The Context

A review of the research in the area of teacher effectiveness shows that there is no single definition of what teacher effectiveness looks like. And in addition to that, when it comes to measuring teacher effectiveness, the methodologies and interpretations take on many forms. In support of the work of Memphis City Schools’ Teacher Effectiveness Initiative (TEI), the foundational imperative is to create a commonly agreed upon definition of teacher effectiveness. As a starting point, the Office of Teacher Effectiveness Measurement has proposed a measure of effectiveness that incorporates four components: student growth data, observations of classroom practice, stakeholder feedback, and teacher knowledge.

The Teacher Effectiveness Measure (TEM) will serve as the new teacher evaluation system for Memphis City Schools. The TEM is the foundation upon which the changes to the district’s approaches to hiring, retention, compensation and dismissal will be built. It is critical that the TEM be a fair, valid, and reliable measure of effectiveness for all of our classroom teachers. To do this, we have to bring together both the knowledge gained by looking at the research and data on teachers and students, and the
understanding of the practical issues associated with implementing the TEM for all teachers. This summer, we are pulling together the existing data that we have in the areas of the four components to build the TEM 1.0, the prototype of our multi-dimensional measure of teacher effectiveness.

The Results

Development of the TEM 1.0 will inform us on how the different components relate to one another and may give some indications on particular areas or domains of classroom culture and climate that could be further studied or more appropriately measured. This paper explains each of the components, the thinking on how the components will be considered in the model, and the existing data that will be used for initial model development.

Value-Added Data

Value-added data is a summary measure of growth in student achievement. Rather than looking at a simple change in score from one year to the next, value-added metrics are longitudinal measures that account for multiple years of information. Student growth/value-added is indicated by the level of student achievement shown beyond the expected achievement level for students at that particular grade and subject level. These achievement gains for students can be linked to individual teachers and to schools.

Per the Tennessee First to the Top legislation\(^1\), districts must include value-added data as a part of a teacher’s evaluation. The law states that value-added data will compose at least 35% of a teacher’s annual evaluation, and that data will come from teachers’ Tennessee Value-Added Assessment System (TVAAS) score, a three year growth estimate linking standardized assessment scores. Because we do not have electronic access to TVAAS scores at the teacher level, initial analyses for the development of the TEM will use data from the value-added model developed by Mathematica Policy Research for the MCS Effective Practice Incentive Community (EPIC). Mathematica provided Memphis City Schools with value-added data for MCS teachers in the core content areas that are assessed annually by the state (reading, math, science and social studies). While the value-added models may be different, for the purposes of the initial development the Mathematica model will help us understand how value-added data correlates to other components of the TEM. The Mathematica value-added data for the 2008-09 school year will be used for the initial analyses (n = 1,434).

Observations of Practice

In much of the research on teacher effectiveness, a major focus has been on the importance of examining what is actually happening in teachers’ classrooms. The challenge with using classroom observations as a part of a teacher accountability system is balancing the objectivity of what an observer sees a teacher do with the subjectivity of how the observer interprets the behavior and records the info on the observation tool\(^2\). For the TEM, the goal is not only to determine the domains of classroom practice that are related to high student achievement, but also to identify the appropriate observation rubrics to implement districtwide.

Many of the commonly used observation rubrics cover the same basic domains or areas of focus on classroom practices; the rubrics differ in the language and/or form of the indicators. For example, the Tennessee Teacher Evaluation Framework covers six domains: Planning, Teaching Strategies,

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1 The "Tennessee First to the Top Act of 2010." - Amends TCA Title 49, Chapters 1, 2, 3 and 5.
Assessment & Evaluation, Learning Environment, Professional Growth, and Communication, with two to three indicators for each domain. Other classroom observation and teacher evaluation tools include indicators of similar domains, as shown in Table 1.

Table 1. Coverage of Classroom Observation Domains by Rubric

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<tbody>
<tr>
<td>Planning</td>
<td>Yes - 3 indicators</td>
<td>Yes - 6 indicators</td>
<td>Yes - 5 indicators</td>
<td>Yes - 7 actions</td>
<td>Yes - 10 sub skills</td>
</tr>
<tr>
<td>Learning Environment</td>
<td>Yes - 2 indicators</td>
<td>Yes - 5 indicators</td>
<td>Yes - 8 indicator</td>
<td>Yes - 6 actions</td>
<td>Yes - 10 sub skills</td>
</tr>
<tr>
<td>Teaching Strategies</td>
<td>Yes - 2 indicators</td>
<td>Yes - 5 indicators</td>
<td>Yes - 9 indicators</td>
<td>Yes - 6 Actions</td>
<td>Yes - 10 sub skills</td>
</tr>
<tr>
<td>Assessment &amp; Evaluation</td>
<td>Yes - 3 indicators</td>
<td>Yes - 5 indicators</td>
<td>Yes - 9 indicators</td>
<td>Yes - 12 Actions</td>
<td>Yes - 10 sub skills</td>
</tr>
<tr>
<td>Communication</td>
<td>Yes - 1 indicator</td>
<td>Yes - 6 indicators</td>
<td>Yes - 5 indicators</td>
<td>Yes - 6 actions</td>
<td>Yes - 10 sub skills</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>Yes - 3 indicators</td>
<td>Yes - 6 indicators</td>
<td>Yes - 8 indicators</td>
<td></td>
<td>Yes - 10 sub skills</td>
</tr>
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In order to gain a better understanding of how these typical classroom observation domains relate to student achievement outcomes, we will examine the Tennessee evaluation data for Memphis City Schools teachers collected during the 2009-10 school year. These data were collected for all teachers who had been with the district for less than three years, tenured teachers who were up for evaluation in 2009-10, and all teachers working in MCS’ Striving Schools (n = 2,899). For the indicators in each domain, teachers were rated at one of four levels: Level C-Advanced, Level B-Proficient, Level A-Developing, and Unsatisfactory.

**Stakeholder Feedback** The next component of the TEM that was proposed as a part of the MCS Teacher Effectiveness Initiative is the use of stakeholder feedback to assist in determining a teacher’s effectiveness. We are interested in feedback from three levels: students, parents, and the teachers themselves. Initial analyses will focus on perceptions from students and teachers. The interest in the information from stakeholders is to obtain perceptions about the climate/environment in which instruction is taking place. Understanding the climate in the classrooms and the schools will add a level of context to the TEM, and will also allow for the district to identify the key environmental aspects that impact student achievement.

Student feedback will be obtained via the Tripod Student Perception Survey, developed by Ron Ferguson of Harvard University in partnership with Cambridge Education. The Tripod survey consists of items designed to gather information from students about what is happening in their classrooms, not just rating how much they like or dislike their teacher. The Tripod survey assesses students’ perceptions in two main target areas: Student Engagement (Trust, Cooperation, Ambitious Goals, Diligence, and Satisfaction) and Classroom Learning Conditions (Feasibility, Relevance, Enjoyment, Adult Pressure & Support, and Peer Support). For the TEM, we will examine how these constructs relate to student achievement outcomes and to the observation domains. Tripod data collected from surveys administered to all second period classes in Spring 2010 will be used in the initial analyses.
Feedback from teachers was obtained using the Teacher Working Conditions survey, which was developed and administered by the New Teacher Center. The Teacher Working Conditions survey includes items that gather information about teachers’ perceptions of their school’s climate, and focuses on several target areas, including planning time, student conduct, school leadership, teacher leadership, community involvement, and professional development. For the initial TEM development, we will look at the summary data from the Spring 2010 Teacher Working Conditions survey administration \( n = 203 \) schools to see if there are links between aspects of a school’s climate and student achievement outcomes.

**Teacher Knowledge**  A teacher’s knowledge of the subject matter and content of the areas that they teach has an impact on his or her ability to effectively teach students. But more than that, a teacher’s understanding of content would equip them to be better able to use appropriate instructional strategies with students. Currently, MCS does not have a regular assessment of teachers’ knowledge of content and pedagogy. For the development of the TEM, we will complete initial analyses using scores from teacher licensing examinations (both the Praxis and/or the National Teacher Exam (NTE)). Because this data is static, and from a single point in time (primarily at the start of a teacher’s career), it is not likely that licensing exam scores alone will be the indicator of teacher knowledge. However, as we are developing the TEM, looking at exam scores as a proxy for teacher knowledge will allow us to determine whether there is a strong relationship between teacher knowledge and student achievement outcomes. If we do find a significant relationship, it would serve the district to identify other methods for regularly assessing knowledge of content and/or pedagogy.

**Additional Metrics for the TEM**  The four components listed above by no means explain all of what makes an effective teacher. There are indeed other variables to consider. For example, it is possible that the relationships between these components look different for teachers with different demographic data. The initial analyses for the development of the TEM will include demographic information for teachers (i.e., years of experience as a teacher, licensure information, degrees held, etc.); this information will be used primarily to help us understand any nuances of the TEM model. It is not our intent to use demographic information will be used to help or hinder a teacher’s effectiveness level; demographic will simply be used to obtain a better understanding of our model of teacher effectiveness.

Also, as was mentioned for the stakeholder feedback component, aspects of the school climate and environment will also be included in the development model. Again, this data will be more informative about the conditions in which we can expect the model to hold as opposed to a point of accountability for teachers.

**The Implications**

The Office of Teacher Effectiveness Measurement is pulling together all of the existing data for the four components (Mathematica value-added data from 2008-09, 2009-10 teacher evaluation data, Spring 2010 Tripod and Teacher Working Conditions survey data, and licensure exam scores) for correlational analyses. The hope is that as the data from the other components are available and included in the analysis, we can explain even more of the variance in value-added estimates for teachers. However, there are many questions and issues to work through before we can take the TEM and apply it as the new teacher evaluation system.
• **Including teachers who do not have value-added data in the TEM model** – Teachers in the non-tested subjects (e.g., music, art, special education, etc.) will also be included in the TEM evaluation system. The question we have to answer is how we will adjust the model for those teachers who do not have value-added scores and maintain the fair, reliable, and valid measurement of teacher effectiveness. There are no current plans at the state level to expand the subject areas that are assessed annually. Our current thinking is to look at the relationships between value-added scores and the other components of the TEM. If we know those areas that highly correlate with value-added data, we can identify effective teaching even in the absence of specific value-added scores.

• **Incorporating TVAAS data into the TEM 1.0 model** – Currently, we are not able to access teacher level TVAAS data electronically, which is the format needed for the TEM model development and data analysis. The distribution of TVAAS data has historically been limited to three paper copies distributed for each teacher: one copy for the teacher, one copy for the principal, and one copy for the district. Until the passing of the First to the Top legislation, TVAAS information could not be used as a part of a teacher’s evaluation. However, now that TVAAS is a required part of evaluation, access to a data file that includes value-added scores for all teachers with computed TVAAS scores would be beneficial for understanding how the other evaluation components related to the state required indicator of student growth. Without the access to the teacher level data file, our TEM model can only be a close approximation of what a teacher’s evaluation will be for the state.

• **Aligning our work with the TEM with changes to the Tennessee teacher evaluation system** – The Teacher Effectiveness Initiative and the TEM were conceptualized prior to the passing of the First to the Top Act. Because of this, some of the proposed areas of the TEM evaluation system will need to be reconsidered. At the state level, the Tennessee Teacher Evaluation Advisory Committee (TEAC) has been formed to discuss and make recommendations to the Tennessee School Board and the legislature about the changes to the teacher evaluation system per the Tennessee First to the Top legislation. Once the TEAC’s recommendations become an official part of the statewide evaluation system, modifications to the TEM may be needed. Throughout the development of the TEM, we will work to ensure that the TEM is in compliance with all applicable state laws.

• **Keeping our work current with the research on teacher effectiveness** - On the research front, Memphis City Schools is also participating in the Measures of Effective Teaching (MET) research project, a two-year study of how to fairly and reliably measure effective teaching using components similar to those proposed in the TEM (video observation, student perceptions, and teacher knowledge). The 2009-10 school year was the first year of the study, and we anticipate that initial findings will be available in the fall of 2010. As we learn more about the relationships between classroom practices, student perceptions and teacher knowledge as measured in the MET project, we will be able to appropriately adjust the model and/or the methods that the district is using to collect data for some of the TEM components.

The process for the development of the TEM is by no means a static process. As we begin our analyses, we will continue to look at what the data is telling us about strong correlates to student achievement, as well as consider the feedback from researchers and practitioners who are using the observation rubrics and studying the different methods for measuring teacher effectiveness. For example, MCS is field
testing three observation rubrics during the 2010-11 school year. Results from the field tests will be incorporated into the TEM model. This practice will ensure the rollout of a valid and reliable evaluation system for use in 2011-12.

*Please direct requests for additional information on this topic to Dr. John R. Barker at barkerjohnr@mcsk12.net*