

Editorial

Improving the Impact of Educational Research

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How can research have a larger impact on educational practice? What kinds of research can have the greatest impact on educational practice? These are perennially thought-provoking questions for mathematics education researchers (e.g., Battista et al., 2007; Boerst et al., 2010; Heck et al., 2012; Heid et al., 2006; Herbel-Eisenmann et al., 2016; Langrall, 2014; Silver, 2003) as well as educational researchers more broadly (Kane, 2016; Snow, 2016). In recent years, educational researchers have lamented the failure of educational research to have a transformative effect on educational practice despite repeated reform efforts. One might be tempted to adapt a motto of the Reformation, *Ecclesia reformata, semper reformanda*, to describe the history of education: reformed and always reforming. Payne (2008) systematically reported the persistence of failure in urban schools despite “so much reform.” However, the failed impact of educational research on practice goes far beyond urban schools (Bryk, Gomez, Grunow, & LeMahieu, 2015). We are forced to ask, how can the field of educational research improve its impact on practice?

These questions are, of course, far too large to address in a single editorial. A multitude of editorials, commentaries, reports, and handbook chapters have grappled with the difficulty of bringing research and practice together effectively. Despite the persistence of this problem, and indeed because of it, we, the new editorial team for the *Journal for Research in Mathematics Education*, are taking the opportunity in this inaugural editorial to create space for some reflection on improving the impact of educational research on practice. In future issues, we plan to continue unpacking this problem, using our editorials to explore particular research practices that have shown promise in having an impact on teacher practice and student learning as well as particular principles that could guide researchers in increasing that impact. However, before seeking solutions, we suggest that a first step is to better understand the fundamental reasons for the divide between research and practice—in other words, to define the problem. John Dewey (1938) noted that “a problem well put is half-solved” (p. 108). As a community of researchers, we do not yet have a full explanation, at a fundamental level, for this divide, and thus our proposed solutions are rarely grounded in the problem.

We begin the conversation by sharing a story that William R. Johnson recounted in his review (Hampel et al., 1996) of *Tinkering Toward Utopia: A Century of Public School Reform*.

Baltimore Public School System Reform

In his commentary, Johnson (Hampel et al., 1996) provided a historical account of public school reform in late 19th-century Baltimore. Faced with a number of challenges impacting educational quality, Baltimore public school teachers decided to initiate a host of pedagogical reform activities. They organized monthly meetings and started a journal, *The New Pedagogue*, featuring content primarily written by Baltimore public school teachers about new teaching methods. Because these were ideas from teachers about improving teaching, they addressed problems that teachers were experiencing in their daily work. In 1900, however, the school board hired a progressive new superintendent who pursued school-wide reform using a very different approach to implementing new teaching techniques. The monthly teacher meetings were abolished, and schools were reorganized into groups of schools headed by nonteaching principals. In so doing, opportunities for discussion among teachers were minimized. Given the dissipated state of classroom teacher discussion, *The New Pedagogue* soon disappeared. A new journal, the *Maryland Educational Journal*, was established, but contributions promoting progressive teaching techniques came mainly from university faculty members and researchers rather than teachers. Finally, promotions became dependent on a newly instituted teacher examination, the purpose of which was to elicit the very same kinds of pedagogical discussion that were originally present in *The New Pedagogue* and at the teacher meetings. However, in this new environment, teachers no longer had access to the support system promoting such discourse, the problems posed for discussion were not the same kinds of problems of practice that teachers had worked on before, and hence few were prepared to pass the examination and receive promotion. Not surprisingly, the superintendent was dismissed in 1911.

Reflecting on Reform in Baltimore

On the surface, this story might appear to have little to do with research. But if one digs deeper, a clue emerges that could inform the divide between research and practice. There are many reasons one could identify in this story for the active work on improving teaching by teachers in the earlier era and for the disappearance of this activity under the new superintendent. Some reasons for the latter that readers might notice are the change to a top-down professional development process and the decision to remove time for teachers to work together. Asking why these things should affect the work of teachers reveals a more fundamental explanation: The new superintendent's effort shifted focus from working on problems identified by teachers to working on problems determined by administrators and researchers. Might this same explanation shed light on the divide between research and practice? We, as well as others (Bryk et al., 2015), think this might be a key ingredient.

This story also suggests that the question posed at the beginning, "How can educational research have a larger impact on practice?" should be "What does it

mean for educational research to have an impact?” The NCTM Research Committee (Herbel-Eisenmann et al., 2016) recently described the many ways in which mathematics education researchers can influence the storylines that shape mathematics education. Impact, then, could be broadly thought of as research having an effect on how students learn mathematics by informing how practitioners, policymakers, other researchers, and the public think about what mathematics education is and should be. The Baltimore reform story illustrates how important it is to carefully examine the way teachers are positioned in efforts to improve the impact of research. For research to have an impact on practice, teachers must be consciously and deliberately positioned as part of the greater community of those who generate as well as consume knowledge. History has told us that “unless practitioners are also enlisted in defining problems and devising solutions adapted to their own varied circumstances and local knowledge, lasting improvements will probably not occur in classrooms” (Tyack & Cuban, 1995, pp. 136–137). Perhaps one place to look for ways to avoid this fate is in the examination of successful long-running partnerships between teachers and researchers (Kane, 2016), a thread we will pick up in a future editorial.

Back to the Future

In his editorial in the first issue of *JRME* in 1970, David C. Johnson stated that “the publication of the *Journal for Research in Mathematics Education* will provide a means for more systematic and comprehensive reporting of research” (p. 5). NCTM, an organization dedicated to fostering the best practices in mathematics education, created *JRME* to disseminate research dealing with significant problems in mathematics education. The underlying goal was to improve educational practice in school mathematics. Therefore, the mission of *JRME* for nearly 50 years has been to systematically and comprehensively report research that will ultimately have an impact on educational practice in mathematics classrooms.

At the time that *JRME* was established, NCTM was already publishing two teacher-focused journals, the *Mathematics Teacher* and the *Arithmetic Teacher*. Authors of manuscripts accepted in *JRME* were encouraged to submit an interpretive companion article to the *Mathematics Teacher* or the *Arithmetic Teacher* for review (Johnson, 1970). These days, *JRME* does not explicitly encourage authors to submit companion articles to NCTM’s teacher-focused journals, but efforts by NCTM to promote the impact of research on practice continue (Silver & Kenney, 2015, 2016; Sowder & Schappelle, 2002).

Our term as the *JRME* editorial team will span Volumes 48–51, from 2017–2020. During this period, *JRME* will celebrate its 50th anniversary of fulfilling its charge to publish high quality research in mathematics education. As we approach that milestone, we would like to use our editorials as a space for thinking aloud with the readers of *JRME* about ways of creating a larger impact for research in mathematics education while sustaining and enhancing the quality of that research. Our analysis of the Baltimore story is only one example of what might emerge from probing more deeply to get at underlying explanations for the divide

between research and practice and to describe the problem more completely. It illustrates one approach we will take in these editorials to begin to tackle the longstanding problem of the lack of impact of research on practice. Given the extensive nature of the problem of impact, we do not propose that we have solutions, simple or complex. Rather, we hope to think broadly with the community and consider a range of approaches, some of which will be unconventional and, we hope, thought-provoking.

Can we, as a community, look ahead 25 years to *JRME*'s diamond jubilee—a hypothetical future in which research is more impactful? What will that future look like? What long-term goals will shape that future? What small steps should our community begin taking now that, over time, will allow us to attain that long-term goal? We invite you to engage with us in thinking aloud about these questions in what will almost certainly be a lively and fruitful discussion. As recent history has shown, the effort to improve the impact of research on practice has been a challenging journey, but one that is surely going to be worthwhile (Kane, 2016; Silver & Lunsford, in press).

On a different note, we would like to express our gratitude to the outgoing editorial team at Illinois State University for the smooth transition they have facilitated between our two offices. As outgoing editor Cynthia Langrall pointed out in her recent editorial (Langrall, 2016), this issue marks the official handover of the full responsibilities of editing *JRME* from her team at Illinois State University to Jinfa Cai's team at the University of Delaware. We congratulate Cindy and her team on their successful shepherding of *JRME* during their term.

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