Proceedings and Abstracts of the 27th Japan-U.S. Teacher Education Consortium

Supported by:
The U.S. Embassy, Tokyo
The Ministry of Education, Culture, Sports, Science and Technology-Japan
The American Association of Colleges for Teacher Education
An Early Field Experience to Teach Mathematics for Elementary Pre-Service Teachers: Online and Face-to-Face

Giang-Nguyen Nguyen, University of West Florida
Barbara Otto, Goethe University of Frankfurt

Field experiences for pre-service teachers provide a critical link between teacher training and apprenticeships bridging the gap between content and method (LaMaster, 2001) and promote teacher pedagogy (Falkenberg & Smits, 2010). Field experience is the merging of content knowledge and the learning to teach process; it gives pre-service teachers hands-on experience which promotes successful instructional delivery and allows beginning teachers to avoid common obstacles of instructional planning, instructional pacing, classroom management, and time management (Wilmore, 1996). Several studies analyzed the impacts of field experience on pre-service mathematics teachers reported the benefits from such experiences (Kurz, 2011, Strawhecker, 2005, & Mewborn, 2000). There are multiple models that are currently implemented in the field for face-to-face to create opportunities for pre-service teachers to work with students. However, it was difficult for online pre-service teachers to have similar experience in the field like those that face-to-face pre-service teachers. Choosing a model that provides equitable access for both face-to-face and online pre-service teachers is quite a task. In that respect, we developed a model that allowed online and face-to-face pre-service teachers to work together in an early field experience, mathematics-tutoring program.

In this early field experience, online and face-to-face pre-service teachers worked together to gather information about a particular student mathematics performance. They then developed plans and implemented with the elementary students. After they implemented their lessons, pre-service teachers evaluated their plans and made modification to meet the needs of the elementary student. Creating opportunities for pre-service teachers in early field experience is difficult. However, there are some merits to providing pre-service teachers with such opportunities.

The present study revealed evidence to convince that early field experience help pre-service teachers gain the mathematical content knowledge as well as the pedagogical knowledge for mathematics teaching. Particularly, many pre-service teachers reflected that they have learned “so much” about the mathematical concepts as they prepared to help the elementary students. As the results, pre-service teachers learned from their own teaching by developing reflection skills to think about what is happening in the classroom and why (Mewborn, 2000). In this field experience, face-to-face pre-service teachers have gained more on different aspects of teaching as compared to the online pre-services teachers. The evidences from the present study also suggested that this early field experience model needs to be reframed to provide equitable experience for both face-to-face and online pre-service teachers. We hope to receive the feedback as well as inputs to improve the model for the two different groups of pre-service teachers as we continue to implement the model. As Ebby (2000) suggested, educational methods courses need to be reframed to focus on pre-service teachers’ learning and reflection on the children’s understanding and their own teaching. We will share learned lessons from implementing the model and also hope that future research studies be conducted to identify supportive environments for beginning teachers (Cady et al. (2006), especially in the area of mathematics teaching.