

# Adjunct Instructors' Opportunities for Learning Through Implementing a Research-based Mathematics Curriculum

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*This study explored adjunct instructors' opportunities for learning as they faced challenges while implementing a research-based mathematics curriculum. Three case studies explored adjunct instructors' experiences as they implemented a research-based precalculus curriculum for the first time over the course of two semesters. The similarities and differences between the challenges faced by the instructors and the opportunities for their learning were analyzed.*

**Keywords:** Teacher learning, adjunct instructors, research-based curriculum

Teachers play an important role in providing meaningful learning experiences to their students and can influence their decisions to stay in STEM fields (Cohen & Ball, 1999; Ellis, 2014). Research suggests that teachers should be supported as they implement research-based curricula (Cohen & Ball, 1999; Remillard, 2000). Implementing such curricula can provide learning opportunities for teachers in addition to their students (Ball & Cohen, 1996; Remillard & Bryans, 2004; Doerr & Chandler-Olcott, 2009; Drake & Sherin, 2009). In this poster I present findings from a study exploring the opportunities for teachers' learning that arise as a result of their interaction with a research-based precalculus curriculum. My specific research question was:

How does engagement with a research-based Precalculus curriculum provide opportunities for adjunct instructors' learning?

Remillard and Bryans (2004) found that teachers' unique ways of engaging with a curriculum can provide opportunities for student as well as teacher learning. They define *opportunities for learning* as arising from "events or activities that are likely to unsettle or expand teachers' existing ideas and practices by presenting them with new insights or experiences" (p. 12). These opportunities arise as teachers engage with a curriculum while making instructional decisions for effective student learning experiences.

Case study methodology (Yin, 1994) was used to study the opportunities for three adjunct instructors' learning while they implemented a research-based precalculus curriculum over two semesters. The study took place at a Ph.D granting institution in the northeastern United States. Three adjunct instructors were selected as participants for this study with each having over ten years of teaching experience. This was their first semester teaching precalculus using the new research-based curriculum. As part of this implementation the instructors participated in weekly online meetings where they discussed the curriculum and their experiences implementing it.

Data was collected in the form of semi-structured interviews and classroom observations conducted at the beginning and end of Fall 2016 and Spring 2017 semesters. In addition, audio recordings and chat logs from instructors' participation in online meetings were also collected. Qualitative data analysis methods were used to code and sort data (Saldaña, 2009). The key findings from this analysis were as follows. In order to avail the emergent learning opportunities, teachers should: 1) be mindful of their own challenges, 2) be able to explore in depth what those challenges entail, even if it includes analyzing their own teaching practice, and 3) be willing to take the necessary steps for overcoming the challenges. These findings have implications for adjunct instructor professional development.

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