

Chapter 7

Design Principles to Promote Adaptive Teaching Through Practice-Based Research in Teacher Education

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ABSTRACT

There is a legacy of teachers conducting research on their own practices to improve the efficacy of instruction and build professional identities as teachers. However, the inclusion of practice-based research in preservice teacher education programs

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remains rare. One challenge is the lack of evidence-based recommendations for structuring these experiences. To address this gap, this chapter reports on a study that used qualitative design/development methods informed by cultural historical activity theory. A three-semester long study was conducted with preservice teachers who conducted practice-based research. Design/development analysis was used to identify ten design principles for teacher educators who include research in preservice programs. These include introducing concepts over multiple semesters, conducting practice-based research in a shared instructional context prior to conducting it independently, and ensuring that preservice teachers retain control over their practice-based research topics while getting support with methodological processes.

INTRODUCTION

Deciding to become a teacher today is a bold move. According to a survey conducted by Will (2021), over 60% of teachers always or frequently experience job-related stress, which puts teachers alongside emergency response personnel in terms of the psychological demands of their careers. While teaching is undoubtedly challenging, there remains a great need to recruit and retain talented educators who can make a difference in the lives of their students (United Nations Educational, Scientific and Cultural Organization, 2022). Specifically, it is crucial that enough prospective teachers choose to enter teacher education programs to replenish the large numbers of teachers leaving the profession (Mason-Williams et al., 2020). Given the difficulty of these circumstances, the time is right for teacher education programs to seriously reconsider how they can ensure that teachers to have the tools and strategies necessary for long-term success in the classroom.

In this chapter, we explore the prospect of preparing preservice teachers (PTs) to conduct practice-based research as part of initial teacher preparation. Practice-based research is a method of studying one's own teaching that operationalizes teacher research practices (Cochran-Smith & Lytle, 1990) inside a transformative paradigm (Mertens, 2015). In conducting practice-based research, teachers learn to define problems, weigh solutions, and share their research findings as their teaching becomes more equitable (Crawford-Garrett et al., 2020; Lammert, 2020) and more adaptive (Vaughn & Parsons, 2013; Vaughn et al., 2021). In this way, practice-based research is "liberating for both PTs *and their students*" (Lammert, 2020, p.15, emphasis added) as it enables teachers to develop professional knowledge and identities that, in turn, enable them to better support learners.

Decades of action research and teacher research (Cochran-Smith & Lyle, 1990; Lewin, 1946) have supported in-service teachers' work. However, the inclusion of practice-based research in preservice programs is still rare (Lammert, 2022). In our

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