

Technology Use in Developmental Education: Experiences, Challenges, & Decision Making

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Introduction/Background

- **Institutions are increasingly turning to technology-based options to connect more broadly with students, including in developmental education programming**
- **Policymakers in some states have called for the use of technology in developmental education reform**
 - Tennessee – grants for “technology-supported active learning strategies” (Crandall & Soares, 2015, p. 11)
 - Texas – Higher Education Coordinating Board must make provisions to use technology “to the greatest extent practicable consistent with best practices” in developmental education (Texas Higher Education Coordinating Board, 2012, p. 28)

Introduction/Background

- **Evidence of effectiveness of instructional technology is mixed** (see, e.g., Bailey, Jaggars, & Jenkins, 2015; Smart & Saxon, 2016; Xu & Jaggars, 2014)
- **Prior research sheds little light on:**
 - What challenges institutions face when integrating technology into developmental education programming
 - How institutions make decisions about whether and how to use technology in developmental education programming

Research Questions

- **IES-funded study (Grant R305C140007) through the Center for the Analysis of Postsecondary Readiness (partnership between CCRC & MDRC)**
- **What have been the experiences of higher education organizations with the use of technology in developmental education programming? Specifically:**
 - What types of technology are used to provide developmental education instruction and other student support?
 - What challenges have institutions faced with regard to the use of technology in developmental education?
- **What considerations have influenced decisions regarding technology use in developmental education?**

Research Methods

- **Qualitative study**
 - Open-access two-year institutions, broad-access four-year institutions, and state-level organizations that oversee them
 - 64 interviews with leadership at 42 institutions
 - 63 interviews with leadership at 41 state agencies/systems
 - Approximately $\frac{1}{4}$ of institutions/state-level organizations were purposefully sampled from five states: CA, FL, NY, TN, TX
 - Remainder of institutions/state-level organizations were selected from a random national sample
- **Documents / published literature**

Findings – Technology Use in Developmental Education

- Types of Technology Used:
 - Instructional technology – provides instructional content in reading, writing, or math to students (e.g. ALEKS or Pearson “Labs”)
 - Course management technology – organizes course materials and makes them electronically available to students (e.g. Blackboard or Canvas)
 - Student support technology – provides out-of-class assistance to students through electronic methods (e.g. online tutoring or electronic early warning systems)

Findings – Technology Use in Developmental Education

- Challenges with Technology Use in Developmental Education:
 - End-user difficulties
 - Costs of technology / insufficient institutional resources
 - Limitations of specific products
 - Unavailability of technology

Findings – Technology Use in Developmental Education

- Considerations Underlying Decision-Making:
 - Economic Considerations
 - Effectiveness of Technology
 - State-/System-Level Influence
 - Product/Vendor Characteristics
 - Personalized Educational Experience
 - Ubiquity of Technology

Discussion Questions:

- **Does your experience with technology in developmental education align with the findings of this study?**
- **In what way(s) has your experience been different?**
- **How do considerations and challenges differ for technology in developmental education vs. college-level coursework?**
- **What are other aspects of technology use in developmental education that are important for educators and policymakers to consider?**