CONTINUOUS IMPROVEMENT LESSON STUDY WITH MATHEMATICS TEACHER EDUCATORS

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The purpose of this research study was to consider how a group of early career mathematics teacher educators (MTEs), from across the U.S., who participated in a continuous improvement lesson study (Berk & Hiebert, 2009), learned to better support their elementary preservice teachers' (PSTs) learning. In this poster, we share the continuous improvement lesson study process we used and discuss changes made to our researched lesson throughout the process. We also share the final version of the lesson and call on other MTEs to utilize continuous improvement lesson studies.

Methodology

This study took place across institutions and adopted the continuous improvement framework (a type of lesson study) which presents a model of curriculum development through studying one researched lesson with cycles of planning, enactment, analysis and revision (Berk & Hiebert, 2009). Four MTEs participated in this study over a period of five semesters in which either all or some of the MTEs taught the lesson. Once the lesson was finalized, we sought to answer the following research questions: What was the nature of the changes made to the researched lesson throughout the continuous improvement lesson study process? How did these refinements better support our PSTs? To answer these questions, all lesson changes were mapped for each iteration of the lesson and rationales for the changes were gathered from transcribed group meetings and individual MTE reflections. In addition, we gathered evidence of our PSTs' thinking, both written and oral, to document how PSTs' thinking changed and contributed to the changes made. Breaking the lesson down by components and lesson iteration, we were able to investigate each component's effectiveness. We used open coding and coded MTE written reflections and transcripts for places we discussed changes and the rationales for those changes.

Results and Implications

Eight structural changes (those changes made on how the lesson was structured) from the initial lesson to the final version were identified. We will share the changes ranging from which elements of a case-study to present to the PSTs at different points in the lesson to the types of questions we asked to better elicit PSTs' noticing of children's single digit multiplication thinking (Jacobs, Lamb & Philipp, 2010). As early career MTEs, we found that our commitment to developing a researched lesson following the continuous improvement framework deepened our sense of belonging to the MTE community, acted as an important means of professional development, and because of our collaborations, we were able to orchestrate better discussions. We were able to push our PSTs' learning to higher levels, more so than we could have done on our own.

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