"Getting it W.R.I.T.E. (Writing, Reading, Inquiry, Technology, & Engagement) in Mathematics"

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ABSTRACT

During this 3-year project, participants in Southwest and West Central Missouri will first experience and then create systemic, in-depth, literacy-focused and technology-rich inquiry components needed to help their own classroom students build and connect math topics in the areas of Algebra & Algebraic Thinking (year 1), Geometry & Measurement (year 2), and Probability & Statistics (year 3). This sequencing supports students' learning in accordance with the research-based inquiry instruction model (Learning Cycle). Participants in both Missouri regions will continue to improve their own mathematical study and subsequent implementation of inquiry-based pedagogy embedded with writing and reading literacy components. The equivalence of 2 weeks of summer instruction together with a minimum of 6 follow-up sessions (see schedule of project activities) sequenced throughout each school year provides participation with: 1) mathematical content, 2) pedagogical skills, 3) writing and reading literacy components embedded within mathematical understanding and communication, and 4) instructional materials to achieve the following five objectives corresponding to RFP requirements.

Intended outcomes for participants include:

1) Developing instructional lessons/units that incorporate inquiry instruction, literacy integration, higher-order thinking & formative assessment strategies to guide student learning.

2) Presenting their math lessons, receiving corrective feedback, and having an opportunity to revise and refine their lessons.

3) Integrating the use of technology applications available to participants in their respective schools to model lessons centered on learning.

4) Completing pre/posttests to document content knowledge growth (anticipated at 50%).

Through the implementation of the 5E Learning Cycle, this project's goal is to impact participants' math content development through literacy and inquiry-based instruction, integration techniques, and use of resources/technology. Along with appropriate assessment strategies, participants will improve their instructional ability to deliver mathematical best practices in their classrooms, which ultimately may result in higher student achievement.