The research and data are clear—teachers are the single most important factor impacting student achievement. Since teachers have this much influence on students, it is imperative to understand what highly effective teachers do in the classroom. Simply put, we need to know which teacher teaches what subject to which students. And, we have to know how long this contact between teachers and students lasts. While this may seem simple, the greatest challenge states and districts currently face is accurately capturing all of the complex variables that describe the relationships among teachers and students.

Discrepancies and Variation in Data

Working with hundreds of districts and thousands of schools across the country, Battelle for Kids has learned that virtually every school has required significant revisions or modifications to teaching assignments, number of students taught, the mobility of students and the instructional responsibility attributed to a single teacher.

In spring 2010, more than 125,000 rosters were verified by educators in South Carolina, Texas, Ohio and Oklahoma. Recent analyses of linkage results from schools across the country yield alarming results, including:

Large Urban Schools	Small Rural Schools	On Average	Nearly
33% of students linked to more than one teacher in a subject	**11%** of students linked to more than one teacher in a subject	**9%** of the teachers in the source data had incomplete or incorrect content area association	**40%** of rosters were changed from district-reported data through the teacher linkage process

Variation in the Number of Teachers Reported			
	# of Teachers Verified Through Linkage	**Misidentified** # of Teachers Reported by the District Not Verified As Teaching Subject	**New** # of Teachers Verified Through Linkage Not Reported by District
Large Urban District			
Reading	528	55	43
Math	489	65	46
Small Rural District			
Reading	37	1	5
Math	26	3	7

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What is the impact on value-added, performance pay and evaluation?

Impact Associated with Inaccurate Data

Without reliable data and information, educators, policy-makers and others will make inaccurate assumptions about instructional practices and students' performance. Inaccurate or incomplete data also impact the credibility of school transformation. Stakeholders who support goals for transformation will question and doubt every decision if they even suspect there are errors in the data upon which decisions are being made. Consider the following examples:

Value-Added Information

Without accurately linked data between teachers and students, value-added reports will not provide a true picture of what's happening in the classroom because:

- The number of students included in the analysis, as reported through the teacher-student linkage process, has been proven to vary considerably and will have an impact on value-added results, especially with small class sizes (i.e., self-contained elementary or special education classes).
- Therefore, the data may reveal ineffective teachers as effective or effective teachers as ineffective by analyzing an inaccurate population of students and their test results.

Misidentification of Subjects

If teachers are not accurately associated with the subjects they taught in the data leading up to analysis, they will be associated with the wrong subject in the analysis. As a result, teachers may be recognized as effective or ineffective in subjects they did not teach or lack analysis in subjects they did teach.

Strategic Compensation

Consider the impact of using incorrect data to drive performance-pay programs for teachers and principals. With inaccurate data, it is possible for districts to:

- Reward the wrong people—ineffective teachers may be improperly rewarded or vice versa.
- Reward educators for the wrong things (i.e. rewarding a teacher in a content area a teacher never taught while not recognizing a teacher who did).

Evaluation

When using value-added information as a component of an educator's evaluation, it is imperative to have the most reliable information to ensure that teachers are not misidentified, mislabeled or mistreated due a flawed analysis based on inaccurate data.

The Bottom Line: Involve Teachers in the Process to Obtain the Most Accurate Teacher-Student Linkages

Before any analysis of teacher effectiveness can be completed, the instructional linkage between teachers and students must be captured accurately and transparently. Therefore, the data going into the analyses must be as accurate as possible and teachers must play a role in the verification process. When teachers are involved in the process, they have more confidence in the data being used to measure their impact on students' performance.

Battelle for Kids
Bringing clarity to school improvement

To learn more, contact us at 614-481-3141 or visit www.BattelleforKids.org.