

Exploring Undergraduate Mathematics Instructors' Perspectives and Considerations About the Literature Related to the Teaching and Learning of Mathematics

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Cobb (2007) characterized mathematics education as a design science, “the collective mission of which involves developing, testing, and revising conjectured designs for supporting envisioned learning processes” (p.3). Thompson (2008) similarly defined the discipline of mathematics education: “students’ mathematical learning is the reason our profession exists. Everything we do as mathematics educators is, directly or indirectly, to improve the learning attained by anyone who studies mathematics” (p. 45). Mathematics educators’ investigations into a multitude of social, cognitive, affective, and cultural phenomena serve to inform the development of innovative designs—pedagogical, curricular, social, political, and otherwise—to improve the quality of students’ mathematics learning. The extent to which mathematics educators’ contributions accomplish this aim depends on the effective dissemination of their scholarship to those who might be positioned to leverage its insights to improve students’ learning. We argue that the effective dissemination of mathematics education research must be informed by an understanding of practitioners’ motives for accessing the literature and the facilitations and hinderances they experience to implementing its findings.

To address this need, the research reported in this poster examines how and for what purpose college mathematics faculty and instructors apply insights from the mathematics education literature. Our study was guided by the following research questions: (*RQ 1*) What are the perspectives and considerations of instructors regarding the utility of literature related to the teaching and learning of mathematics? (*RQ 2*) What facilitates or hinders instructors in their efforts to access and utilize literature related to the teaching and learning of mathematics?

We applied survey and clinical interview methods (Clement, 2000; Goldin, 2000) in a manner informed by our literature review to explore instructors’ perspectives about the utility of the mathematics education literature, including the facilitations and hinderances they experienced in accessing and applying its insights. Informed by the elements of schemes of usage from the Documentational Approach to Didactics (Trouche, Gueudet, & Pepin, 2018), our thematic analysis (Braun & Clarke, 2006) revealed several convergent themes related to instructors’ engagement with the literature. We present these themes and discuss their implications for improving the content and dissemination practices of scholarly products to address the barriers practitioners experience in accessing, applying, and learning from the mathematics education literature.

Based on our thematic analysis of the survey data, we invited a subset of respondents to participate in a one-hour virtual interview. Our analysis of these interviews enabled us to further explore provisional hypotheses that emerged from our thematic analysis of the survey data and to elaborate our emergent themes. Our poster will present and exemplify these themes with sample interview responses. Additionally, we reflect on the implications of our research for the dissemination practices of mathematics education scholarship and ways of supporting practitioners’ engagement with this literature that reduces the barriers abstracted from the survey and interview data.

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