Jeffrey Hovermill Shamatha - Technology-Supported Inquiry Learning in Mathematics and Statistics with Fathom: A Professional Development Project

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TECHNOLOGY SUPPORTED INQUIRY LEARNING IN MATHEMATICS AND

STATISTICS WITH FATHOM: A PROFESSIONAL DEVELOPMENT PROJECT

by

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ABSTRACT

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Technology Supported Inquiry Learning in Mathematics and Statistics with

  Fathom: A Professional Development Project

Directed by Dr. Dominic Peressini, Associate Professor, College of Education,

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   This study utilized teacher development experiment methodology to
support, and deeply examine, three teachers' understandings and practices
regarding content, pedagogy, and technology as they learn about and strive
to integrate Fathom, data analysis software, into their curriculum and
instruction. Surveys, observations, and interviews were utilized to gather
data in order to research the interactions among these three factors and how
they were associated with the effectiveness of the three teachers' integration
of technology. Pictures of weak, developing, and exemplary facilitation of
Technology-Supported Inquiry Learning, as outlined by an effective learning
environment conceptual framework, resulted from this study. Exemplary
practices occurred in teachers who held strong understandings and practices
in all areas; content, pedagogy, and technology. This implies that
professional development must be provided in such a way that teachers can
learn about, practice with, and reflect on all areas simultaneously.