

Linking student achievement to teacher evaluations

By James H. Stronge and Pamela D. Tucker

Almost every state, in one form or another, mandates standards-based student assessments and accompanying teacher-administrator accountability systems. And, more recently, many states and local school boards have begun connecting the two. Given this movement, what role should student achievement play in teacher evaluation? Principal evaluation? Superintendent evaluation? If you are contemplating making this connection, this sidebar offers guidelines for connecting student performance to teacher and administrator performance.

1. Use student learning as only one component of an educator evaluation system that is based on multiple data sources.

Student learning can be very useful for judging the effectiveness of teachers and administrators, but they should never serve as the sole source for evaluating performance. Rather, multiple sources of information



should be considered in order that a more complete picture of performance can be developed.

2. When judging educator effectiveness, consider the

context in which teachers and administrators work.

There are circumstances when teachers and administrators have done everything feasible to enhance student

performance but conditions beyond their control, such as unreasonably large class sizes or classes taught in the cafeteria, prevent maximum benefit by children. Thus, we recommend that consideration be given for student mobility, absenteeism, and other variables beyond the control of the teacher or administrator.

3. Use measures of student growth versus a fixed achievement standard or goal.

In the world beyond schools, very few human endeavors are judged in terms of fixed goals; more typically, they are based on growth and progress toward stated goals. Even the hard-nosed world of business judges performance based on a variety of economic indicators and comparisons to projected growth. We propose that the same paradigm be used in education with an acknowledgment of possible learning inhibitors and comparisons to projected learning growth. This approach

Continued on page 2

Chilton decisions based on fact rather than feeling

For the Chilton School District in Chilton, WI, life before a data warehouse resembled that of many other school districts across the country. They conducted their daily business of teaching and learning with very little emphasis placed on data. State test reports and other measures of account-

ability were seen more as an inconvenience and something that "had to be done" rather than something that could be used to change instruction for children.

Traditionally, Chilton has been a very high performing district academically. With such success, there comes a certain degree of compla-

cy. It took some convincing and the implementation of the No Child Left Behind Act of 2001 to once again focus on continuous improvement. With this renewed commitment, attention began to be placed on data and how it could be used improve an already

Continued on page 3

Inside this issue:

Help Desk	2
In the News	3
Profile: Dr. James Stronge	4
Query of the Quarter	4
Message from the CEO	5

requires the use of pre- and post-testing to determine progress versus the attainment of predetermined pass rates or proficiency levels.

4. Compare learning gains from one point in time to another for the same students, not different groups of students.

Implicit in the concept of gain scores is the assumption that similar tests will be used to measure student learning across time on an individual basis. Teachers and administrators are not gauged in a fair manner, however, when the absolute achievement level of one class of students is compared to the absolute achievement of a different class of students. This type of comparison invites a bias in measuring gain scores that should be eliminated, not perpetuated.

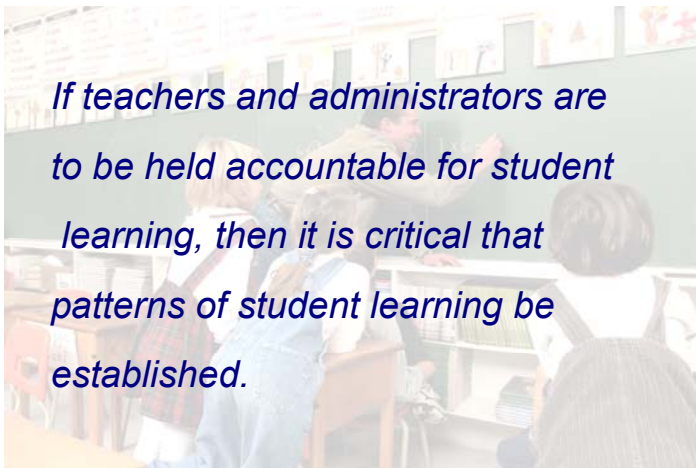
5. Recognize that gain scores have pitfalls that must be avoided.

Even when measures of student growth are used, it is critical to properly interpret gain scores. In particular, statistical artifacts known as the regression effect and ceiling effect need to be considered. It results in a tendency for students starting with low performance levels showing larger gains than warranted. Conversely, students who start with high performance may show lower gains, or even declines, if the measure of student achievement is not adequately difficult to measure what those high-scoring students know.

6. Use a timeframe for evaluation that allows for patterns of student learning to be documented.

If teachers and administrators are to be held accountable for student learning,

then it is critical that patterns of student learning be established - not single snapshots.



If teachers and administrators are to be held accountable for student learning, then it is critical that patterns of student learning be established.

Repeated measures of student learning over time enhance reliability from a statistical point of view and credibility from a decision-making perspective.

7. Use fair and valid measures of student learning.

Reliability, validity, freedom from bias, and fairness are obvious concerns and conditions for connecting student assessment to teacher evaluation.

8. Select student assessment measures that are most closely aligned with existing curriculum.

Given that there are no national curriculum standards, test makers must make choices in what content they select for inclusion on standardized tests and other measures of student performance. Their selections may or may not reflect state or local curriculum. Standards-based tests, however, should be selected based on their general or predominant alignment with the articulated curriculum. Tests that are disconnected from curriculum may provide a gauge of what students know compared to other students in the

same grade across the nation, but they hardly provide a basis for judging teaching

effectiveness. The value of student assessment measures for educators is proportional to their alignment with the curriculum.

9. Don't narrow the curriculum and limit teaching to fit a test unless the test actually measures what should be taught.

Another unintended but predictable consequence of selecting standardized tests that are not aligned with the

curriculum is the distortion of the curriculum to meet the demands of the test. Ideally, curriculum and instruction drive assessment, but if assessment is fixed and determines high stakes decisions, such as teacher or administrator evaluation, then it can drive the curriculum and instruction. Make sure that what you test is an appropriate fit what you intend students to learn.

Summary

Student achievement can be, indeed, should be an important source of feedback on the effectiveness of schools, administrators, and teachers. The challenge for educators and policy makers is to make certain that student achievement is placed in the broader context of multiple indicators of what teachers are accomplishing.

Excerpt from Teacher Evaluation and Student Achievement by James H. Strong and Pamela D. Tucker, National Education Association, 2000.

Help Desk

How is your data used?

When preparing data for inclusion in your data warehouse, it is very important to keep in mind just how your data might be used in the future.

- Whenever possible, use data from the same sources from year to year.

- Collect and analyze as much data as possible. Use multiple measures.

- Always consider the nature, size and characteristics of the group being tested.

- Be sure to know what is being measured.

- Remember that large-scale assessment data are about the school's program — not just about the grade at which the assessment is administered.

- Compare performance from different groups of students (disaggregated data). The goal is to reduce differences in performance among groups while increasing excellence for all.

In the News

New edition of 'Data Analysis' published

What separates successful schools from those that will not succeed in their reform efforts is the use of one, often neglected, essential element – data.

With clear and concrete examples from both elementary and secondary schools, *Data Analysis for Continuous School Improvement* shows what data to gather and how to use data to improve all aspects of schools.

Written by Dr. Victoria L. Bernhardt, the second edition of *Data Analysis* enables readers to find out where they are, where they want to be, and how to get there – sensibly, painlessly and effectively.

“Schools are powerful organizations. Every day, across the United States, schools are impacting the lives of millions of children and the future of our very

existence. Schools become even more powerfully efficient and effective when data play an active role in their operations,” Bernhardt writes in *Data Analysis*.

In his foreword for the book, TetraData Corporation Chairman and CEO Martin Brutosky notes how Bernhardt’s work helps educators integrate No Child Left Behind into their processes and thinking.

“Accountability is here to stay, and that can be good news since standards-based testing provides another important data source on our quest for data-driven decision making,” Brutosky says.

“This second edition by Dr. Bernhardt . . . is truly a representation of ‘Good to Great,’ to borrow a modern phrase. This work is full of practical examples of how educators have used data analysis and continuous improvement processes to not only recog-

nize and isolate symptoms, but how educators discovered the core causes and actually modified their processes, thus overcoming problems for today and tomorrow,” he says.

Bernhardt is the executive director of the Education for the Future Initiative, a not-for-profit organization whose mission is to build the capacity of all schools at all levels to gather, analyze and use data to continuously improve learning for all students. In addition to the first and second editions of *Data Analysis*, she is the author of *Using Data to Improve Student Learning in Elementary Schools*; *The School Portfolio Toolkit: A Planning, Implementation and Evaluation Guide for Continuous School Improvement*; *The Example School Portfolio*; *Designing and Using Databases for School Improvement*; and *The School Portfolio: A*

Comprehensive Framework for School Improvement. *Data Analysis for Continuous School Improvement* is published by Eye on Education in New York.

Woodward named ‘Tech-Savvy’ Superintendent

eSchool News recently named Dr. Karen Woodward, superintendent of Lexington School District One (S.C.), a recipient of its Tech-Savvy Superintendent Awards.

Woodward, who has chaired several state committees on educational technology, believes a digital, knowledge-based environment will characterize learning in the 21st century.

“It is essential that we close the gap between schools and life outside of schools,” Woodward says (*eSchool News*, February 2004, v.21).

Chilton decisions *continued from page 1*



Becky Blink,
Chilton School District

good system.

Chilton School District began its partnership with TetraData by purchasing EASE-e™ Data Analyzer in

the spring of 2002. According to Becky Blink, Chilton’s director of curriculum and instruction, “That decision was the single most important decision in Chilton’s journey toward school improvement.” The implementation of the EASE-e Data Analyzer was the force behind a complete culture change in the Chilton School District. Decisions began to be made based on fact rather than feeling.

When school officials wanted to know if support services were helping children to achieve more, they were able to look at the students who participated in the program and track their pro-

gress. They could determine whether or not programs were successful based on student data rather than on their feelings about the program. When test data revealed that some special needs children were doing poorly on tests, school officials were able to determine why and adapt their testing gleaned with EASE-e Data methods and staff training to help maximize the potential of these students. Data gleaned with EASE-e Data Analyzer enabled educators to make sound decisions directly impacting student success.

By analyzing their data, Chilton school officials tailor

their curriculum, staff development and test administration to meet the needs of individuals. The Chilton School District has moved beyond simple statements of fact and used their data to develop ways to improve current practices aimed at meeting the needs of every child.

“You may say that I could have done all of these things without the use of EASE-e Data Analyzer, and maybe I could have,” Blink says. “However, what used to take me days and even weeks to analyze and interpret can now literally be done in minutes.”



With teacher effectiveness under the microscope in education systems across the country, it's no wonder that the work of Dr. James Stronge is becoming more and more prevalent and important.

Stronge, professor in the Educational Policy, Planning and Leadership Area at the College of William and Mary, is a leader in the research of teacher effectiveness and student success, and teacher and administrator performance evaluations. He has worked with numerous school districts and state and national educational organizations to design and develop evaluation systems for teachers, administrators, superin-

tendents and support personnel.

A recent project for Stronge involved designing a teacher evaluation system for The School District of Greenville County (S.C.). With a design team of teachers, administrators and staff, he developed a pilot program involving 10 schools with plans to add 28 more in 2004-05.

"The evaluation system has several facets," Stronge says. "One, it clearly establishes performance standards for teachers. Two, it uses multiple data sources, such as student surveys, teacher portfolios and classroom observation. Three, it measures student academic performance. And four, it contains an evaluation rubric used for evaluating the performance of all teachers — tenured and non-tenured."

He is also spearheading, in conjunction with SERVE (the regional educational laboratory located at the University of North Carolina, Greensboro), research in the connection between teacher effectiveness and student achievement for National

Board Certified teachers.

Stronge says in analyzing school systems across the U.S., he believes the jury is still out on the effectiveness of NCLB.

"With NCLB, it's still early in its development to know if it will make a positive impact," he says. "I concur with a lot of criticism emerging from states in that it is intrusive. It places unreal burdens on states and their school districts. On a positive note, if the real intent of NCLB is to foster teacher quality and to truly leave no child behind, then it may

prove beneficial."

He notes that when it comes to most facets of education — whether it is teacher effectiveness or student success — data should be a driving force in decision making.

"Using data in making decisions has always been important in education. It's just that we've always ignored it," Stronge says. "We've been flying in the dark. If we try to make decisions based on opinions or speculation, we have no basis for where we are or where we're going."

LEARN MORE

Dr. James Stronge:

- Obtained a doctorate in educational administration and planning from University of Alabama
- Has worked as a teacher, counselor and district-level administrator
- Is the author or co-author of numerous articles, books and technical reports on teacher quality and performance evaluation
- Serves as the associate editor for the *Journal of Personnel Evaluation in Education*

Query of the Quarter: Below Basic Math Students

Editor's Note: This query was created using a generic demo warehouse. Just replace the attributes that are not in your warehouse with the same type of attribute from your district's warehouse (i.e. the PACT attributes would be replaced with your State CRT attributes).

I'm a middle school principal and I want to see how the students who come to my school at a Below Basic

performance level in Math are faring after their first year at my school. Are certain students rising above the Below Basic level? If so, what do they have in common?

First, I'll need to find those students who come to me as Below Basic. My school starts with Grade 6, so I'll want to find the 5th graders at my feeder elementary school the year before they come to

the middle school.

My measure will be a Count of the Test Object (i.e. PACT, CSAP, PSSA, TAAS, AIMS, etc).

My time period will be 2001-2002.

From the Objects Panel, I'll add my feeder school and Grade 5 to the Columns. Then I'll add the Below Basic Performance Level to the

Rows:	PACT.Revised Score Level:Math;
Columns:	School.School Name; Student,Grade;
Background:	2001-2002; Count of PACT; Results;
	Smallville Elementary School
	Grade 5
Below Basic	32

Once I have the count of the Below Basic group, I need to look at this same group the following year. To hold onto this specific group, I'll right-click in the cell containing the results and select Create TimeSet Rows and run the query.

Continued on page 5

Writing the next chapter

We have arrived at the end of the beginning.

When we established TetraData Corporation’s education mission back in 1998, our goal was to give education leaders the tools necessary to make better, more powerful decisions—backed by solid data—to impact student achievement.

Six short years later, we believe we are closing in on fulfilling that need.

Now we are writing a new chapter in the TetraData story — one fueled with no less passion to make a difference in the lives of students than we had at our inception, and one that reaches to the increasing needs of educators.

We have reached this point in our company’s history as the demands placed on educators are mounting daily. In

an era of No Child Left Behind and more stringent teacher accountability, data driven decision-making is paramount.

In essence, a culture change is imminent. We invite you, as the leaders in education, to join us in our quest to evoke change — to create an environment throughout our education system where continuous improvement is a fibrous process in education.

We have come to understand that this culture shift is more than just a passing historical moment. The demand for student proficiency will remain long after the laws surrounding them cease grabbing the headlines.

So how do we respond to this shift? By pledging to partner with education leaders in providing cutting-edge

professional development, change management, and communication infrastructure necessary to affect human change.

In turn, we want to enlist those from the superintendent’s office to the classroom who have the tenacity to revolutionize education in order to meet continuing demands for success.

This new shift in culture, however, will not affect one thing fundamental at TetraData — our dedication to investing in our products and solutions. If anything, that facet of our business will only be enhanced.

TetraData is going to invest in more quality people. We have found a way to recruit and develop people that care about children, about education and about our customers’ needs. We will invest in

technology that helps all of us use data more frequently and meaningfully, e.g., a dynamic education dashboard that has critical benchmark data available daily to teachers, counselors, principals, district staff, superintendents, etc. We will also invest in professional development since human change is key to this time of transformation.

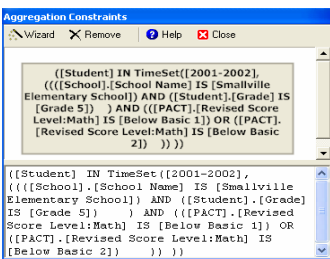
So as we embark on this new beginning, we offer our thanks to those districts, regional centers and state departments of education which saw not only the value in our products and solutions, but also the value in making smart, sound decisions through data analysis.

Join us as we write the next chapter for TetraData.

— Martin Brutosky

Query *continued from page 4*

Constraint From This Cell. I’ll choose Student as my constraining Object and click OK. A window similar to the one below will display. Click Close.



I’ll now remove the school, grade and performance level attributes from the query and add 2002-2003 to the time periods.

From the Objects Panel, I’ll add all of the Performance Levels to the Rows and run the query.

	2001-2002	2002-2003
Below Basic 1	17	11
Below Basic 2	15	6
Basic		10
Proficient		1

I can see that out of the original 32 Below Basic students, only 28 ended up at my school and 11 of those are now testing at Basic or above levels. I can now add additional information to the query to look for any similarities among those who improved. I can add teacher names and courses and then limit the courses to only math classes.

After adding classes and teachers, I can see how the students performed by each math teacher. For example,

		2002-2003			
		Math 6-M	Math 6-H	Academic Assistance: Math	Supplemental Mathematics
Below Basic 1	ESPERIQUETA, J. F.			5	
	SUGG, P. F.				6
	TRUHN, P. J.	3			
Below Basic 2	STAFFORD, L. F.	2			
	ESPERIQUETA, J. F.			5	
	COTTO, X. B.	2			
Basic	HERRERA, L. F.	1			
	STAFFORD, L. F.	2			
	MINCEY, V. P.	4	1		
	ESPERIQUETA, J. F.			9	
Proficient	COTTO, X. B.	2			
	SUGG, P. F.				2
	ESPERIQUETA, J. F.			1	
	HERRERA, L. F.	1			

Ms. Mincey had 5 of the Below Basic students in her classes, and all 5 tested at Basic or above. Perhaps she uses specific techniques that are well-suited for the Below Basic student that can be passed along to other teachers. It is also important to note that while Ms. Sugg had 8 of the Below Basic stu-

dents and only 2 rose to Basic, her Supplemental Math class is geared towards learning disabled students, so even though the percentage of her students who went up a level isn’t as high as others, the achievement is just as notable.

— Mary Hucks