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Alexander, Curby; Knezek, Gerald; Christensen, Rhonda; Tyler-Wood, Tandra; Bull, Glen
The impact of project-based learning on pre-service teachers' technology attitudes and skills.
J. Comput. Math. Sci. Teach. 33, No. 3, 257-282 (2014).

Summary: Researchers in this study looked at the effect of content-specific, technology-rich project-based learning activities on EC-8 (early childhood – eighth grade) pre-service teachers' perceptions of their competencies and skills, as well as pre-service teacher's attitudes toward science, technology, engineering and mathematics (STEM). Researchers employed a quantitative design involving participants in two sections of a required technology integration class which served as part of a teacher preparation sequence. Data were collected using the STEM semantic survey, technology proficiency self-assessment questionnaire, and stages of adoption of technology in education questionnaire at the beginning and end of the Fall 2011 semester. The findings provide evidence of changes in attitudes and perceptions of skills of the pre-service educators after participating in the course. A specific focus is explored on the emerging relationships between STEM dispositions and technology integration competencies. Applications of these findings and directions for future studies are discussed.

Classification: D49 U79 C29 D39

Keywords: pre-service teachers; project-based learning; use of technology; attitudes