UNDERSTANDING TVAAS

Student Growth Data and Tennessee’s Teacher Evaluation System

Fall 2017
UNDERSTANDING TVAAS: STUDENT GROWTH DATA AND TENNESSEE’S TEACHER EVALUATION SYSTEM

MULTIPLE MEASURES OF TEACHING EFFECTIVENESS
In school year 2011-12, Tennessee introduced a method of teacher evaluation that uses three measures to identify and support effective teaching:

- Student achievement
- Student academic growth
- In-class observation scores

Together, these measures provide a fuller picture of teaching quality than any one measure alone. Research has shown that using several rigorous measures of student learning and classroom-based instruction provides an accurate account of teacher effectiveness. When multiple measures are used to evaluate teaching quality, results reliably predict a teacher’s future impact on student learning.¹

An important component of this multiple-measure evaluation system is student academic growth, as measured by a value-added system. In Tennessee, student academic growth is measured through the Tennessee Value-Added Assessment System (TVAAS). TVAAS measures student academic growth on state standardized assessments to provide evidence of teachers’ impact on student learning over time. TVAAS results, when used along with other evaluation measures, provide important points of comparison to understand teaching effectiveness.

WHAT THE RESEARCH SAYS ABOUT MEASURES OF TEACHING
Inside schools, teachers are the single greatest factor in student academic success.² Research shows that it is possible to measure a teacher’s impact on student learning, and significant differences in student learning result from varying levels of teaching quality.³ Effective teaching can be the difference between a student excelling...
or falling behind. Therefore, measures of teaching effectiveness have wide-ranging implications for human capital decisions, including hiring, compensation, and professional learning.

Before 2011, teacher evaluations in Tennessee were based almost exclusively on classroom observations by the principal, and few high-quality measures of teaching ability were used. Principals employed a basic performance rubric to formally evaluate teachers in their first three years of teaching, then once every five years following. In less formal observations of teaching, the teacher evaluation scale involved only two options, satisfactory or unsatisfactory. Research has shown that 94-99 percent of teachers receive a satisfactory rating under this scale. Education credentials and cumulative years of experience, which have weak or no demonstrated connection to student learning, played a primary role in steering hiring and compensation decisions.

**HISTORY OF TVAAS**

In the 1980s, Tennessee began to explore how to differentiate and reward good teaching. Dr. William L. Sanders and Dr. Robert A. McLean of the University of Tennessee-Knoxville devised a statistical model to measure the impact that different teachers had on student outcomes using student assessment data collected over time. After the General Assembly passed the bipartisan Education Improvement Act in 1992, which required the Tennessee Department of Education to monitor student academic growth, TVAAS was created based on the Sanders-McLean model. Tennessee became the first state to measure student growth through a robust statistical model and now has a quarter-century of data. Between 1993 and 2010, principals and teachers received informational reports on student growth in their schools and classes. In 2010, through another bipartisan effort, the First to the Top Act incorporated TVAAS data into Tennessee’s teacher evaluation system.

**HOW TVAAS WORKS**

TVAAS is calculated by comparing a student’s performance on a state assessment to the performance of peers who have a similar testing history. The difference between how a student would be expected to perform and his or her actual performance results in an annual measure of growth.

**WHAT A TVAAS SCORE REPRESENTS**

A teacher’s TVAAS score is based on whether his or her class of students, on average, makes more, less, or about the same progress as similar students across the state. Teachers’ value-added data are incorporated into their evaluation as a composite of up to three years of value-added scores for all eligible subject areas and grades. A teacher’s final value-added score is called the TVAAS evaluation composite.

Source: Tennessee Comptroller, 2014
For example, consider two sixth-grade students, Donna and Jack. Donna does really well in both reading and math. Jack gets high scores in math but struggles in reading. These results have been consistent across multiple years. When they get to the seventh grade and take the social studies test, we know that, based on their testing history, Donna will likely do better than Jack because she is good at reading – a critical skill for social studies. Therefore, Donna and Jack, instead of being compared to one another, would be compared to other students with a similar testing history to determine expected versus achieved growth.

Because academic growth is calculated each year in relationship to each student’s performance on state assessments, TVAAS can provide a basis for determining a teacher’s contribution to student growth. At the end of each school year, teachers receive a TVAAS composite score between level 1 (below expectations) and level 5 (above expectations).

Measures of student growth are different from measures of student achievement. Achievement provides a snapshot of a student’s learning level compared to academic standards for that subject and grade. Achievement levels reflect whether a student falls below, meets, or exceeds the expectations set by the standards. Measures of growth provide a different, but equally important, indicator of student learning. Assessing student academic growth through a value-added calculation shows how much a student’s learning did or did not progress over a year in class. Even if a student did not make enough growth to move into a higher achievement category, the progress the student did make is still accounted for through a growth measure. Value-added data indicate how much a teacher contributed to that learning. Along with teacher observations, student

### TENNESSEE TEACHER EVALUATION SYSTEM: AT A GLANCE

<table>
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<th></th>
<th>Teachers In Tested Subjects*</th>
<th>Teachers In Untested Subjects*</th>
</tr>
</thead>
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<tr>
<td>Qualitative Data</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>TVAAS (Individual)</td>
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<td>15%</td>
</tr>
<tr>
<td>Achievement</td>
<td>15%</td>
<td></td>
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</tbody>
</table>

Source: State Board of Education, 2016

*Challenges related to major assessment transitions prompted the Tennessee General Assembly in 2016 to provide teachers increased flexibility in evaluation options.
achievement and growth measures are crucial to understanding teaching effectiveness.

**TENNESSEE’S TEACHER EVALUATION SYSTEM**

The weighting of Tennessee’s multiple-measure teacher evaluation system balances in-classroom teaching performance with the impact of that teaching. Classroom observation continues to comprise at least half of the evaluation. For teachers of English language arts, math, social studies, and science, student academic data makes up the other half of the evaluation. The TVAAS measure is 35 percent and a student achievement measure selected by the teacher is 15 percent.

The combination of student growth measures, results from classroom observations, and other student performance measures produce a fuller view of teachers’ strengths and opportunities for improvement than any single measure can offer.

**HOW TVAAS CAN HELP IMPROVE STUDENT OUTCOMES**

TVAAS data, when used with classroom observations, provide teachers with information that can help them identify students in need of additional support and inform instructional strategies. TVAAS data help teachers reflect on their craft and identify instructional strengths, as well as opportunities for improvement. This kind of evidence-based self-reflection allows teachers to see strengths and weaknesses in certain content areas and with certain groups of students.

TVAAS data also provide school and district leaders key information on overall student academic growth, facilitating conversations about teacher placement and school and district priorities. For example, TVAAS data

**HOW TVAAS HELPS EDUCATORS**

For teachers, TVAAS data can:
- Help teachers understand student strengths and set goals for academic growth during the year.
- Identify instructional strengths and areas of opportunity.

For principals and district leaders, TVAAS data can:
- Inform the distribution of teachers between and within schools.
- Inform professional learning strategies and key areas of support.
can be used to ensure that highly effective teachers are distributed equitably between and within schools. These data can help administrators and districts create systemic incentives to attract and retain highly effective teachers in difficult-to-staff schools.

TVAAS data help school leaders identify teachers who need support and determine specific content areas where such support should be directed.

**TEACHER PERCEPTION OF TENNESSEE’S EVALUATION SYSTEM**

According to a statewide survey of Tennessee teachers in 2017, 74 percent of teachers reported the state’s evaluation system has led to improvements in teaching—an increase from the 38 percent who responded favorably in 2012. Further, 70 percent of teachers believe the evaluation process has led to improved student learning—an increase from 28 percent in 2012. These results reflect widespread agreement by teachers that the evaluation system is providing information to improve teaching and increase student learning.
OPPORTUNITIES FOR IMPROVEMENT

Approximately 48 percent of teachers in Tennessee teach tested subjects, and therefore receive an individualized student academic growth score through TVAAS. However, the majority of teachers receive a school-wide student growth measure on their evaluation based on performance in math or English language arts.

While school-wide, shared academic growth measures encourage collaboration among teachers in different subjects to support student learning, data on individual teachers’ contribution to student growth are too limited. Survey and focus group data from Tennessee educators show the more personalized the growth data, the more inclined teachers are to consider the data as they reflect on their practice and instructional strategies. Alternative growth models, which provide comparable student growth measures in non-tested grades and subjects, equip teachers with personalized information on their contribution to student growth. Research has suggested that participating in alternative growth assessments leads to improvements in key teaching practices.

The Tennessee Department of Education has developed and offered several alternative growth assessments, such as portfolio models, that produce an authentic measure of student learning growth unique to a teacher’s students. Through evidence of students’ academic work, portfolio models provide teachers access to measures of student growth they would otherwise not have. Currently available alternative assessments include fine arts, pre-K/kindergarten, first grade, physical education, and world languages. As of school year 2015-16, more than 2,150 teachers in Tennessee used portfolio growth models. If all districts participated in available alternative models of assessing student growth, approximately 70 percent of Tennessee’s teachers could receive individual growth data.

CONCLUSION

In recent years, Tennessee has made historic student achievement gains, setting records for academic progress. According to results from the Nation’s Report Card, Tennessee now ranks in the top 20 states in student achievement for fourth-grade science and in the top 25 for both eighth-grade science and fourth-grade math. Over the time Tennessee has implemented a multiple-measure teaching evaluation system, student performance has risen to the top of states in academic improvement. At its best, a strong teaching evaluation system ensures teachers have the insight and support they need to continuously improve. As they improve their teaching, student performance continues to rise.

In 2016, there were 46 states that had implemented multiple-measure teacher evaluation systems, some of which closely resemble Tennessee’s approach. Reforms have strengthened focus on instructional quality, further professionalized the teaching field, and improved prospects for student achievement.
Tennessee should continue its commitment to the state’s multiple-measure teacher evaluation system because of its contribution to, and connection with, the state’s student academic achievement gains. This commitment takes two forms. One is to resist efforts to remove measures of student growth from evaluations or to prevent school and district leaders from using the evaluation system in important decision-making. Education leaders rely on evidence-based measures of teacher effectiveness to put the right teachers in the appropriate classrooms. The other is to continue working to improve and strengthen the evaluation system so it becomes a better means for improving instruction. Tennessee school and district leaders should partner with the state to provide differentiated professional learning supports for teachers on use of the evaluation system in schools, with specific focus on TVAAS. Educator preparation programs should also prepare teacher candidates to understand the system, including TVAAS, and know how to use it to improve their craft in the classroom.

Research has shown that a multiple-measure system based on student learning data—including academic growth and achievement, as well as a rigorous classroom observation framework—is the best approach to evaluating teacher effectiveness and identifying key supports for teacher improvement. The Tennessee Value-Added Assessment System is a crucial component of this system.

ENDNOTES

9. Ibid.