

Roadmap for Teacher Access to Student-Level Longitudinal Data



Key Focus Areas to Ensure Quality Implementation

Where are we going?

Teachers have access to information about the students in their classrooms each year, but schools and districts often cannot provide teachers with longitudinal data (or data linked over time). Given resource constraints in schools and districts, states are best positioned to ensure that teachers have secure access to their students' longitudinal data, especially when students move across districts.

Teachers need student-level longitudinal data, such as enrollment, attendance history, program participation, course-taking patterns, grades, and test scores, to tailor instruction to individual students' strengths and weaknesses. They need these data to collaborate with other teachers and support staff to align and improve their instructional strategies. Reviewing student data over time helps teachers ensure that students stay on track to graduate ready for college and careers.

How do we get there?

What does great implementation of this work look like? The Data Quality Campaign (DQC) recommends focusing on six key areas:

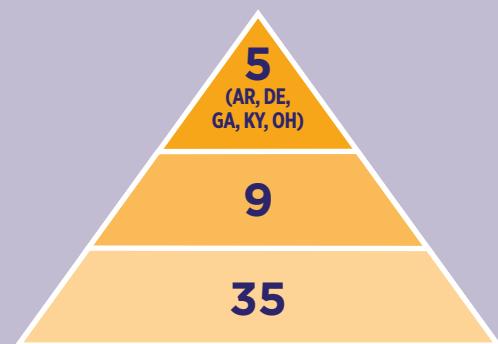
- 1. Provision of an Electronic System:** Provide teachers access to their students' longitudinal data in a secure, web-based portal or dashboard.
- 2. Visualization:** Include colors, graphics, and analytics to allow teachers a clear and intuitive way to interact with the system and the data.
- 3. Data Content:** Include past and current student information as well as resources.
- 4. Timeliness:** Provide data to teachers within a reasonable timeframe.
- 5. Consistent Use:** When teachers use the system throughout the school year, they can provide feedback to ensure the system meets their needs.
- 6. Supports:** Provide support to ensure that all teachers throughout the state can access student-level longitudinal data.

Where are we coming from?

On DQC's 2013 survey, *Data for Action*, 35 states reported that teachers have access to their students' longitudinal data. Based on a review of states' survey responses and documentation, nine states (AZ, HI, ID, IN, LA, ND, RI, VA, WI) met the criteria for good implementation, and five states (AR, DE, GA, KY, OH) met the criteria for great implementation.

NUMBER OF STATES:

- Great implementation
- Good implementation
- Total implementing work





Kentucky is one state providing timely and accessible data to teachers. The state's Continuous Instructional Improvement Technology System (CIITS) provides Kentucky public school educators with the resources they need to carry out highly effective teaching and learning in every classroom. Through CIITS, teachers are able to access Kentucky's academic standards and link directly to aligned, high-quality, multimedia instructional resources. Teachers can create formative assessments based on particular standards with the help of a test item bank containing more than 11,000 items, and teachers may also share instructional resources they design through CIITS. CIITS also contains a lesson planning tool and scheduler to help teachers manage standards-based instruction in their classrooms. The aggregate and student-level demographic, program, and performance information available through CIITS allows educators to easily see how students are progressing toward Kentucky's goal of being prepared for success and graduating ready for college and careers. When tests are administered online or with a student response system, teachers can see at a glance how individual students are progressing toward mastery on a particular standard or concept. To further meet the data needs of individual teachers, the CIITS system allows educators to create custom reports or choose from preformatted reports to inform their decisionmaking. These data and customizable reports help teachers identify learning gaps so that they can more easily design instructional experiences to meet individual student needs and adjust their instruction in support of learning.

Future Considerations

As states work to ensure that teachers have secure access to student-level longitudinal data, they can consider additional ways to increase the value and usability of these critical data, such as the following:

- Creating a system with self-populating analytics that **help teachers see patterns in the data** (e.g., early warning system)
- Creating a system that is **customizable at the local level** (e.g., teachers can add new fields and information)
- Creating a system that is **refreshed daily** (although not all data elements may be updated daily)
- Including **connections to other relevant student information** to better serve the needs of individual students (e.g., free and reduced-price lunch status, Individualized Education Program [IEP] information)
- Including **teachers' own effectiveness measures and data**
- Using **information about how teachers access and use the system** to inform professional development and training

These recommendations were developed by a group of experts, including representatives from state departments of education, national organizations, and a local school district. For more information, read DQC's annual report, *Data for Action 2013: Right Questions, Right Data, Right Answers*.



Provision of an Electronic System

An electronic system provides teachers access to their students' longitudinal data in a secure, web-based portal or dashboard that integrates state and local data and is customizable at the local level.

Why does an electronic system matter?

When teachers have access to their students' longitudinal data, they can use the information to individualize learning and inform their practice by capitalizing on what works in the classroom and with individual students and changing what does not. Accessing data through an electronic system

allows teachers to quickly view multiple years' worth of information and analyses in one place, instead of spending time sorting through piles of paperwork or creating their own spreadsheets. Security of students' information is tighter in an electronic system than with paper files.

What are the key system components?

- Provide teachers with secure access to student-level longitudinal data through a single sign-on portal or dashboard configurable to accommodate both data from the state longitudinal data system and local data, including formative assessment data.
- The system is built with stakeholder input and buy-in to ensure that it meets users' needs.
- Data are sortable and regroupable. Teachers can group students with similar strengths and weaknesses to help individualize instruction or quickly be able to see how students' attendance patterns affect achievement.
- The data are downloadable from the system, such as in an Excel file or a PDF report.
- The system includes digital resources for teachers (e.g., state standards and instructional materials).

How can a state achieve this?

States can use data they already have in their state longitudinal data system to provide the data for an accessible portal or dashboard for teachers. States can build, procure, or adapt a system that meets users' needs. State and local data systems can be linked to provide teachers with seamless, secure access to both systems without having to remember multiple log-in credentials.



Visualization

The system includes colors, graphics, and analytics to allow teachers a clear and intuitive way to interact with the system and the data.

Why does visualization matter?

Providing teachers with a high-quality, easy-to-use system will allow them to make the best use of their time reviewing and using the data. When data are presented in a clear and intuitive format, teachers will

be feel comfortable using the system and be more likely to use the system to interact with the data to inform their classroom practice.

What does high-quality visualization look like?

We all know a poorly designed website when we see one. Poor navigation and a confusing layout will keep users from revisiting the system. A high-quality system includes the following features:

- The visualization of the system contains the following:
 - Graphics
 - Color-coding
 - Clear ways to see patterns
 - Analytics (e.g., how the performance of my class on the recent writing assessment compares to the performance of other students in my district or across the state)
 - Predictive analyses (e.g., Are my students on track to graduate on time)
- The page is not crowded and teachers can easily find the information they are looking for.
- An intuitive dashboard or portal does not require much training to navigate and feels familiar to users.
- Breadcrumbs allow teachers to backtrack and see their navigation progression.
- There are clear ways to drill into multiple levels of detailed data by group, such as viewing student data in terms of high, medium, and low gains, allowing teachers to identify students that may need additional resources in the upcoming school year.
- The navigation of the system tells a clear “user story” that leads from analyses of one topic into related analyses or questions that a user may reasonably move to. For example, teachers can begin their navigation by looking at summary-level data regarding all the students in their classroom and then drill down to subgroups of students or specific students.

How can a state achieve this?

States can use common questions that teachers ask about their students to design the flow of the dashboard (e.g., Is Bobby often absent at the beginning of the school year? How does the performance of my students on the state assessment compare to other students in the district?). States can use common conventions (e.g., red, yellow, and green categorizations; up and down arrows) to design intuitive portals.

FOCUS AREA
3

Data Content

The system includes past and current information on students' academic, behavioral, and developmental progression. Digital content resources are provided.

Why does data content matter?

Teachers need a broad array of data points to develop a full picture of each student's progress, strengths, and challenges. Teachers need longitudinal data to see patterns in students' performance

over time, as well as current data so that they can intervene as soon as problems emerge or adapt their teaching.

What data can be included?

System contains **data about the student**, such as the following:

- Student demographics and student ID
- Longitudinal and current state assessment data
- Attendance data, such as the number of days a student has been absent in recent years
- Transfer history
- Course-taking history with grades
- Local assessment data
- Behavioral or disciplinary data
- Reading capability scores (e.g., Lexile scores)

- Performance at the domain (e.g., reading) and strand (e.g., comprehension, phonemic awareness) levels

System contains **data about the teacher**, such as the following:

- Value-added data or growth data

System contains **resources**, such as the following:

- Response to intervention (RtI) resources
- Digital content solutions for students (e.g., assignments to address areas in which students need additional practice)

How can a state achieve this?

States can include comparison data, such as school, district, or state averages, to provide context for individual student data. States can build capacity in their systems to host content resources such as RtI resources, learning games, or homework assignments that can be linked to specific student or classroom needs. States can ask teachers for feedback on what types of data and resources they need.



Timeliness

For data to be actionable and to have the most impact on teaching and learning, student assessment and other types of data are provided to teachers within a reasonable timeframe. Timeliness will be different for different data points depending on the availability of the data throughout the school year.

Why do timely data matter?

An obstacle to effective data use is not having access to information at the time that it is needed. With timely data, teachers can adapt their practice in the classroom to address challenges facing their current

students, rather than receiving data after their students have already moved on to the next grade level.

What does timeliness look like?

One piece of student data that states are uniquely positioned to provide to teachers is state assessment data. States can provide information on individual students' past performance on state assessments, but teachers can also use current state assessment data to inform instruction with their current group of students.

- State assessment data are available within a week of administration (or 24 hours if administered online).*
- Additional summative data are available within three weeks of administration.

However, assessment data are not the only type of information needed to provide a complete picture of student performance. Timely access to additional information, such as attendance history or grades, will help teachers understand students' learning needs.

- At least one piece of other longitudinal student data from the state is updated more than once a year (e.g., attendance is updated quarterly, course taking history is updated twice a year, and grades are updated monthly).

How can a state achieve this?

In addition to providing state assessment data, states can develop the capacity to provide teachers with multiple types of longitudinal data that are updated regularly. States can ask teachers for feedback on when and how often different data elements should be updated to be most useful.

*While many factors affect the timeliness of state assessment data, states can strive to provide teachers with current state assessment data in a timely manner.

FOCUS AREA
5

Consistent Use

Teachers use the system with a level of consistency to effectively use data to improve student achievement. That is, the system is not used just once at the beginning of the school year, but throughout the year. Access of the system is monitored at the school level.

Why does consistent use matter?

States can ensure that student-level longitudinal data meet teachers' needs. When teachers consistently use the data, they can provide feedback about the types of data they need, when they need the data, and in what format. To affect teacher practice and

student outcomes throughout the school year, teachers can access the system frequently to use the data to inform teaching and learning. Teachers using the system consistently demonstrates the value of the data.

How can consistent use be measured?

- Reports that are available in the system are viewed or downloaded.
- The system is used consistently over the school year (e.g., more than once a year).
- Use can be monitored to at least the school level, so variations in use can be addressed to ensure that the system is meeting all teachers' needs.
- The majority of teachers use the system.

How can a state achieve this?

States can make sure teachers know that their feedback and input is important and will be valued. The system can be user-friendly and data can be updated frequently enough to merit consistent use by teachers. While states may not be able to mandate use of the system by teachers, they can encourage use by offering a system that provides benefits to teachers.



Supports

The state invests in the data system to ensure that districts across the state with different capacity can meet their teachers' need for student-level longitudinal data. The state provides legislative and cross-agency supports and works to solicit and use stakeholder feedback.

Why do supports matter?

Not all districts across a state will have the funding, staffing, or technical expertise to develop or support a system to provide student-level longitudinal data to teachers. While a large urban district may have the resources to support a system, a small rural district

may not. The state can provide supports to ensure that all teachers have secure access to student-level longitudinal data no matter where in the state they teach.

How can support be provided?

- The state invests in a customizable system that can be provided to districts.
- The state chief academic officer is familiar with the system and can speak about its value.
- There is cross-agency governance of the P-20 data system, which includes higher education, to ensure that that it is aligned with teachers' needs.
- There is state funding for system sustainability.
- The state has a continuous improvement cycle for the system.
- The state creates feedback loops (e.g., focus groups with teachers) to inform an iterative improvement process.

How can a state achieve this?

States can work with existing teacher groups to gather feedback, develop tailored supports, and build partnerships to ensure the ongoing support and improvement of the system. State policymakers, including top education officials, both understand the value of the system and can communicate why it is important to meeting the state's education goals.