Roadmap for a Teacher-Student Data Link

Key Focus Areas to Ensure Quality Implementation

DATA FOR **ACTION**

Where are we going?

Many states collect data on students and teachers, but linking teachers to students by course—the teacher-student data link (TSDL)—at the state level is critical to understanding the connection between student academic growth and teacher training, qualifications, and practice. A strong TSDL connects students, teachers, and courses in ways that can capture the complex connections that exist in schools that are evolving every day, like co-teaching assignments, online learning, and blended learning.
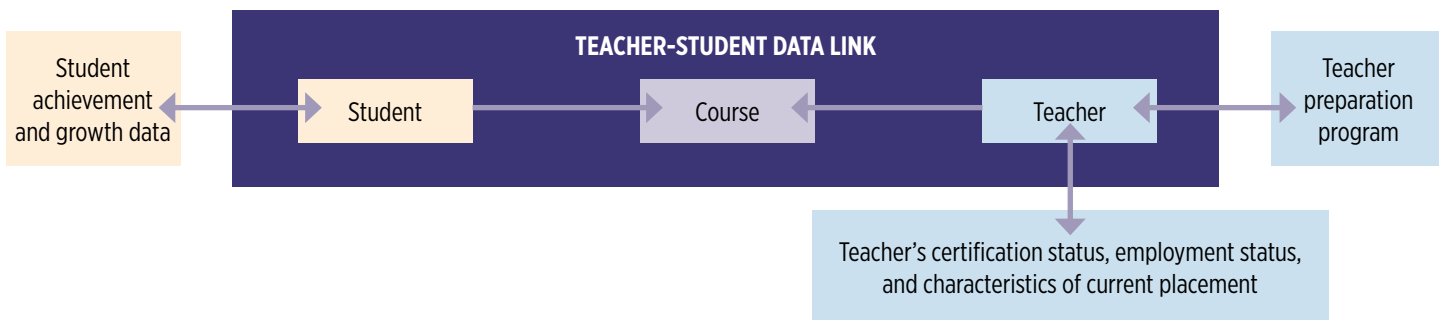
The TSDL lies at the center of state efforts to improve teacher effectiveness. States can use their TSDL to help measure teacher effectiveness and provide valuable information to preparation programs about teachers' impact in the classroom. In addition, the TSDL can help education leaders like principals, superintendents, and state officials understand how well teachers are trained to prepare students for success in the classroom and beyond and which teaching practices best support student academic achievement. The stronger the TSDL is, the more successful the state will be in policy implementation and evaluation.

The work of linking teachers to their student by course is done at the local level by staff that have the best knowledge of the teachers and students in their schools. However, states can support this work by creating robust structures and tools that allow teachers and the students they teach to be accurately linked through local data records.

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. **Data Linkages:** Make connections through local data between individual students and the teachers responsible for their learning.

2. **Teacher of Record Definition:** Describe the purposes, characteristics, and data elements required for the TSDL. The definition serves as the foundation of the TSDL and offers a common understanding and language for the TSDL work in the state.

3. **Roster Verification:** Include a process by which the list of an individual teacher's students is reviewed by the teacher for accuracy before being used to link teachers and students in the TSDL.

4. **K–12 Course Scheduling and Codes:** Map courses in one district to equivalent courses in other districts.

5. **Governance:** Define the state's roles and responsibilities needed to implement and use the TSDL.

6. **Teacher ID:** Identify each teacher to allow their data to be securely linked across various data systems.


TEACHER-STUDENT DATA LINK

Student achievement and growth data → Student → Course → Teacher → Teacher preparation program

Teacher's certification status, employment status, and characteristics of current placement

Where are we coming from?

On DQC's 2013 survey, *Data for Action,* 45 states reported having a TSDL. Based on a review of states' survey responses and documentation, three states (DE, KY, OH) met the criteria for great implementation and seven states (AZ, GA, IN, NM, NY, NC, TN) met the criteria for good implementation.

NUMBER OF STATES:

■ Great implementation   ■ Good implementation   ■ Total implementing work

3 (DE, KY, OH)

7

45
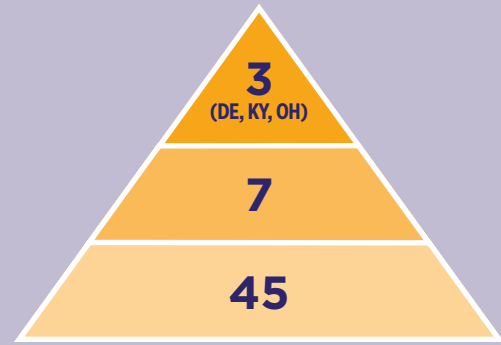
Future Considerations

As states develop a high-quality TSDL, they can also begin to consider additional ways to increase the value of this critical work:

- Using the National Center for Education Statistics' Secondary School Course Classification System course map or aligning the state course catalogue with it. This system provides taxonomy for assigning standard codes to secondary school courses in 22 major subject areas. It also includes a content description for each course and instructions on how to use the taxonomy in coding courses.

- Including contributing professionals—individuals who have been assigned the responsibility to provide additional services that support and increase a student's learning—in the teacher of record definition.

- Involving teachers and other stakeholders in developing the roster verification processes and allowing flexibility to involve stakeholders in future TSDL work.

- Supporting the roster verification process with multiple levels of coordinated roles (e.g., a principal verifies teacher verification).

- Creating a teacher of record definition that is not just a sentence, but is a framework that allows for the development of different teaching roles and learning environments.

- Incorporating validation of the district's teacher of record definition into the state longitudinal data system structure.

- Integrating the TSDL with other state data systems.

- Using common data standards (e.g., Common Education Data Standards).

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

One State's Story

Ohio works closely with Battelle for Kids (BFK) and the Management Council of the Ohio Education Computer Network (MCOECN) in a multistep roster verification process. The process begins by taking student, staff, and course data reported to the state by districts and loading it into the BFK-Link Roster Verification System. Districts with the desire and ability to provide data directly from their student information systems (SISs) may do so. The advantage of using SIS data is that the districts will begin the roster verification process with more detailed student enrollment data already loaded into the system. All districts will have the opportunity to report monthly data for their students in the roster verification process, regardless of whether they begin the process using state or SIS data.

The initial staff/course/student data are loaded into Link in March. Beginning in April, principals and teachers have the opportunity to enter the Link system and make updates to course assignments, course rosters, and the percentage of time each student is associated to staff, by month. The system allows multiple teachers to be associated with individual students. Once teachers have had the opportunity to verify their own classroom rosters, principals provide the final approval.

An overview of the roster verification process, as well as additional materials regarding timelines, resources, and support, is available to the public on the BFK website and on the MCOECN website.

FOCUS AREA
1

Data Linkages

Data linkages are the connections made through local data that connect individual students with the teachers responsible for their learning.

Why do data linkages matter?

Data linkages that connect multiple teachers to each student and are frequently updated are needed to reflect the logistic realities of schools: most students, especially those in higher grades, are taught by more than one teacher and may change their course schedule multiple times throughout the school year.

When teacher-student connections are accurate, state and local education leaders and policymakers can trust the data to make programming decisions and inform the efforts of teacher preparation programs.

What do robust data linkages look like?

- TSDL links multiple teachers to each student per course. This accounts for evolving methods of delivering instruction, like co-teaching models and blended learning environments.

- TSDL data are linked multiple times per year to account for changes in staffing and course schedules throughout the year.

- The teacher of record definition is robust and links teachers and students through the delivery of instruction (e.g., is responsible for student learning or provides instruction aligned with performance measures), rather than the teacher's administrative duties (e.g., the teacher assigned to the class or the teacher who submits the final grades).

How can a state achieve this?

States can design their TSDL with the capacity to accommodate state-specific learning environments (e.g., to include various teaching roles, such as cooperative teachers, and to address students who attend virtual schools or are in other nontraditional settings). In addition, see Focus Area 2 for more information on creating a robust teacher of record definition for use in a state TSDL.

**FOCUS AREA
2**

Teacher of Record Definition

The teacher of record definition provides a framework for describing the purposes, characteristics, and data elements required for an effective, reliable TSDL. The definition serves as the foundation of the TSDL and offers a common understanding and language for the TSDL work in the state. The definition reflects the state's education policies and priorities.

Kentucky's Teacher of Record Definition

A Teacher of Record in a Kentucky public school is a certified teacher who has been assigned the lead responsibility for the student's learning in a subject/course aligned to Kentucky Core Academic Standards or Career and Technical Skill Standards Documents.

A Contributing Professional in a Kentucky public school is an individual who has been assigned the responsibility to provide additional services that support and increase a student's learning.

Why does the teacher of record definition matter?

The robustness of a state's teacher of record definition dictates how accurately the state attributes key student outcomes to individual teachers. To ensure that the linkages made through a state's TSDL are accurate and yield data that can be used to inform decisionmaking, states need a teacher of record definition that includes instruction (as opposed to the teacher who is assigned to the classroom or submits the final grades, who may or may not be responsible for the student's actual learning in the classroom).

What makes a robust teacher of record definition?

- The teacher of record definition links teachers and students through the delivery of instruction (e.g., is responsible for student learning or provides instruction aligned with performance measures), rather than the teacher's administrative duties (e.g., the teacher assigned to the class or the teacher who submits the final grades).

- The teacher of record definition is robust enough to address different data uses and encompasses a variety of instructional models (e.g., co-teaching, blended learning, or online learning).

- The teacher of record definition is communicated to local school districts to ensure that all districts are connecting teachers and students consistently and correctly and are creating accurate links that yield information they can use.

How can a state achieve this?

The Center for Educational Leadership and Technology's Teacher-Student Data Link Project suggests a teacher of record template and framework that states can adapt to meet their needs.

FOCUS AREA
3

Roster Verification

Roster verification is the process by which the list of an individual teacher's students is reviewed by the teacher for accuracy before being used to link teachers and students in the TSDL.

Why does roster verification matter?

Because states can use the TSDL to look at teacher effectiveness, teacher preparation program effectiveness, and other education outcomes, it is critical that the TSDL is built around data that accurately links teachers with the students for whose learning they are responsible.

What should be included in a roster verification process?

- The teacher roster verification process is completed each time data are submitted to the state.

- The roster verification process performed at the local level is supported at the state level (e.g., there are processes for addressing questions or issues that arise, and the state supports districts with tools to ensure that linkages are verified).

How can a state achieve this?

States can require that teachers verify their student rosters rather than administrative or district staff, and states can support the process by instituting and communicating procedures for addressing questions or issues that arise.

K–12 Course Scheduling and Codes

States can map courses in one district to equivalent courses across the state using course catalogues and scheduling codes. This mapping offers a common understanding and language for the TSDL work in the state.

Why do course scheduling and codes matter?

In the TSDL, teachers and students are linked through courses, so it is critical that there is a consistent understanding of how courses are categorized throughout the state. When comparing the outcomes of students in different classes across the state, education leaders and policymakers need to know which courses in one school district are equivalent to which courses in other districts based on the course content, without having to rely on various course naming or numbering conventions.

What do high-quality course scheduling practices and codes look like?

- There is a statewide K–12 course catalogue or the state education agency has the ability to align local course catalogues.

- Mapping is based on the course section (e.g., period of the school day).

- Courses are mapped by a district curriculum staff member, not a data clerk or other administrative staff.

- There are rules or specifications regarding which grades should be linked to each course to help districts spot errors in the linkage (e.g., a K–5 student should have a math, science, social studies, and reading/literacy course).

How can a state achieve this?

If the state does not use a statewide course catalogue, states can still ensure that they have the ability to align local course catalogues. States also can support the mapping process by creating rules and specifications for linking grades and courses.

Governance

The state clearly defines its roles and responsibilities to implement and use the TSDL.

Why does governance matter?

While the work of linking teachers to their students by course is done at the local level, the state has a role in supporting districts in this work. States need governance to ensure that the TSDL is effective, secure, uses high-quality data, reflects the state's education goals, and produces accurate information that education leaders, teachers, teacher preparation programs, and policymakers can use. Good governance and the engagement of stakeholders, such as educators and researchers, improve the quality of the TSDL and also build trust in the TSDL and the information resulting from this link.

What does TSDL governance look like?

- The state has a designated person, such as the director of teacher administrator quality development, or office, such as the Office of Next-Generation Learners, governing the TSDL work.

- The state has transitional processes and resources prepared for leadership or staffing changes.

- The state reviews district interpretation of the teacher of record definition to avoid unintended implementation.

- The state involves stakeholders in the development and updating of business rules.

How can a state achieve this?

States can define governance processes for managing staff changes and reviewing local use of the state's teacher of record definition. The state can also work to identify key stakeholders who can be engaged in developing the TSDL's business rules.

Teacher ID

A teacher ID is a number assigned to each teacher that allows his or her data to be securely linked across various data systems (e.g., teacher preparation, teacher licensure, district administrative records, and professional development records) without using the teacher's name or other personally identifiable information.

Why does a teacher ID matter?

A teacher ID allows information on a teacher's licensure level, class assignments, preparation, performance, professional development, and other information to be accurately linked while protecting the teacher's identity.

What does a high-quality teacher ID look like?

There is a unique or master ID for each teacher.

How can a state achieve this?

States can examine their data governance structures to determine whether a unique or master ID is more appropriate. If the state has numerous data systems that already use different identifiers for the same teacher, a master ID could link across these IDs without requiring changes to the existing systems. If a state is designing a new system or combining current data systems, a single, unique ID number could be assigned for each teacher.