Video Interactions for Teaching and Learning (VITAL): A Learning Environment for Courses in Early Childhood Mathematics Education

PROJECT OVERVIEW

Prepare early childhood mathematics educators by utilizing digital technologies to address what have been identified as intrinsic constraints of analog media. This involves developing a learning environment that allows students to interact with course material in new ways, encouraging discussion and theory-building.

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EXECUTION

ACCESS TO CASE LIBRARY:
Read literature and closely study video cases prior to class.

ANALYSIS & REFLECTION:
Critically examine and annotate cases.

INTEGRATIVE ESSAY:
Integrate the study of theory with observation.

PEER REVIEW:
Share work and thoughtfully reflect through peer review.

LEARNING ACTIVITY

VITAL FEATURE

Video cases of children's mathematical abilities are available 24/7.

A personal note-taking space enables students to deconstruct, scrutinize, and annotate video.

Embedding precise moments from the video clips encourages students to clarify written arguments.

Students' assignments are "published" for others to read, creating a community for sharing and reflecting.

RESEARCH & EVALUATION

Our central research question is whether VITAL, in support of a model course based on the Development of Mathematical Thinking, provides teachers with enhanced learning opportunities that extend their capacity to understand related theory and to more effectively apply their understanding in the classroom.

Does VITAL help teachers develop an informed approach to practice accomplished by a combination of the study of theory and virtual field experience?

2004  2005  2006  2007  2008  2009
FORMATIVE EVALUATION  SUMMATIVE EVALUATION

> Theoretical Essays
> Tech VITAL Usage
> Student Ranking of Materials
> Video-Based Concept Test
> Lesson Plan Assessments
> Math Concepts test
> Summative Data Analysis
> Research Questionnaire
> Software Design Consulting
> Research Instruction
> Technology Use Survey
> Think-Aloud Observations
> In-Depth Interviews with Students
> Develop Assessment Criteria
> m=0
> m=180
> m=50

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