National Center for Educational Accountability

Getting Smart about Data:

Satisfying Federal Reporting Requirements While Helping Schools Improve

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Under the No Child Left Behind Act of 2001 (NCLB), states are required to set challenging academic standards and measure students' progress against standards. The new law encourages but does not require states to create longitudinal student data systems that link individual student test score, enrollment, and graduation records over time.

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."

Many state leaders are coming to understand the power of longitudinal student data to help educators identify and study best practice, assist in school improvement efforts, and evaluate current programs and policies objectively. To get the most benefit from the data, the National Center for Educational Accountability recommends that states create longitudinal student data systems by taking these steps:

1. Create a consistent statewide student identifier to connect records of the same students across multiple databases and years.
2. 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.
3. Develop an audit system to monitor the accuracy of the information that school districts provide.

Longitudinal student data systems will:

- Help states satisfy the reporting requirements in the 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.

The tables in the next few pages explain how collecting the necessary information will help your state meet NCLB requirements and improve schools.

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How Collecting the Right Data Helps Your State Meet Federal Requirements

NCLB Requirement	*Recommended State Data Collection Practice*	*How This Helps Meet the Requirement*
1. 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))	✓ 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. ✓ Print the most recent enrollment information on each student's spring test answer document and 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 into the spring test database that is necessary to disaggregate the test score data.	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. 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.
2. 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))	✓ 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: *Mississippi* maintains a dynamically updated state student-level enrollment database. By taking a "snapshot" of this database on the day of the test and comparing it with the test data, the state can identify the number and demographics of absent or otherwise untested students in each school. *Texas* 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.	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.

NCLB Requirement	*Recommended State Data Collection Practice*	*How This Helps Meet the Requirement*
3. States must keep track of 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)).	✓ Collect student-level enrollment 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.	Some states simply ask districts to bubble in 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.
4. 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 transfer to another district, resulting in an undercount of missing students. Estimates of the number of students who leave the state's public education system entirely to transfer out of state or to private school can be obtained by observing attrition from the state student-level database in lower grades where dropping out of school is not common– 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.[1]
5. 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, Sec. 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, school districts cannot keep track of students for two years after they leave the program. Linking individual student records over time makes it possible for the state to keep track of students who change districts within the state.[2]

[1] 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.
[2] States may still lose track of students who leave the state's public education system.

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How Collecting the Right Data Helps Your State Improve Schools

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