instruction. Over the twelve-week activity, students created their own math and science problems, and solved problems authored by their peers. Results showed that students were able to create problems successfully, but that problem solving dominated problem posing activities. The process of reviewing and approving students' work was also challenging for teachers. Both students and teachers reported strongly positive responses to the activity.

KEYWORDS

Mathematics Education; Technology-Based Instruction; Middle School Students

Cite this paper

Beal, C. & Cohen, P. (2012). Teach Ourselves: Technology to Support Problem Posing in the STEM Classroom. *Creative Education, 3,* 513-519. doi: 10.4236/ce.2012.34078.

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