Abstract Submission Instructions

Abstracts should be limited to two single spaced pages, not including references. Include in the abstract a brief overview of the background literature, the significance of the research, the research question(s), data analysis procedures, and summary of findings.

Please use the format below to create a PDF document of your abstract submission and upload it at https://www.tntech.edu/education/stem/tennessee-stem-education-research-conference.php. (Scroll down and select the “Speaker Information” Menu bar.)

Example Abstract:

Type: Oral Presentation or Poster Session (indicate the presentation format that you prefer)
Title: Lesson Demonstrations: Insights from Middle Grades Teachers
Author(s): Author 1, Author 2, etc. (Same Organization); Author a, Author b, etc. (Another organization); …

<Email for author to whom correspondence is to be sent>

Abstract: The primary goal of professional development programs is to support teachers in increasing student achievement. In many cases, this requires a significant change in how mathematics is taught (Sowder, 2007). In turn, this demands not only a change in teachers’ beliefs (Pajares, 1992) but also a new vision for what mathematics teaching entails (Ball & Cohen, 1999). Unfortunately, professional development often fails to support teachers in making these changes as it does not provide opportunities for teachers to view reform-oriented teaching practices with students similar to their own (Santagata, 2011).

With this limitation of professional development in mind, we designed our professional development project to include demonstration lessons. In demonstration lessons, project participants (who were middle grades mathematics teachers) visited a school site where a fellow participant taught. Within this participant’s classroom, project staff members taught mathematics lessons to the participant’s students while visiting project participants observed the lessons. Project staff members included mathematics education faculty and graduate students from the university. Through this experience, project participants not only had the opportunity to observe reform-oriented teaching practices but also observed this work with students who were very similar to their own.
Project participants attended three demonstration lessons during a single academic year. Recognizing the unique opportunity this provided, we sought to document the impact of these demonstration lessons by gaining insights into the participants’ views. Specifically, the following research questions were posed.

1. How does viewing reform-oriented demonstration lessons impact teacher practice as reported by teachers?
2. What are teachers’ perceptions of the benefits of demonstration lessons in established classes?

Researchers have indicated that teachers need opportunities to observe reform-oriented instruction (Borasi & Fonzi, 2002; Santagata, 2011). Including observations of reform-oriented instruction in professional development programs seems to be a logical means for providing these needed opportunities. The significance of this study rested in its examination of demonstration lessons as a setting for observing reform-oriented instruction and the potential demonstration lessons held as a viable option for supporting teacher learning in professional development.

Five participants were selected for interviews. Interviews consisted of a set of open-ended questions that primarily focused on the transfer of information from demonstration lessons to the individual classrooms of the teachers. Transcripts of the interviews were analyzed utilizing an open-coding process. Results indicated that observing demonstration lessons provided participants with a vision of reform-oriented instruction that could be transferred into their own classrooms. As a result of these observations, participants reported that they returned to their classrooms with a goal of improving their questioning techniques and supporting their students in thinking deeply about mathematics. Meeting this goal was supported by their use of the demonstration lessons.

References


TN STEM Education Research Conference  
Tennessee Technological University  
January 16-17, 2020

Poster Presentation Guidelines

The poster size should be 30” x 40” and can be displayed landscape or portrait. Posters should NOT be trifold. Posters will be displayed on tripods, which will be provided.

Information from the submitted abstracts should be used to guide the content of the poster. Posters should include the research question, data, findings, and other information needed to convey research to others. Abstracts on the poster should be 100-200 words in length. Poster text should be legible from a few feet away.

We encourage individuals presenting posters to stand at or near their poster for 60 cumulative minutes during the poster session to facilitate discussion and questions. Posters should convey the research clearly during times the presenter is away.

Posters will be presented Thursday evening, January 16, 2020  
at Tennessee Technological University in the Roaden University Center.  
Poster setup is from 2:00 – 5:00pm and the Poster Session will be from 5:00 – 6:30pm.