Design-Based Implementation Research

Summary

One challenge in scaling up effective educational programs is how to adjust implementation to local contexts. One solution is “design-based implementation research,” in which researchers and practitioners collaboratively identify problems and strategies during implementation while learning from this process to support innovations in new contexts.

Research Brief

Scaling up successful educational programs across larger systems requires that people in diverse roles—from educators and administrators to students and researchers—coordinate across complex institutional relationships in varying local contexts. Policy research has shown that top-down approaches to new program practices do not frequently result in effective classroom-level change (e.g., Cohen, Moffitt, & Goldin, 2007). The authors propose design-based implementation research (DBIR) as a way to support scale-up of effective educational programs.

DBIR is an iterative, collaborative, and practice-focused method that brings together researchers and practitioners as equal partners to develop, test, and scale programs that improve teaching and learning. DBIR is iterative so that, as programs are adopted, on-the-ground experiences inform adaptations and implementation. The process is collaborative: Practitioners and researchers work together to define problems of practice and reflect on real classroom needs. The process incorporates stakeholders from multiple levels of the system: educators, administrators, parents, and policymakers. Including a wide range of needs and contextual elements in the implementation helps to ensure that the efforts are not later torpedoed. DBIR also focuses on developing practical theory and tools for supporting innovations in local contexts.

The authors offer four examples of DBIR in practice. Each illustrates varying effects of using DBIR, including:

- How a research-practice team incorporated multiple stakeholders’ perspectives on improving students’ understanding of

WHY IT MATTERS TO YOU

The methods and examples of DBIR provided in this article could serve as an important framework for organizing research-practice partnerships to scale up programs in new contexts. DBIR offers a valuable means of organizing collaboration and systematically analyzing project implementation through iterative improvements over time. This method can challenge top-down approaches to research and educational change.
academic vocabulary

• How a research-practice team used DBIR’s iterative and collaborative design to improve school district mandated outcomes
• How theories about implementation were developed through DBIR’s systemic inquiry approach
• How a project used DBIR to build capacity for sustained change over time across researcher-practitioner partnerships

Of particular note is DBIR’s integration of key stakeholders, as in the authors’ example of the Middle School Mathematics and the Institutional Setting of Teaching (MIST) project: a partnership between Vanderbilt University and four school districts to design and research mathematics instruction. Under the pressure of No Child Left Behind, the districts decided to hire classroom coaches to support teachers and to require principals to conduct “walkthroughs” to observe mathematics instruction. Finding that principals did not agree with and therefore did not implement this policy, the MIST team worked collaboratively with stakeholders to offer this feedback to district leaders and to suggest revising the policy.

Although DBIR proved in all four examples to be a successful method of sustaining positive change in educational systems, the authors describe challenges to DBIR’s success:

• Pressure for reforms to produce immediate results can challenge researchers, whose work often takes time.
• Not all researchers have the capacity both to conduct their research and to serve as partners with practitioners and other stakeholders, as required by DBIR.
• Policy and funding tend to support projects that show fidelity to a single implementation approach rather than allowing for variation in different contexts.
• Funding cycles often do not match up with the time it takes for this trust-based, time-intensive work.

Theoretical Basis

DBIR builds on design-based research methods. The key features of design-based research are:

• Collaboration between researchers and practitioners to co-define problems of practice and co-design solutions
• Iterative development of innovations to inform decisions
• Focus on developing theory and tools that address local needs and solve everyday practical problems

Design-based research has traditionally focused on classroom practice alone. DBIR moves beyond classroom-level work to consider implementation of educational reforms across local contexts, bringing together researchers and practitioners in multiple disciplines, from policy research to the learning sciences.