

Data Management Plan

Study information

Title: Outcomes of the Louisiana Believe and Prepare educator preparation program

Abstract: Louisiana Believe and Prepare is a significant reform of teacher preparation that is designed to strengthen preservice teacher experiences. A central aspect of the reform is the requirement that teacher candidates complete yearlong residencies under the guidance of a certified mentor teacher, replacing the prior requirement of six-week student teaching. In addition, the reform emphasizes competency-based teacher preparation curricula and sets standards for mentor development and certification.

The Louisiana Department of Education (LDOE) seeks systematic evidence regarding the effects of the reform. This study is designed to evaluate the extent to which Believe and Prepare is working as intended and explore potential mechanisms through which the reform may influence outcomes. The study will address the following research questions:

1. Did students taught by teachers who completed Believe and Prepare programs score significantly higher on standardized tests than similar students taught by teachers who completed programs that had not implemented Believe and Prepare?
2. Did teachers who completed Believe and Prepare programs receive higher in-service performance evaluations than teachers who completed programs that had not implemented Believe and Prepare?
3. Were teachers who completed Believe and Prepare programs more likely to stay in Louisiana public schools than teachers who completed programs that had not implemented Believe and Prepare?
4. What were the mechanisms through which Believe and Prepare may have affected teacher and student outcomes?
 - a. Did teachers who completed the preresidency component of Believe and Prepare programs have greater competency, as measured by Praxis II scores, compared with teachers who completed programs that had not implemented Believe and Prepare?
 - b. Were teachers who completed Believe and Prepare programs more likely to be placed in schools in which they completed their residency compared with teachers who completed programs that had not implemented Believe and Prepare?
 - c. Were teachers who completed Believe and Prepare programs more likely to fill teaching positions in shortage areas compared with teachers who completed programs that had not implemented Believe and Prepare?
5. To what extent were mentor teacher attributes associated with program completion of teacher residents (from the time of the residency); student achievement; teacher performance evaluations; and teacher retention among teachers who completed a residency?

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Data sources

The study will use extant longitudinal administrative data at the teacher and student levels provided by LDOE as well as publicly available data published by the U.S. Department of Education. The following table provides details about each piece of data the study team seeks to obtain.

Name of data source	Owner/publisher of the data	Year(s)	Variable(s)
Mentor and resident data	LDOE	2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Teacher ID (deidentified) Educator preparation program School of residency Residency start and end dates Endorsement area
Profile of educational personnel	LDOE	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Teacher ID (deidentified) Experience School assignment Hire date Demographic characteristics Endorsement area
Compass information system	LDOE	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Teacher ID (deidentified) Evaluation ratings

Name of data source	Owner/publisher of the data	Year(s)	Variable(s)
Student information system	LDOE	2011/12 2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Student ID (deidentified) Math and English language arts test scores School enrollment Demographic characteristics Education need
Curriculum system	LDOE	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Teacher ID (deidentified) Student ID (deidentified) Courses
Teacher certification management system	LDOE	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Teacher ID (deidentified) PRAXIS I and II scores Endorsement area Pathway to certification Certificate start and end dates Program recommending certification
Teacher shortage areas	U.S. Department of Education	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21	Academic disciplines, grades, and geographic areas where Louisiana reported teacher shortages

Data confidentiality

All teacher and student identifiers will be randomized by LDOE. The data will not include records that allow the researchers to identify individuals directly, such as Social Security numbers, names, dates of birth, or actual student identification numbers. Researchers agree not to attempt to identify individuals, families, or households. Researchers will not disclose data produced in any manner that could identify any individual or school, except as authorized by the Family Educational Rights and Privacy Act, to any entity other than the authorized employees, contractors, and agents of the organization working on the project.

Data will be used only to address the approved research questions for this study and will be destroyed in accordance with the data-sharing agreement. Publications and reports of these data and information related to them, including preliminary project descriptions and draft reports, shall involve only aggregate data and follow Institute of Education Sciences guidance in reporting by suppressing data with cell sizes fewer than four.

Data security

Data transmittal and storage vary by the type of data: teacher level or student level. The teacher-level data will be securely transferred by LDOE to the American Institutes for Research (AIR) and RAND. The data will be stored and analyzed on a secure workspace. Specifically, the teacher-level data will be electronically transferred to AIR through a secure file transfer protocol (SFTP) server. The data will be stored and analyzed on a secure enterprise file server dedicated to sensitive data. AIR-authorized encryption methods include Pretty Good Privacy (PGP) Whole Disk Encryption and WinZip 128-bit or 256-bit Advanced Encryption Standard (AES) encryption. The physical and logical security controls include Active Directory role-based access control, physical access control using proximity badge access and video surveillance, perimeter security with at least one commercial-grade firewall in addition to an intrusion prevention system, malware protection, and security logging. Data that are no longer needed by the research team will be sanitized in accordance with standards set forth in the National Institute of Standards and Technology SP 800-88.

Similarly, the teacher-level data will be uploaded to RAND through a secure Kiteworks workspace (SFTP) maintained by RAND. The project will establish a workspace for the project with restricted permission and access to the workspace. The Kiteworks provides account maintenance, verification of transfer integrity, and notifications of transfer events to ensure reliable exchange of potentially sensitive data. Data sent to RAND are encrypted during transmission and encrypted at rest while on the Kiteworks, using AES encryption. When files are posted on Kiteworks, members of the research team responsible for maintaining the site will download the data, store the information on the secure project server (described below), and then delete the files from the secure workspace. The project has set up a secure server space with RAND (separate from the Kiteworks workspace) on Teams to hold the teacher-level data. This secure project server space is behind the RAND firewall with file permissions and accessible only by the key project team members when they are connected to the RAND network. Study data will be backed up on the RAND cloud.

The student-level data has restrictions, per the data-sharing agreement, that these files cannot leave the geographic boundaries of the state of Louisiana. As a result, the student-level data will be stored on a Federal Information Processing Standards (FIPS)-compliant encrypted flash drive. The flash drive will be stored at a RAND staff member's home in New Orleans, Louisiana. To

perform any data analysis, a RAND staff member will travel to New Orleans, receive the flash drive, and perform all analysis on their encrypted computer while staying in the state of Louisiana. After the analysis is complete, the staff member will delete all files from their hard drive and return the flash drive to the New Orleans–based RAND staff member.

Format for final data file

The study will produce an alternate data file document, as described in the *Data Management Plans and Data Files Guidance* document. This document will provide relevant documentation needed to replicate the analysis. In a .txt format, the alternate file will describe the data and the steps the study team took to merge and clean the data, create variables, and run analyses.

Why a public-use file will not be made available

The researchers are not authorized to release the administrative data used in the study. LDOE’s data-sharing agreement forbids the release of the state data to nonproject researchers and to the public.