



# Issue Brief

## Getting Smart About Data

700 Broadway, Suite 1200 Denver, CO 80203-3460 303.299.3600 Fax: 303.296.8332 [www.ecs.org](http://www.ecs.org)

### Getting Smart about Data: Satisfying Federal Reporting Requirements While Helping Schools Improve

Chrys Dougherty, Ph.D., director of research  
National Center for Educational Accountability

September 2002

Many state leaders are coming to understand the power of student data collected over time. Longitudinal student data can help educators identify and study best practice, assist in school improvement efforts and objectively evaluate current programs and policies. In addition, these student data systems can:

- \_ Help states satisfy the reporting requirements in the No Child Left Behind Act of 2001 (NCLB) legislation
- \_ Help teachers receive timely information on students transferring in from other districts
- \_ Give educators, parents and policymakers the information they need to improve schools.

Under the NCLB, states are required to set challenging academic standards and measure students' progress against the standards. The new law encourages but does not require states to create longitudinal student data systems that track individual student test scores as well as enrollment and graduation data.

Federal funding is available to help states improve their data collection systems. Title VI, Part A, Section 6111 of the legislation provides that the U.S. Department of Education may fund states to “improv(e) the dissemination of information on student achievement and school performance to parents and the community, including the development of information and reporting systems designed to identify best educational practices based on scientifically based research or to assist in linking records of student achievement, length of enrollment and graduation over time.”

The National Center for Educational Accountability (NCEA) recommends the following steps to create longitudinal student data systems:

- \_ Create a consistent statewide student identifier to connect records of the same students across multiple databases and years.
- \_ Collect the following information *at the individual student level*:
  - \_ Fall enrollment, demographic and program participation data
  - \_ Spring test score data
  - \_ Information on each student who was absent or exempted from testing
  - \_ High school course completion data
  - \_ High school SAT, ACT and Advanced Placement participation and scores

- \_ Graduation and dropout data.
- \_ Develop an audit system to monitor the accuracy of the information that school districts provide.

The following tables explain how collecting the necessary information will help states meet NCLB requirements and improve schools.

## How Collecting the Right Data Helps States Meet Federal Requirements

<b><i>NCLB Requirement</i></b>	<b><i>Recommended State Data Collection Practices</i></b>	<b><i>How This Helps Meet the Requirement</i></b>
States must report test scores disaggregated by student race, ethnicity, gender, disability status, migrant status, English proficiency and economically disadvantaged status. School districts must report the same information by school. (Title I, Part A, Sec. 1111(h))	<p>Collect student-level enrollment data in the fall with information on the student's gender, ethnicity, and low-income, English proficiency and special education status. States may want to establish systems to update the enrollment data between the fall and spring.</p> <p>Print the most recent enrollment information on each student's spring test answer sheet. Give educators an opportunity to change the information if the student's status has changed since the most recent collection of enrollment data. This gets up-to-date information necessary to disaggregate the test score data into the spring test database.</p>	<p>With an accurate student-level database created prior to the administration of the test and updated when the test is given, meeting the federal reporting requirements statewide and by district can be done quickly and easily by a single series of reports run at the state level. Centralizing the reporting function at the state level creates economies of scale that reduce costs relative to having each district create its own reports.</p> <p>Student data will be more accurate if educators preoccupied with the details of spring test administration are not asked to fill in this information from scratch on every student.</p>
States and school districts must report the percentage of students not tested, disaggregated into the same categories used for the test score data. (Title I, Part A, Sec. 1111(h))	<p>Collect individual student records on untested students with information on those students' gender, ethnicity, and low-income, English proficiency and special education status. Two states illustrate different ways to do this:</p> <p><i>Mississippi</i> maintains a dynamically updated state student-level enrollment database. By comparing this database on the day of the test and with the test data, the state can identify the number and demographics of absent or otherwise untested students in each school.</p> <p><i>Texas</i> requires school districts to submit a test answer document on each untested student with the header section filled out to describe why the student was not tested.</p>	Collecting student-level data and combining the students into categories enables the state to look at patterns of who is not tested. Creating an enrollment database that is separate from the test score database helps the state keep track of untested students.
States must keep track of	Collect student-level enrollment	Some states simply ask districts

<b>NCLB Requirement</b>	<b>Recommended State Data Collection Practices</b>	<b>How This Helps Meet the Requirement</b>
which students in tested grades were enrolled in the same school or district since the fall, as these are the students who must be counted in order to determine whether a school or district is meeting the law's Adequate Yearly Progress (AYP) requirements. (Title I, Part A, Sec. 1111(b)).	data in the fall and match those records by individual student to the student-level test score data in the spring. Maintain a statewide student identifier system to facilitate matching the records.	to mark on the test score record whether a student has been enrolled in the same school or district since the fall. Collecting enrollment data in the fall and matching the records enables the state to check the accuracy of this information.
School districts receiving Title I funding for dropout prevention programs must report their annual dropout rates by school at the end of the first year of funding. (Title I, Part H, Section 1830(a)).	Collect student-level enrollment data in the fall and match records by statewide student identifier to keep track of students who change districts.	Accounting for students who transfer across districts provides a valuable check on the accuracy of dropout data. An analysis of dropouts in Texas by NCEA showed that districts report many students as interdistrict transfers who do not actually enroll in another district, resulting in an undercount of missing students. It is possible to estimate the number of students who leave the state's public education system entirely to transfer out of state or to private school by observing attrition in lower grades where dropping out of school is not common – but this is feasible only if there is a statewide student identifier. By knowing the number of graduates and missing students and having good estimates of the likely number of transfers, annual dropout rates can be more accurately estimated. <sup>1</sup>
School districts receiving Title III funds for bilingual or English as a Second Language (ESL) instruction must submit, after the first two years of funding, a description of the progress made by children in meeting state proficiency requirements for the two years after they leave the program. (Title III, Section 3121(a)).	Collect student-level data on enrollment, bilingual/ESL program participation and test scores and use a statewide student identifier system to follow students over time after they leave bilingual or ESL programs.	When students change districts, data about their participation in bilingual or ESL programs does not go with them from one district to the next. Linking individual student records over time makes it possible for the state to keep track of students who change districts within the state and for districts to reported the required information. <sup>2</sup>

## How Collecting the Right Data Helps States Improve Schools

In addition to meeting the federal requirements, research suggests that there are several other ways collecting the right data can help improve schools.

<sup>1</sup> Estimating dropouts by looking at greater-than-normal attrition rates from public schools combines public school leavers who enter GED programs with non-GED dropouts. States wishing to disaggregate the two groups may want to explore ways to match their student records with those of students obtaining GEDs.

<sup>2</sup> States may still lose track of students who leave the state's public education system.

<b>School Improvement Need</b>	<b>Recommended State Data Collection Practices</b>	<b>How This Helps Meet the Need</b>
Teachers need timely information on students entering their classrooms, even when those students are recent transfers from another district.	<p>Maintain a student-level longitudinal assessment database at the skill, instructional objective and item level.</p> <p>Establish a system to receive data requests from schools, verify the student's identity and download the student's past achievement information so teachers can individualize instruction. Arkansas maintains such a system.</p>	<p>Teachers receive information on the specific academic strengths and weaknesses of their new students.</p> <p>Teachers do not depend on time-consuming student record requests from other districts in order to learn about their incoming students who transferred from another district.</p>
Educators need to identify consistently high performing schools to identify and study best practices.	<p>Collect student-level enrollment data in the fall to identify which students have been enrolled in the same school or program for more than one year.</p> <p>Match test score and enrollment records over time by statewide student identifier.</p>	Knowing how long students have been enrolled in a school and how well prepared they were when they first entered helps identify high performing schools. Schools can be compared based on analysis of the performance of continuously enrolled students and value-added analysis of student academic growth.
Educators, parents and policymakers need to find out whether students are being prepared for success after high school.	<p>Collect student-level data on completion of advanced courses in middle and high school.</p> <p>Collect student-level data on SAT, ACT and Advanced Placement participation and success.</p> <p>Match this information back to the same students' 8<sup>th</sup> grade test scores.</p>	Parents, educators and policymakers can know whether students who leave 8 <sup>th</sup> grade at different levels of academic preparation are taking advanced courses in high school and becoming well prepared for success in college and beyond.
Educators, parents and policymakers need to identify early academic goals that prepare students for later success.	<p>Collect student-level test score data in elementary, middle and high school students.</p> <p>Match these records over time using a statewide student identifier.</p>	Parents, educators and policymakers can predict how to build success. For example, an analysis using Texas data showed that students must reach the proficiency standard on the 8 <sup>th</sup> grade state mathematics exam in order to have a better-than-even chance of passing the state algebra exam in 9 <sup>th</sup> grade. This lets educators and policymakers know that they need to target mathematics proficiency by 8 <sup>th</sup> grade in order to prepare students for algebra.

© Copyright 2002 by the Education Commission of the States (ECS). All rights reserved.

The Education Commission of the States is a nonprofit, nationwide organization that helps state leaders shape education policy. It is ECS policy to take affirmative action to prevent discrimination in its policies, programs and employment practices.

To request permission to excerpt part of this publication, either in print or electronically, please fax a request to the attention of the ECS Communications Department, 303.296.8332 or e-mail [ecs@ecs.org](mailto:ecs@ecs.org).