



Educator Data System:

Creating a Talent Engine for Texas Public Schools

Education First

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Education First is a national, mission-driven strategy and policy consulting firm with unique and deep expertise in education improvement and reform issues. The team works closely with states, districts, policymakers, advocates and practitioners to design and accelerate bold policies and plan for implementation to support teaching, learning and high expectations. Education First improves public education by helping leaders innovate, think bigger and achieve more on behalf of students.

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DQC is a nonprofit, nonpartisan, national advocacy organization that supports state policymakers and other key leaders to promote the effective use of data to improve student achievement.

UPD Consulting is a Baltimore-based, minority-owned public sector management-consulting firm that specializes in helping state education agencies, public school districts and local government agencies to use data to manage performance for better outcomes.



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Educator Data System:

Creating a Talent Engine for Texas Public Schools

Introduction: Why an Educator Data System Will Be a Talent Engine for Texas

Educators matter—they have the greatest influence on student achievement within a school and represent the most significant budgetary investment for any state education system.¹ Regrettably, much of the national debate around growing an effective corps of principals and teachers has been reduced to a single point of friction around systems for educator evaluation. The fact is, a much broader conversation needs to be taking place, both nationally and in Texas, about how to recruit, train, evaluate, support and retain educators at scale.

The following questions must be taken into consideration.

- Who are we recruiting into the education profession?
- How effectively are educator preparation programs preparing teachers for the classroom and principals for building leadership?
- Are we producing certified educators for identified areas of need?
- Are we providing appropriate supports for novice teachers and principals to improve their skills and retain Texas' investment in their development?
- Are we getting high-quality teachers and principals to teach and lead in high-need schools?
- What do great teachers and principals do differently and how do we develop those skills?
- What does it take to retain principals and teachers to keep our best educators in front of Texas students?

The creation of a comprehensive educator data system will allow Texas leaders and stakeholders to answer these questions, directing both policies and resources toward those measures that best advance our educator workforce. Texas lawmakers and education leaders need timely access to educator data to make critical policy decisions and wise investments; prospective educators need data to select the best preparation programs for them; teachers and principals need data to identify programs and resources that truly make them better; and parents and the public need data to understand what's working and what isn't—so all Texas children have the best educators in the country serving in their classrooms and schools.

In short, a comprehensive educator data system enables the routine use of data to drive decision-making to support, develop and retain a high-quality educator workforce. With a focus on meaningful and actionable data about our education system's most valuable assets—our teachers and principals—both educators and students will benefit. The result will be sustained progress in our public schools.

What's the Crux?

- Educators matter.
- Effective use of educator data enables smarter, faster improvements across the educator continuum.
- Texas legislators must act to enable state and local education leaders to make effective use of educator data.

So, What Is an Educator Data System?

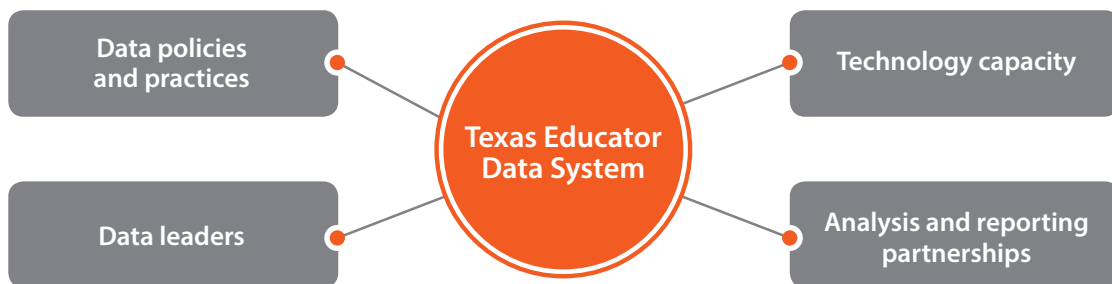
We live in the age of “Big Data,” where modern technology and management practices enable leaders in both business and government to assess progress and identify solutions from complex sets of data more efficiently than ever.

Texas has earned well-deserved praise for creating strong student data systems that support learning. However, educator data is not similarly available. The state has not yet implemented a comprehensive and readily accessible data system to enable informed decisions to support our educator workforce. Currently, the Texas Education Agency, the Texas Higher Education Coordinating Board and the

Texas Workforce Commission all collect critical information about our principals and teachers, but these data are buried deep within the websites and reports of multiple state agencies, making access difficult. Education leaders and the general public in many other states have quick and reliable access to educator data to guide decision-making. Texas deserves no less.

What role do data systems play in education? In the past, researchers and education leaders might have found it unwieldy to use disparate sets of data to identify progress and challenges. Difficulty in accessing and making use of the data often resulted in inefficient use of resources and misguided policies. But with a robust and functional educator data system and efficient mechanisms to analyze that data, education leaders can deploy resources where they will have the greatest impact, create policies guided by relevant information and share measurable results with the public.

For policymakers, education leaders and the public to work together to build and sustain the strongest educator workforce in the country, Texas needs all four components of an exemplary educator data system:



Data policies and practices ensure a system governance structure that defines requirements, makes data accessible to multiple stakeholders and protects the privacy and security of the data stored on state and local systems.

Data leaders are the public officials and education leaders who ensure access to data and routinely use data to make decisions and ensure public accountability. They play the lead role in creating a culture of data use.

Technology capacity includes state and local data platforms (e.g., data warehouses or repositories as determined appropriate) and other technology solutions that efficiently collect, organize and provide access to data needed to answer key questions and inform improvements.

Analysis and reporting partnerships extend the capacity of state and district agencies to conduct research, analyze data and report results. Such partnerships exist when state or local agencies collaborate with local universities and research institutes to conduct longitudinal studies.

These are the key building blocks Texas needs to ensure its education leaders and policymakers can access and routinely use data to inform policy, investments, implementation decisions and progress toward the state's education goals.

The Alliance for Excellent Education's 2014 report estimates Texas may be spending between \$108 million and \$234 million on teacher turnover each year.²²

How to Use This Report

Transforming Texas' educator data systems to be useful to an array of stakeholders will require leadership and commitment from Texas legislators. This two-part report arms policymakers with policy recommendations and a survey of the most useful educator data elements and policies from around the country at each segment of an educator's career.

Section I of this report points legislators to key educator data, policies and examples that touch various points along the educator career continuum, from the point of entry (when educators enter a preparation program) through their career (into the classroom and beyond). Each career stage within the continuum contains its own educator workforce questions, data elements and routines critical to driving specific improvements (see appendix for additional details). States across the country use this information to target real change. No state is addressing every portion of the continuum equally as leaders focus on educator data they think matter most.

Section II provides policy recommendations to ensure Texas makes full use of technology, policies/practices, leadership and partnerships to establish a data-driven culture that more efficiently drives long-lasting improvements. The recommendations should be used to strengthen the state's data infrastructure and maximize the impact and efficiency of future investments in educator support.

The recommendations pave a direct path for Texas legislators to ensure Texas attracts, recruits, supports and retains an exemplary educator workforce for Texas students.

Given that students learn up to five to six months more over a school year when they have great teachers and principals (as compared to when they are with less effective educators), retaining great educators is a top priority in maximizing student learning.²⁵

Section I: Questions, Data and Policy Levers That Inform Improvements Across the Educator Continuum

To transform the educator workforce in Texas, lawmakers and education leaders must be strategic in their use of resources and policies. While requiring an initial investment, the creation of a comprehensive educator data system ultimately makes for a more efficient use of resources. Education leaders can use data, combined with professional judgment, to identify trends and hone in on specific regions or topics of concern.

To aid in understanding the types and uses of data that an educator data system can provide, the discussion in this paper is organized along a continuum that follows the various phases of an educator’s career.

The first segment of the continuum, Attract and Prepare, focuses on whom we are attracting to the profession and how well Texas’ educator preparation programs are preparing educators. The next two segments of the continuum, Recruit and Hire and Induct and Support, focus on where educators are needed, how they are recruited and the support our newest educators are given during this early phase of their careers. The final two segments, Develop and Evaluate and Retain and Reward, focus on how educators are evaluated so that Texas can improve

professional development and retain and reward more effective educators.

Policymakers at the state and local levels must be concerned with the entire educator continuum to make sound policy, practice and investment decisions. Data drawn from various points throughout a typical educator’s career will help address each segment’s core issues—from the time a prospective teacher or principal enters a preparation program through the course of her or his entire career. For example, policymakers who are keen on improving the quality of educator preparation programs need an educator data system to link classroom evaluation results of alumni to the educator preparation program that prepared them. This analysis is only possible when data are collected consistently over a period of time—from pre-service to educators making their marks in classrooms and schools.

Actions must be considered at each point of the continuum if Texas is to lead the nation in preparing all students for future success. The discussion that follows illustrates how states and districts are using educator data to make real change at each point on the educator continuum.

The Educator Continuum

Policymakers, education leaders and the public use an educator data system to:

Attract and Prepare	Recruit and Hire	Induct and Support	Develop and Evaluate	Retain and Reward
<ul style="list-style-type: none"> • Improve the quality of educator preparation programs • Increase the competitiveness of candidate pools • Ensure programs gear coursework toward subject areas of highest demand 	<ul style="list-style-type: none"> • Add efficiency to the hiring process • Build the capacity of small and rural districts that lack human resources staff • Enable principals and human resources staff to develop filters to identify the best applicants 	<ul style="list-style-type: none"> • Drive improvements to programs that support new educators • Ensure accountability of scarce resources that aim to reduce attrition • Supply local leaders with relevant information to support new educators 	<ul style="list-style-type: none"> • Identify effective educators • Enable local leaders to customize professional development • Drive improvements to professional development programs 	<ul style="list-style-type: none"> • Provide information to anticipate retention needs • Identify top educators Texas cannot afford to lose • Ensure resources are directed toward strategies that result in higher retention rates

Attract and Prepare

Overview

Having the best educator workforce in the nation begins well before a teacher or principal sets foot in a school.

Texas needs data to understand who is being recruited to the profession, to measure which preparation programs are effectively preparing these candidates to fill high-demand openings (e.g., math and science) and to evaluate the impact of each program’s graduates on student achievement.

Yet, all too often, education leaders and the public don’t have data in-hand to inform which educator preparation programs and recruitment strategies are effective and which are not. Meanwhile, educator preparation programs are not held accountable for the impact their graduates make on student achievement.

Elsewhere in the country, states use data to provide feedback on the effectiveness of recruitment programs and to identify top educator preparation programs. This information helps education leaders tailor recruitment strategies to attract a more diverse and better-prepared educator workforce. These data reports also give local education leaders the tools and pressure needed to strengthen regional preparation programs, whose graduates will be a primary source of local talent.

While evaluating educator preparation programs is nothing new in Texas, new methods of measuring program effectiveness focus attention on outcomes (student results) rather than inputs (faculty-to-student ratios or the number of courses offered). Educator data systems are the only means to link the data of graduates’ performance in classrooms directly back to the preparation programs where those graduates received their training.

This strategy drives improvements and informs program accreditation. Data elements such as certification pass rates, the length of time educators remain in the profession, and the impact of educators on student achievement over time (as part of an evaluation system that considers multiple factors) allow programs to make proactive change on their own and policymakers and state leaders to hold programs accountable for real improvement.

Educator data systems enable discussion of why some programs are more successful within the state and help pose deeper questions about what is working and why. For example, are programs insisting on, attracting and accepting the highest-quality candidates? Are there differences in program design, curriculum and experiences that distinguish those programs achieving the best results?

Data That Make a Difference

To understand who is applying and gaining admission to educator preparation programs:

- Demographic information regarding applicants
- Academic qualifications of incoming students (by high school GPA and SAT/ACT)

To understand characteristics of educator preparation programs:

- Available educator preparation programs by:
 - Type of program
 - Region
 - Preparation by certification area, volume of completers
 - Certification areas offered, including certifications in critical shortage areas: science, technology, engineering and math (STEM), teaching English language learners and students with disabilities, etc.
 - Number of candidates working toward certification in a critical shortage area
 - Cost of program
- Information regarding graduates of educator preparation programs, including:
 - Demographic information
 - Degrees obtained by area of study (e.g., science, math, English, social studies)
 - Certifications by grade, subject and average score
 - Final GPA

To inform improvements to educator preparation programs:

- Efficacy of programs, including alternative certification programs, by:
 - Certification initial pass rates
 - Principal survey and student achievement data
 - Content area

Prospective educators also benefit from access to such data to guide their enrollment decisions. Each prospective educator is a consumer—eager to enroll in a program geared toward her or his area of expertise—and one that data demonstrate has the greatest impact on student achievement. With aggregate-level data in hand, prospective

educators can research and apply to programs that meet their criteria. Not only does this level of transparency aid individual applicants, it also creates healthy competition between programs to drive improvements that will benefit all educators and future students.

Spotlight: Using Data to Make Change

Illinois and Tennessee adopted legislation supporting data use and actions to improve educator preparation programs.

Increasingly, states are more transparent in reporting which educator preparation programs are preparing future educators to succeed and which are not. State leaders realize the quality of their educator preparation programs is a fundamental building block for improving educator workforce quality. Educator preparation programs must meet higher standards for admitting and preparing candidates so that new teachers and principals are effective from day-one. When education leaders can easily access and use educator preparation data, they can help ensure teachers and principals arrive at their schools prepared. A robust data system creates a more transparent market for prospective educators seeking the best preparation possible, and it provides policymakers, employers and the public with information about which programs are getting results. States, including Texas, have taken preliminary steps in this direction; Tennessee and Illinois have implemented more comprehensive data-driven policies and practices worth exploring.

The **Tennessee Legislature** passed a bill (Public Chapter No. 376, House Bill No. 472, 2007) in 2007 requiring the State Board of Education to assess the effectiveness of teacher preparation programs.² The annual Report Card on the Effectiveness of Teacher Training Programs includes data on the academic profile of completers, placement, retention, licensing exam pass rates and the effectiveness of each program's graduates as measured by the Tennessee Value-Added Assessment System (TVAAS). While previous reports included effectiveness data on only one year, the 2013 report card included trend analysis of completer effectiveness over three years.³ Tennessee is actively using this data to drive program improvement.

The Illinois Legislature enacted Section 25.115 of Illinois Administrative Code, part of which requires the state's education agency to publish an annual report on "data regarding the effectiveness of the completers of the program from performance evaluations." Reporting begins in 2014 for principals and later for teachers.⁴

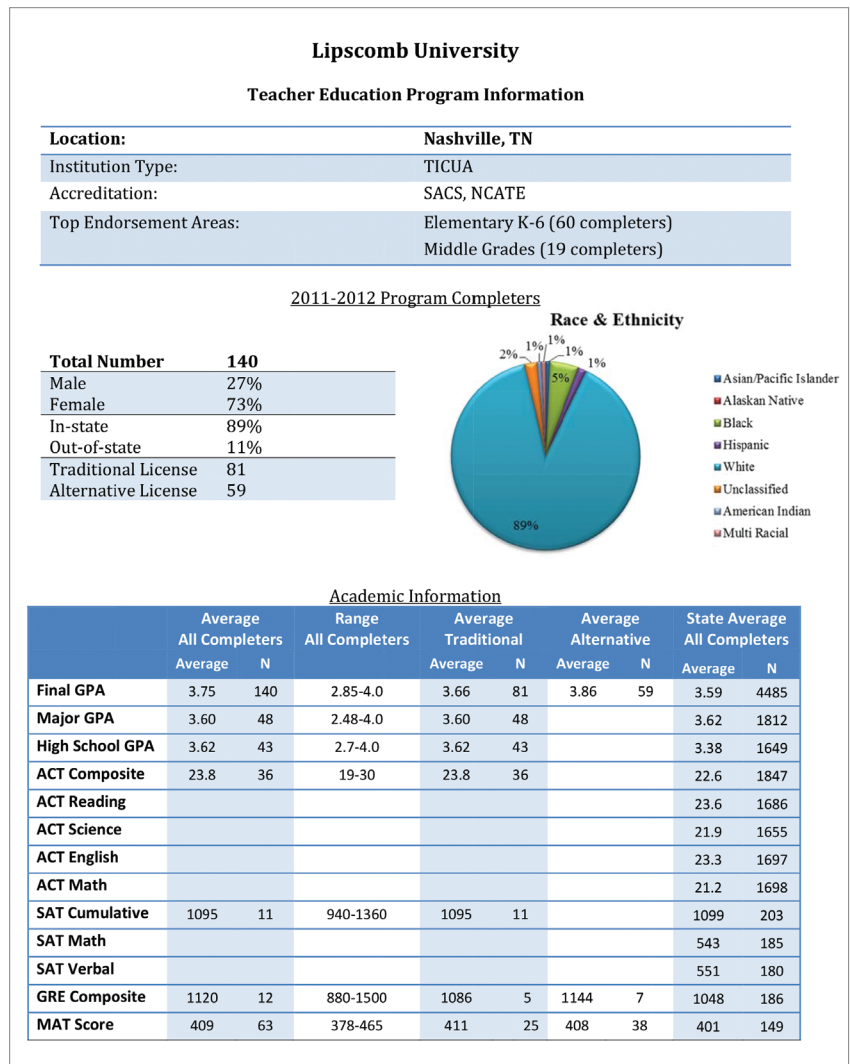


Figure: Tennessee TVAAS Report

Recruit and Hire

Overview

Between 2010 and 2020, the Texas Workforce Commission projects a dramatic increase in the number of educators needed to teach in Texas’ schools. For instance, Texas alone will need 233,680 more elementary teachers by 2020.⁵

Texas education leaders must use educator data systems in new, innovative ways to anticipate statewide hiring needs, broadcast vacancies and fill key positions. Outdated, inefficient methods to recruit and hire educators create headaches for district leaders, taking far too much time to yield too few quality candidates for the available openings. The real damage is suffered by teachers, principals and students. In many hard-to-staff districts, students can go days or weeks without a permanent teacher or principal at the beginning of a school year.

Unfortunately, too many districts still rely on manual processes to determine hiring needs and use limited channels to circulate job postings. Typically, districts share postings within their community and with nearby preparation programs, regardless of the quality of those programs.

Districts can fill educator vacancies faster with online educator data systems that tap into statewide databases and monitor vacancies—both regionally (particularly in rural or hard-to-staff districts) and by position (e.g., principals, STEM, English, special education)—and invite educators to post résumés and review openings online. Many rural districts around the country have benefited from systems connecting hiring leaders to a broader pool of applicants than they otherwise are able to access.

The Texas Education Agency reported to the U.S. Department of Education that, for the 2014–15 school year, shortages exist in both elementary and secondary classrooms for subjects including English as a second language, career and technical education, computer science, math, science and special education.⁶

Unlike some states, Texas does not report which regions of the state have the greatest need. Yet, this information could be used to draw public attention to which schools need more educators and to direct scarce resources

(via incentives, grants, etc.) toward recruiting more educators to shortage areas.

Educator data systems can also help human resources managers hone hiring criteria by more closely aligning interview questions and role requirements with profiles of effective educators. Aggregate educator evaluation data can help hiring staff identify the skills, knowledge and dispositions that most closely match effective educators, and data systems can then mine the applicant pool for those

Data That Make a Difference

To identify educator workforce needs:

- Demographics of existing educator workforce
- Certification areas in which there are shortages or anticipated shortages of qualified educators
- Which regions of the states are experiencing educator shortages, by certification area

To identify teacher and principal vacancies:

- Open positions (by subject, grade, district and region)
- Educators leaving the profession (by role, subject, grade, years of experience, district and region)

To monitor whether qualified educators are filling vacancies:

- Educators hired whose certification matches new position
- Educators working in grades/subjects that match their certification
- Educators rated effective who are serving in schools with significant poverty rates
- Educators using a waiver or temporary certification (by grade/subject, district, region)

To inform hiring policies and practices for getting top educators in front of students, in aggregate:

- Educators hired with advanced degrees in their subject area
- Educators hired with high licensure and certification scores
- Results of educators from both alternative and traditional preparation programs
- Salary schedule comparisons across districts and within regions

traits. This increases the efficiency of human resources staff (or principals in rural districts with limited human resource capacity) to identify and vet candidates.

Finally, by analyzing evaluation data in concert with licensure, certification and advanced degree information, state education officials and preparation program

leaders can better determine whether advanced degrees and certifications are accurate predictors of educator effectiveness and work with policymakers to make changes to certification requirements accordingly. Many states are already changing traditional hiring policies, placing greater emphasis on a record of accomplishment affecting student achievement than on credentials.

Texas education leaders must use educator data systems in new, innovative ways to anticipate statewide hiring needs, broadcast vacancies and fill key positions.

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Spotlight: Using Data to Make Change

The Teach Louisiana online system adds efficiency and capacity for districts and prospective educators.

The **Louisiana Department of Education** connects local school officials and job seekers using the state's online data system to create a more efficient and effective hiring process.

According to Barbara Burke, a Louisiana education official who administers the system, "the Teach Louisiana website includes a feature called the Talent Recruitment System to help districts find potential teacher and leader candidates and to help potential candidates find vacancies. The Talent Recruitment System matches teacher and leader candidates with district/school vacancies across the state. This system allows human resources personnel to post job vacancies to the Teach Louisiana website, as well as view applicant matches in their inbox. Teachers and leaders are now able to create employment profiles and browse vacancies more easily."⁷

This online system's functionality goes beyond what many other states offer. Job seekers can create a profile and upload their résumé information, making them accessible to human resource officials in any district—while hiring personnel can post vacancies and select candidates to interview from anywhere in the state. The Talent Recruitment System provides automated notification to human resources officials and job seekers of potential matches between educator profile preferences and job opportunities.

Smaller districts find Teach Louisiana useful in recruiting educators they would not have had the capacity to find on their own. Sonia Fields Gutierrez, chief academic officer for the St. Helena Parish School System, finds the data system provides a greater opportunity for the small district's two schools to recruit potential applicants from other parts of the state.

Induct and Support

Overview

Teachers new to the profession, regardless of the quality or type of educator preparation, encounter distinct challenges in their first few years, often struggling in the isolation of a classroom to navigate a steep learning curve. In fact, past studies estimated that between 40 and 50 percent of new teachers leave within the first five years of teaching.⁹ Texas has a higher percentage of new teachers than many other states — one in every three Texas teachers has five years of experience or less.¹⁰ Given high attrition rates in the first five years, Texas must make retention of talented new educators a top priority. New principals experience similar professional challenges when entering a new school.

Induction and support programs provide new educators with additional on-the-job coaching and professional development resources through their first few years. Effective induction programs show improved retention¹¹ and increased student test scores in reading and math¹² under early career educators, depending on the type and amount of support these educators receive.

Induction programs and activities vary in numerous respects, such as structure and intensity. Some induction programs provide new educators with in-classroom supports and more frequent observations, while others provide additional professional development time outside of the classroom.

Data That Make a Difference

To identify which induction and support programs are having an impact:

- Educator performance data (e.g., observations by grade, subject, years of experience, district and school)
- Student achievement/progress data
- New teacher and principal survey results (e.g., job satisfaction, working conditions, school climate)
- Educator retention rates by years of experience, school/district performance
- Educator attrition rates
- Program accreditation status
- Educator exit survey results (e.g., reasons for leaving)

Educator data systems, along with other localized induction program assessments, help state and local education leaders determine the induction supports new educators need and understand which induction programs most impact educator efficacy and retention. Local leaders responsible for directing these programs can use information about a candidate’s preparation to identify additional important educator induction supports, evaluate programs to inform improvements and maximize the effect of funds allocated to induction.¹³

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Spotlight: Using Data to Make Change

California evaluates its induction programs using data from state and local educator data systems.

The **California Legislature** requires all first- and second-year teachers to participate in its Beginning Teacher Support and Assessment (BTSA) system, a state-funded induction program authorized by Senate Bill 1422 (Bergeson) in 1992. The program supports professional development of newly credentialed, beginning teachers and fulfills the requirements for attaining California teaching credentials. Districts receive funding to design induction programs that align with the state’s induction standards.

According to the New Teacher Center, the state evaluates BTSA induction programs as part of its accreditation system. This evaluation includes ongoing data collection and a seven-year accreditation cycle of activities, including at least one program site visit and an assessment of program activities based on California’s standards for induction programs. Additional requirements include a biennial report on program effectiveness and proposed reforms based on assessment data.¹⁴

At the local level, the district’s BTSA program coordinator monitors beginning teachers and their coaches on a monthly basis through support logs, which indicate the amount of time the team spends together, topics of discussion and summaries of assistance needed. Beginning teachers take surveys in October to provide feedback on the coaching and support they receive. Districts perform summative evaluations in May.¹⁵

Long Beach Unified School District’s induction program collaborates with a local university to support research and monitoring, especially in mathematics. The district has been recognized as one of the country’s best urban school districts for increasing student achievement.¹⁶ Long Beach retains more than 90 percent of its new teachers, remarkable evidence of the quality of its induction program.¹⁷

Develop and Evaluate

Overview

No single data point paints a complete picture of an educator’s performance. State and district leaders rely on educator data systems to manage the vast amount of information evaluators collect (observation and student growth data, for example) and to identify performance trends. This information helps leaders steer funding and resources toward relevant educator professional development.

Texas school districts range in size, from small cohorts of educators in some districts to more than 10,000 in others. The most efficient way for state and local leaders to identify support needs in such diverse environments is through a data system that reports on individual, school and district areas of strength and those requiring growth.

But knowing where educators need additional targeted support to continue their development is only the first step. Educators need effective professional development and learning experiences to improve performance. To get a stronger return on Texas professional development dollars each year, leaders must use educator data systems to identify which programs are most effective. Quick access to educator evaluation and student impact data, in concert with professional judgment, allows leaders to redirect investments to programs that add value for educators.

Data That Make a Difference
<i>To inform improvements to educator development and performance, in aggregate:</i>
<ul style="list-style-type: none">• Observation data (aligned to research-based professional practice standards)• Student performance data (value-added and other growth/achievement data for non-tested grades and subjects)• Student and parent survey data• Professionalism data
<i>To inform the quality of professional development educators receive, in aggregate:</i>
<ul style="list-style-type: none">• Professional development offerings• Program evaluation• Participant surveys• Overall performance effectiveness score• Overall distribution of educators (e.g., by overall rating, by evaluation component)• Years of educator experience• Educator attendance data• Current license data• School assignment

Spotlight: Using Data to Make Change

Houston uses educator data to improve coaching and strategically deploy its resources.

In 2012, the **Houston Independent School District (HISD)** revamped its professional development approach by using educator evaluation data to identify particular schools or groups of teachers struggling in a specific aspect of teaching or in a certain subject or topic. Armed with these data, the department sent coaches to those schools to support teacher learning in specific areas of weakness. Coaching activities involved one-on-one time with individual teachers or interaction with groups of teachers.¹⁸

This approach of using data to tailor support shifted the district’s professional development model from a one-size-fits-all approach to one accommodating individual needs. In the past, the district relied heavily on workshops delivered by outside consultants rather than on direct support provided to classroom teachers using instructional coaches.

What distinguishes this new thrust of professional support from previous iterations is the ongoing effort between the evaluation staff and professional development coaches to use data to maximize impact. The district ties professional learning directly to a teacher’s evaluation results, so teachers can receive support on relevant practices associated with the district’s framework for instruction.

Use of the state’s educator data system enables statewide, regional and district-level analysis to identify trends in educators’ highest professional development needs, link that information to proven professional development, as Houston did, and promote the use of the best or promising practices and lessons learned to inform state- and district-level approaches. For fiscally responsible legislators and education leaders, data systems demonstrate each program’s impact to parents and taxpayers.

Louisiana’s COMPASS Information System offers performance data transparency to parents and the public.

The Louisiana Department of Education’s COMPASS Final Report serves as the starting point for a discussion within communities across the state about where schools and teachers are improving student achievement and how to better support them.¹⁹ Louisiana’s Act 54 (2010) mandates the COMPASS report and requires the state’s superintendent of education to make available to the public such data as may be useful for conducting aggregate statistical analyses, while not revealing information pertaining to the assessment and evaluation of a particular employee.²⁰ Leaders use this information to improve instructional practices across the state, and parents and outside stakeholders use the data to remain informed of local and state progress.

The state’s data system allows different levels of access according to stakeholders’ varying needs: the public can easily access critical aggregate-level information, for example, while certain groups with a higher level of security can access more detailed, highly protected individual teacher data.²¹

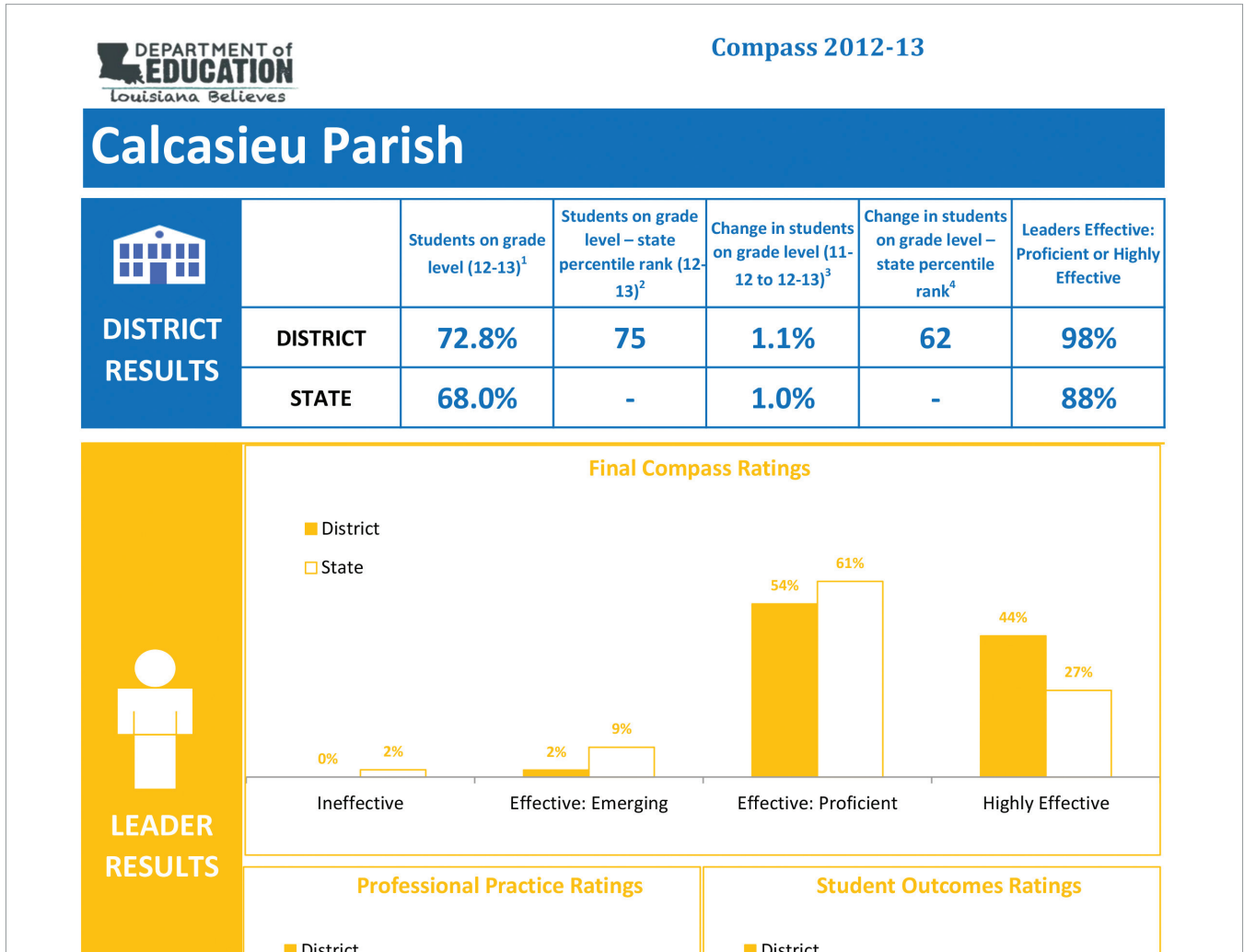


Figure: Louisiana Compass District Report for the public (Louisiana Department of Education)

Retain and Reward

Overview

Losing effective educators disrupts student learning and hits state and local pocketbooks hard. In fact, the costs associated with educator turnover—separation, recruiting and hiring, training and support—are substantial around the country.

The Alliance for Excellent Education’s 2014 report estimates Texas may be spending between \$108 million and \$234 million on teacher turnover each year.²² The National Commission on Teaching and America’s Future estimates the annual cost of teacher turnover in Dallas and Houston alone at \$28.9 million and \$35 million, respectively.²³

Beyond funding issues, a recent TNTP (formerly The New Teacher Project) study found districts retain low- and high-performing teachers at strikingly similar rates.²⁴ Given that students learn up to five to six months more over a school year when they have great teachers and principals (as compared to when they are with less effective educators), retaining great educators is a top priority in maximizing student learning.²⁵

Around the country, state and district leaders are increasingly using data to proactively identify retention issues and to understand whether strategies to keep top educators at their posts (e.g., financial incentives, leadership and advancement opportunities) are having the intended impact.

Managing educator retention requires year-round commitment from school and district leaders. The more efficient and reliable the process, the more likely leaders can retain the best educators. Real-time and trend data help leaders identify effective educators and inform effective strategies for keeping those educators—such as differentiated compensation, teacher/principal of the year recognition or teacher leader roles.

Data That Make a Difference

To inform methods to retain and reward more effective educators, in aggregate:

- Results from educator surveys (e.g., job satisfaction, working conditions, school climate)
- Retention rates by years of experience, school/district performance
- Attrition rates
- Exit surveys (e.g., reasons for leaving)
- Educator observation or site visit results
- Educators retained based on years of experience, evaluation results, region/district
- Educator transfers (within and outside district)
- Educators leaving the profession or moving to another state to teach or lead
- Educators attaining “tenure” status
- Equitable distribution data
- Compensation data (base salary, bonuses, stipends)

State-sponsored research studies tracking retention patterns can focus support and resources on solutions in districts or regions needing it most. In addition to capturing data on educator retention and mobility, educator data systems can also link retention data to outside information, such as placement, course assignments, certification status and performance evaluations.

Although the work to retain effective educators rests mainly in the hands of local leaders, state officials should require districts to report retention figures each year—to identify where retention strategies are working and to scale successful efforts across the state.

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Spotlight: Using Data to Make Change

Las Vegas school district uses educator data systems to identify retention hot spots.

The **Clark County School District in Las Vegas, Nevada** determined 12 schools had especially high teacher turnover after reviewing its data: the average teacher tenure was 1.9 years, and the average experience of teachers in one of the 12 schools was only 1.3 years. The teacher attrition rate in the 12 schools was higher than the student dropout rate.²⁶

Local leaders responded to these data with a multi-faceted pilot program focused on reducing teacher turnover. Principals in pilot schools were given a two-month head start in the hiring process, using data to identify and invite the most sought-after candidates for interviews. Hiring decisions were geared toward teachers who fit each school's improvement plan. The early hiring process enabled principals to fill positions prior to the school year and to begin professional development during summer break. Teachers were also offered mentors and higher salaries. Of the first cohort, 91 percent of the teachers remained at their school after one year.

Three years after this initiative began, Clark County sustains a retention rate of 85 to 95 percent in the 12 pilot schools. These schools are now also attracting teachers from higher-performing schools in the district. The program has since expanded to include a total of 27 Las Vegas schools.

Understanding Educator Compensation as a Factor to Retain Top Educators

While effective retention strategies rely on more than just financial incentives to retain top-performing educators, it is important to understand the influence of compensation and other financial incentives. TEA has occasionally conducted research on educator salaries and related issues, but more comprehensive data should be available and readily accessible to guide compensation decisions.

The Texas Association of School Boards (TASB) has taken the initiative to support district leaders by providing an important piece of the data puzzle needed to hone educator retention, as well as recruitment, strategies. TASB conducts a survey of Texas districts and offers fresh information on competitive compensation in an annual report. Of the 1,025 Texas public school districts invited to participate, 592 districts (58%) responded. The 2013-14 report findings include:

- Average teacher salary (weighted by district size) = \$50,166
- Average starting salary (for a new teacher) = \$37,337
- Average pay increase (for returning teachers) = 2.9%
- Percentage of districts that pay more to teachers with master's degrees = 71%
- The highest average teacher stipends for shortage areas go to: bilingual education (\$2,586), mathematics (\$2,543), foreign language (\$2,455) and science (\$2,443)
- A limited number of districts pay stipends to teachers for taking an assignment at a hard-to-staff campus

Source: Texas Association of School Boards, Teacher Compensation in Texas Public Schools: Teacher Summary Report 2013-14 (2014)

Section II: Policy Recommendations

Texas can create an educator data system capable of solving critical educator workforce challenges, increasing data transparency and understanding for public stakeholders, and identifying where strategic and efficient resource investments can have the most impact. Implementing the three core policy recommendations below will demonstrate Texas leaders' high expectations for efficiency, quality decision-making and transparency with the public.

Recommendation 1: Establish a comprehensive and transparent educator data system

Education leaders, like leaders from any industry, can make better decisions with regular access to and use of reliable data. The Texas Legislature must establish a comprehensive educator data system and take the lead in setting conditions to enable and support the innovative use of data to answer critical educator workforce questions and support action.

- Call on pre-k–12, postsecondary and workforce leaders to take stock of the educator data that matter for increasing cross-agency and public transparency, collaboration and awareness. Leaders among these agencies often do not share data efficiently, making it difficult for pre-k–12 leaders to anticipate hiring challenges or workforce leaders to ensure all regions of the state attract, develop, support and retain top educators.
- Ensure a standard of data validity to protect the integrity of data and its usefulness to the field. This includes ensuring data administrators use quality assurance protocols to review and verify data for accuracy.
- Require Texas agencies to invest in systems, technology and human resources that make data available, accessible and transparent, and that are not dependent upon specific, proprietary vendor solutions (i.e., open systems, to the extent practicable).

In a time of scarce resources, it may seem challenging to spend more dollars on data; however, data bring efficiency and allow decision-makers to direct resources where they matter most. Since 2011, 41 states have invested dollars to sustain data systems; prior to the height of the national recession, only 27 states made such investments. Texas needs continued legislative support and dollars to strengthen its data infrastructure.

Recommendation 2: Establish clear authority and governance over data

Top educator data systems require strong data governance. Different levels and types of data are made available to credentialed users than the aggregate level data made more broadly available to the public. Access to data broadens public understanding of educator workforce reforms, and invites stakeholders to become co-problem solvers alongside education leaders when challenges arise. In addition, data sharing invites accountability to the public at large.

Smart governance structures clarify who is responsible and accountable for managing and producing data, and dictate how data can be accessed and used. Texas legislators must provide a route for supplying data access to those with the right permissions, absent unnecessary restrictions or cumbersome data request processes. A properly functioning data governance structure will maximize the use of data by assigning key responsibilities for ongoing system maintenance, operations and data analysis, especially as data are collected and shared across agencies.

- Establish a statutory governance committee made of pre-k–12, postsecondary and workforce agency leaders and public stakeholders authorized and trusted to guide and manage the educator data system. Trusted leaders, agency experts and other key stakeholders are best positioned to determine the state's data needs and policies for using data. Ultimately, the principles of utility (how the data will be used), transparency (how the data will be shared) and privacy (how access to data will be determined) are all important considerations to make that determination.

- Require the committee to convene annually or even more often to identify challenges and propose solutions that improve data governance structures, data sharing and staffing to make the system function strongly and well. Call upon the committee to address ways to improve reporting and enhance the public's data literacy, enlisting outside stakeholder perspectives to inform that process.
- Ensure privacy protection, security and transparency policies and provisions, such that stakeholders can access data without compromising individual privacy rights. Increased training to safeguard data and clear guidelines for what data can and cannot be shared reduce the need for rigid governance policies that make it difficult for stakeholders to efficiently locate and use data.

Recommendation 3: Build a data-driven culture

Texas policymakers have the power and resources to usher in the latest advancements in data reporting. Efforts to raise the bar for using educator workforce data will enhance decision-making, solve problems and communicate progress and challenges with the public. But that is not enough. Policymakers must also demand that agencies behave differently.

Policymakers can change agency behavior and dialogue with stakeholders by demanding that agencies analyze,

Data Quality Campaign reports that Maryland's data-governing board has been pivotal to that state's development of a comprehensive statewide system, and has proven to be a critical strategy for engaging the state's top policymakers in cross-agency discussion. "No single agency or organization could have created a system that would be as effective in utilizing and reporting on so many kinds of data," it concludes. "The collaboration of all partners is essential to the sustainable success of the system."

(See DQC's State Stories report for details.)

Source: Data Quality Campaign, "MLDS Center: Using Data to Ensure Student Success in College and Careers" (n.d.)

share and act on data, putting in place explicit expectations of a data-driven culture. Whether in an individual classroom, school, district or educator preparation program or statewide, long-lasting forward change requires the implementation of systems and processes that routinely measure what is and is not working. Those results must be regularly and transparently shared with the public.

- Require state and local education agencies to use statewide data systems and data dashboards to monitor the health and progress of the Texas educator workforce over time, based on pre-established metrics. Reporting systems-level progress by the educator continuum's five distinct segments discussed in this report is a helpful way for education leaders to monitor and report on large-scale trends.

Ensuring Educator Data

Educator data systems require detailed attention to the security and privacy of individually identifiable data while maintaining transparency with the public on progress and challenges. Texas lawmakers should work with state leaders to determine whether the state has policies and procedures that:

1. Determine levels of sensitivity for data collected
2. Establish user privileges to account for varying layers of data security
3. Set routines to monitor and audit data access
4. Create systems to store data safely
5. Ensure staff are properly trained and held accountable for data usage

While every state takes seriously its responsibility to protect student and educator privacy, Maryland established an independent unit within state government to oversee data linked across agencies. The Longitudinal Data System Center, a rulemaking authority enacted by Maryland Senate Bill 275 (2010), is charged with ensuring the protection and usefulness of student and educator data.

Source: Data Quality Campaign, Roadmap to Safeguarding Student Data: Key Focus Areas for State Education Agencies (n.d.); State of Maryland, Senate Bill No. 275, Chapter No. 190 (2010)

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- Policymakers should also require agencies to use baseline, formative and/or summative data in budget requests, policy planning and program progress monitoring. Encouraging the practice of comparing Texas' data with other states' data and exploring the practices getting results elsewhere are also much more straightforward when data are readily available.
 - Identify and call for new public reports that will be used by education leaders, programs and stakeholders to make continuous improvement, support innovative solutions or inform the public of critical issues. For example, Texas might consider a report requiring leaders from across agencies to analyze data within the system to identify teacher and principal shortages by geography and content/specialty area and then map that to the educator preparation pipeline. Education leaders must use data to answer such questions as: How well are educator preparation programs filling key shortage needs across the state for principals, STEM classes, support for English language learners and other key subject-area teachers?
 - Require agency leaders to publish findings in user-friendly formats. Task a committee of outside stakeholders to evaluate the reports currently available. Put parents, business leaders, higher education and K-12 leaders, teachers, principals and even students on the committee. The recently updated Texas P-20 Public Education Information Resource (TPEIR) site would be a great place to start. Ask the committee for feedback: Is the data meaningful, timely and useful for you? Are the data implications or trends understandable?

Conclusion

By strategically using data to inform decisions and investments, Texas has the opportunity to develop the most effective educators in the nation. Texas educators—teachers and principals alike—as well as Texas school children deserve nothing less than the best efforts of policymakers in combining talent, data and policy to support the people charged with one of the most significant jobs imaginable — developing the talent that is the future of this state.

Appendix: At-A-Glance Questions, Data Elements and Legislation

This section arms policymakers with key questions, essential data elements and policy examples that support the use of educator data to strengthen the teacher and principal workforce.

Attract and Prepare

Who must we attract to the education profession so that all students have excellent teachers and principals?

- What policies and incentives work to attract a steady pipeline of Texans to the education profession?
- What is the diversity of the educator workforce across the state (age, gender, race, etc.)?
- Are there additional non-traditional routes to attract candidates worth exploring?

Are preparation programs working collaboratively with other agencies to address subject/grade shortages?

- What is the distribution of candidates working toward grades and subjects in high demand by districts?
- Are preparation programs adjusting curriculum and course offerings to meet staffing needs?
- Are educator preparation programs accessible across the state of Texas (affordable, regionally-based, etc.)?

Do our in-state educator preparation programs have a high bar for selecting and graduating candidates?

- What admissions criteria and selection standards yield the most effective educators (e.g., class standing, GPA, prior experience)?
- What graduation requirements are proving most effective for ensuring educators are ready?
- Are efforts to prepare educators for STEM, English language learners and students with disabilities impacting students?

How are our in-state programs preparing teachers and principals for success?

- Which educator preparation programs offer the best training models?
- Which programs are contributing to down-the-line student success?
 - How do alternative education programs compare to traditional programs

Data That Make a Difference

To understand who is applying and gaining admission to educator preparation programs:

- Demographic information regarding applicants
- Academic qualifications of incoming students (by high school GPA and SAT/ACT)

To understand characteristics of educator preparation programs:

- Available educator preparation programs by:
 - Type of program
 - Region
 - Preparation by certification area, volume of completers
 - Certification areas offered, including certifications in critical shortage areas: science, technology, engineering and math (STEM), teaching English language learners and students with disabilities, etc.
 - Number of candidates working toward certification in a critical shortage area
 - Cost of program
- Information regarding graduates of educator preparation programs, including:
 - Demographic information
 - Degrees obtained by area of study (e.g., science, math, English, social studies)
 - Certifications by grade, subject and average score
 - Final GPA

To inform improvements to educator preparation programs:

- Efficacy of programs, including alternative certification programs, by:
 - Certification initial pass rates
 - Principal survey and student achievement data
 - Content area

Recruit and Hire

Where do teacher and principal vacancies exist?

- Are our urban, rural and Title I districts effectively recruiting and hiring for STEM, pre-k, ELL and other critical education roles?
- Which regions/districts in the state are facing teacher and principal shortages?
- Do we know where prospective teachers and principals are located (e.g., Teach Louisiana's marketplace website)?
- Which grades and subjects are hardest to staff?

Are qualified educators filling key vacancies?

- How far are educators willing to move from the university where they graduated to teach or lead?
- Which incentives are most likely to influence effective teachers to serve in high-need schools?
- Which policies and incentives are supporting state and local recruiting and hiring of the best teachers and principals the country has to offer?

Which hiring policies and practices get the most effective teachers and principals in front of our students?

- Which hiring competencies are most predictive for hiring effective educators?
- How can the interview process better screen for essential competencies when making hiring decisions?
- To what extent do advanced degrees, certifications and other prior experience influence the effectiveness of educators?
- Do districts have the resources to offer competitive compensation and benefits to hire top educators?
- How do salary schedules and other compensation compare across districts (urban vs. rural, regionally, across the state)?

Data That Make a Difference

To identify educator workforce needs:

- Demographics of existing educator workforce
- Certification areas in which there are shortages or anticipated shortages of qualified educators
- Which regions of the states are experiencing educator shortages, by certification area

To identify teacher and principal vacancies:

- Open positions (by subject, grade, district and region)
- Educators leaving the profession (by role, subject, grade, years of experience, district and region)

To monitor whether qualified educators are filling vacancies:

- Educators hired whose certification matches new position
- Educators working in grades/subjects that match their certification
- Educators rated effective who are serving in schools with significant poverty rates
- Educators using a waiver or temporary certification (by grade/subject, district, region)

To inform hiring policies and practices for getting top educators in front of students, in aggregate:

- Educators hired with advanced degrees in their subject area
- Educators hired with high licensure and certification scores
- Results of educators from both alternative and traditional preparation programs
- Salary schedule comparisons across districts and within regions

Induct and Support

Do new educators receive adequate induction and support during the first two years (at a minimum)?

- How many hours are allocated for new educators to receive induction and support services?
- How much funding is allocated to induction and support services for new educators?
- How do new educators participating in induction and support programs compare to educators not served by such programs?

Which state and local induction initiatives are most effective in supporting new educators?

- Which induction program requirements are yielding the greatest results to retain new educators?
- Which requirements and supports are yielding promising results to help new educators make positive gains in student achievement?

What improvements can be made to support and retain new teachers and principals?

- Which policies and initiatives can best ensure new educators have the skills, knowledge and dispositions necessary to remain in their school and become effective?

Data That Make a Difference

To identify which induction and support programs are having an impact:

- Educator performance data (e.g., observations by grade, subject, years of experience, district and school)
- Student achievement/progress data
- New teacher and principal survey results (e.g., job satisfaction, working conditions, school climate)
- Educator retention rates by years of experience, school/district performance
- Educator attrition rates
- Program accreditation status
- Educator exit survey results (e.g., reasons for leaving)

Develop and Evaluate

What are the strengths of our most effective teachers and leaders? Where do our educators need more support?

- How are teachers and principals performing according to state- or district-utilized observation rubrics (by grade, subject, years of experience, district and school)?
- How are educators performing according to student growth measures (state or district-adopted assessment data, student learning targets)?
- On which professional practice standards do educators need more support?

Are use of professional development resources and funds aligned to the state’s evaluation and support model?

- How are dollars being expended to support educators?
- Which programs and initiatives are having the greatest results?
- Is professional development having the intended impact (improving key areas of performance, resulting in increases to student achievement, etc.)?

What percentage of educators is effective or ineffective according to state or local evaluation criteria (across the state, by district, by years of experience, by education level, by salary level)?

- How do educators compare across districts, grades/ subjects, years of experience or region?
- How do educators located in low-income schools compare to those that teach in more affluent communities?

Data That Make a Difference

To inform improvements to educator development and performance, in aggregate:

- Observation data (aligned to research-based professional practice standards)
- Student performance data (value-added and other growth/achievement data for non-tested grades and subjects)
- Student and parent survey data
- Professionalism data

To inform the quality of professional development educators receive, in aggregate:

- Professional development offerings
- Program evaluation
- Participant surveys
- Overall performance effectiveness score
- Overall distribution of educators (e.g., by overall rating, by evaluation component)
- Years of educator experience
- Educator attendance data
- Current license data
- School assignment

Retain and Reward

Are our best teachers and principals continuing to serve students in our schools?

- How do retention rates vary according to educators' overall level of effectiveness? What percentages of effective and ineffective educators remain in our schools? Are transferring schools? Leaving the profession?
- How do overall retention rates and the retention rates of highly effective teachers and principals vary across districts? Does district size help to explain any variation?
- Are highly effective early-career and minority teachers and principals retained at similar rates to other highly effective educators?

How does retention vary according to effectiveness, district, region and subject/grade?

- What are the overall retention rates in Texas public schools? How does the likelihood that a teacher remains for another year differ by the years of experience?
- How many educators leave after becoming eligible to retire with benefits from the TRS (state retirement system)?
- How many leave for other positions, and where do they go?
- How many return to teaching or school leadership, and after how long an absence?
- What school-level factors seem to be driving retention, particularly of highly effective teachers and principals?

Data That Make a Difference

To inform methods to retain and reward more effective educators, in aggregate:

- Results from educator surveys (e.g., job satisfaction, working conditions, school climate)
- Retention rates by years of experience, school/district performance
- Attrition rates
- Exit surveys (e.g., reasons for leaving)
- Educator observation or site visit results
- Educators retained based on years of experience, evaluation results, region/district
- Educator transfers (within and outside district)
- Educators leaving the profession or moving to another state to teach or lead
- Educators attaining "tenure" status
- Equitable distribution data
- Compensation data (base salary, bonuses, stipends)

What policies and initiatives across our state help retain effective educators?

- Which retention strategies have the greatest influence on retaining and rewarding effective educators (innovative school day models, multiple career-pathways, compensation)? How much do they vary within a state and across state boundaries?
- How does compensation vary across the state (by district, by regions, by subject areas)?
- What types of incentives are offered to effective educators?

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