

Executive Summary

State policymakers need evidence-based information to help them allocate scarce resources, compensate qualified staff, and determine the effectiveness of education spending. As part of its regional education laboratory work, the Southwest Educational Development Laboratory (SEDL) conducts research to inform policymakers and policy influencers from state legislatures, state departments of education, and governors' offices in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. In this report, SEDL researchers investigate data collected and managed by state education agencies to determine whether new research can be conducted to support policy questions about education resources and student performance.

Policy questions about education resources and student performance must be addressed to support local, state, and federal education priorities. Expectations for improved performance for all learners have been set by state accountability systems and the federal No Child Left Behind legislation. Increased attention on the resources needed to help students succeed, how these resources should be allocated, and whether spending and staffing strategies affect student performance bring to light the need to examine state data to inform these issues. We conclude that existing state education databases are a critical but underutilized data source that can inform and support policy decision making.

We began this study with an assessment of data utilization in the four study states: Arkansas, Louisiana, New Mexico, and Texas. For this assessment we examined publicly available reports and summaries that used state education data in the four study states and addressed education resource issues. This assessment yielded very few rigorous studies that used existing state data to provide policy guidance on school resource questions. We conclude that researchers and policy audiences need (a) to expand the use of existing education data to support

decision making on instructional resources; (b) to examine data on both resources and student performance to better understand how education inputs and desired outputs relate; and (c) to incorporate data on student, school, and district characteristics when examining education resource issues.

Before these important steps can be followed, however, policy researchers must have a clear understanding of the scope, quality, and availability of existing state data. This report contributes to this understanding by

- describing in fine detail the data collected and housed by state education agencies in Arkansas, Louisiana, New Mexico, and Texas;
- providing guidance to policy audiences and researchers about the questions that can be answered with these data, with discussion about using specific financial, staff, student performance, and student characteristic variables from each study state; and
- discussing ways these data could be improved to expand the range of policy questions answered.

Study Methodology

For this study, we addressed the question “Do state databases allow the investigation of the relationship between fiscal and staff instructional resources and student performance?” In order to assess the capacity of existing state data to conduct such research, we (a) identified the key variables within fiscal and staff instructional resources, student performance, and student, school, and district characteristics needed to analyze critical policy questions; (b) developed criteria to assess the usability of these data; and (c) applied these criteria to identify resource allocation questions that can be answered with state data. We also examined whether commonalities exist in these data across the study states.

Can Existing State Data Be Used to Investigate Education Resources?

SEDL researchers found that state data can and should be used for education policy research on instructional resource allocation. Specifically, the researchers concluded the following:

1. Dollars spent to support instruction can be examined using fiscal data broken down by function, object, and program categories. These expenditures also can be examined by accessing staff data that contain individual-level staff salaries.

2. Individual staff salary data also can be linked with staff characteristics such as years of experience, highest degree, and certification information for more comprehensive analysis of staff compensation.

3. Staff resources can be studied using state data, and full-time equivalency (FTE) counts on a wide range of staff categories are available in three of the four study states. Full-time equivalency counts or head counts can be matched with staff demographics or other characteristics or can be used to create staffing ratios such as pupil:teacher or teacher:administrator. Actual class size information, however, is limited with the current data.

4. Student performance data in each of the states are unique and have undergone changes in recent years. Although longitudinal analysis of student outcomes is limited by existing data in most states, student achievement scores can be matched with fiscal and/or staff resources at the school and district levels in all four study states.

5. Student, school, and district characteristics are available in education databases in all four study states and are of critical value in understanding the relative influence of student, school, and district environments on resources and student performance.

What Can State Policymakers Do to Increase the Use and Quality of Existing State Education Data?

Based on study findings, we recommend that policymakers, state data managers, and researchers work together to expand the use of state education data for resource allocation research. We also recommend that policymakers and state departments of education support and implement data improvements for greater applicability to informing state policy and find ways to make these data more available and accessible for research use.

1. Policy studies that help decision makers understand the relationship between resources and student performance are extremely rare in the four study states. Given what we learned from this study, policymakers and researchers need to work together to become more familiar with these data and use them to inform decisions. Increased use of existing state education data not only would provide increased information for policymakers but also would fuel a feedback mechanism for states to better understand how data need to be improved or expanded to serve information needs.

2. Applying state education data to policy research purposes is a relatively recent priority and one that is not fully recognized by states, even today. In order for the data needs of policy research to move to the forefront, state policy audiences, data managers, and researchers must provide input on how existing data could be improved and changed for research purposes—in addition to more traditional reporting and monitoring purposes.

3. When considering improvements and changes to state data, policymakers also must balance the time and resource burdens that changes in state data systems create for schools, districts, and state agencies.

4. As this study reveals, critical differences in the variable definitions used by the four study states and the range of information they collect leave researchers with few avenues for pursuing cross-state or regional studies on education resources. Policymakers, data managers, and researchers should maintain a dialogue with national data centers (such as the National Forum for Education Statistics) that attempt to bridge the gap between the unique needs of state data systems and the research benefits of establishing national data standards.

5. We also recommend that policymakers and data managers consider the following targeted improvements to increase the usability of education data for resource allocation research.

- Instructional expenditures at the school level are currently collected only in Texas; the other three study states currently collect this information at the district level. Adding school-level detail of how instructional resources are allocated would enable policy researchers to consider spending needs of schools in varying environments.
- Teacher quality is quickly becoming one of the highest policy priorities due to the federal No Child Left Behind legislation and research results emphasizing the importance of good teachers as a predictor of student success. Data collected on teacher qualifications must align with federal priorities. We recommend that data managers improve the accuracy of teacher years of experience data and ensure that teacher certification data can be easily aligned to the teachers' subject areas and grade levels.
- Class size limits are imposed by both federal and state policy, and the benefits of smaller class sizes have been the topic of intensive study over recent years. In three of the four states, students are not linked to their classroom teachers, so a true estimate

of class size cannot be created. In New Mexico, where data do link students to teachers, access to these data is restricted from outside users. If policymakers are to fully understand the relationship between class size and student success, accurate measures, including data that link individual teachers to specific students or classrooms, must be created for use in policy analysis.

- Professional development is currently unaccounted for in state education databases in the four study states. We recommend that states collect data on the amount and type of professional development that teachers receive and on the costs of investments in professional development to schools and districts. These data are essential to helping policymakers consider the costs and benefits of statewide initiatives to provide professional development to educators.

6. If data are to be shared with outside users such as policy audiences and researchers, accessibility and availability are the critical first steps. We discuss the most important concerns regarding data access and recommend ways for policymakers and state education agencies to improve them.

- Individual-level data are necessary to conduct in-depth analysis of student subgroups and relationships between different types of students, teachers, and resources. Policymakers and data managers should ensure that Family Educational Rights and Privacy Act (FERPA) regulations are interpreted in a consistent manner and should find ways for education agencies to share data from state databases while ensuring confidentiality of individuals.
- Agencies that house state education data should ensure that procedures and staff are in place to assist data users. State education agency staff are a critical support to data

users for data requests, information about data structures and variables, and coordination with the multiple departments or related agencies that collect and manage education data. Clear procedures for data request should be established, and state data managers should communicate the time and cost needed to provide data.

- The multiple departments at state education agencies that collect data should work toward creating centralized data systems that combine the multiple education databases that exist in each state. The Louisiana Educational Accountability Data System (LEADS) is an ongoing effort to implement an integrated data management system to support Louisiana's education information needs. Also, the Texas Public Education Information Resource (TPEIR) database is being developed as a cross-agency data management system that combines primary, secondary, and higher education information. We recommend that state education agencies and policymakers in all states investigate similar initiatives to expand access to state education data.
- Improvements need to be made so that data documentation is consistently available and comprehensive for all state education data. Information on variable definition, type, ranges (if applicable), and year-to-year changes should be made available. Agencies that manage education data should post updated documentation to agency Web sites to increase accessibility to this information.

Based on this study of existing state education data, we conclude that there is a need for increased attention on and use of these data for policy research purposes. We also understand that much work remains to be done by policymakers, state data managers, and researchers to

create high-quality, user-friendly data that can be applied to important policy questions about education resources and student achievement. Such efforts would support the creation of evidenced-based information for policymakers and result in more effective decision making on the resources needed to help children succeed.